Activities in Cloud Computing Standardization

Repository (Version 1.0, May 2010)

ITU Telecommunication Standardization Bureau

Policy & Technology Watch Division

Introduction

At its meeting in February 2010, ITU-T's Telecommunication Standardization Advisory Group (TSAG) proposed to establish a Focus Group on cloud computing to identify and study the standards needs in this area.

Cloud computing was examined extensively in ITU-T Technology Watch Report No. 9 issued in March 2009.[1] The report concluded that cloud computing will require rapid standardization in many fields such as security, interfaces, quality of service, portability and cloud interoperability.

Relevant work on cloud computing standards is underway in standards bodies, consortia and other interest groups. The activities of some 20 of these groups are compiled in this repository. The content is based on information found on the corresponding websites, in presentation material and news articles. It is meant to be a starting point and running document rather than an exhaustive review, and those who seek more details and updates may look for them in the many references.

www.cloud-standards.org, a collaborative platform set-up by the Object Management Group's Cloud Standards Coordination initiative, was of great help to produce the repository. We encourage readers and participants of Focus Group Cloud Computing to contribute to this wiki.

The initial version of the repository was prepared by the Policy & Technology Watch Division of ITU's Telecommunication Standardization Bureau in May 2010. The authors can be contacted at tsbtechwatch@itu.int.

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[1] "Distributed Computing: Utilities, Grids & Clouds," available at http://www.itu.int/oth/T2301000009/en.

Table of Contents

Template

[Common name of organization, consortium, group]

Summary

Full name of (standards) body / group	**[full name]**
Status	[e.g., active, inactive, planned]
Chairman/Contact	[name of chairman or coordinator, if applicable]
Membership	[short description of who is participating]
Website	[official website]

Activities

Summary of activities	[outline of activities, ToR]
Website full description / ToR	[detailed source for summary]
Comments	[e.g., structure of group, working parties, etc.]

Output Documents

Name	Title	Type	Version	Date	Hyperlink
[doc nr or similar]	[full title]	[e.g., report, standard, white paper]	[version number]	[date of publication]	[URL to output document]

Last updated

[date of last update of this record]

CCF

Summary

Full name of (standards) body / group	**Cloud Computing Forum, Korea**
Status	active
Chairman/Contact	Mr. Son seung-won
Membership	
Website (in Korean)	http://www.ccsf-kr.org/

Activities

Summary of activities	1) Constitute National level CC Forum 2) Provide CC technology development and standardization activity 3) Sharing CC technology information 4) Study on CC adaptation method into Public sectors 5) Support international standardization activity of CC 6) Develop CC related Law and policy
Website full description / ToR	
Comments	- Established 2009-07 - CCF provides CC service and supports standardization activity with International organizations

Output Documents

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CCIF

Summary

Full name of (standards) body / group	**Cloud Computing Interoperability Forum**
Status	inactive
Chairman/Contact	Mr. Reuven Cohen (Enomaly Inc.)
Membership	Global community of vendors, researchers, architects and end users
Website	http://www.cloudforum.org/

Activities

Summary of activities	The Cloud Computing Interoperability Forum (CCIF) was formed in order to enable a global cloud computing ecosystem whereby organizations are able to seamlessly work together for the purposes for wider industry adoption of cloud computing technology and related services. A key focus will be placed on the creation of a common agreed upon framework / ontology that enables the ability of two or more cloud platforms to exchange information in an unified manor. CCIF is an open, vendor neutral, not for profit community of technology advocates, and consumers dedicated to driving the rapid adoption of global cloud computing services. CCIF shall accomplish this by working through the use open forums (physical and virtual) focused on building community consensus, exploring emerging trends, and advocating best practices / reference architectures for the purposes of standardized cloud computing.
Website full description / ToR	http://www.cloudforum.org/about/
Comments	

Output Documents

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CloudAudit

Summary

Full name of (standards) body / group	**CloudAudit**
Status	active
Chairman/Contact	Mr. Christofer Hoff
Membership	Open, 250+ participants/interested parties from major cloud computing players
Website	http://www.cloudaudit.org/

Activities

Summary of activities	The goal of CloudAudit is to provide a common interface and namespace that allows cloud computing providers to automate the Audit, Assertion, Assessment, and Assurance (A6) of their infrastructure (IaaS), platform (PaaS), and application (SaaS) environments and allow authorized consumers of their services to do likewise via an open, extensible and secure interface and methodology.
Website full description / ToR	http://www.cloudaudit.org/page3/page3.html
Comments	- operates via Google Group, http://groups.google.com/group/cloudaudit

Output Documents

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Cloud Computing Use Cases Group

Summary

Full name of (standards) body / group	**Cloud Computing Use Cases Group**
Status	Active
Chairman/Contact	
Membership	collaboration of cloud consumers and cloud vendors, currently 234 individuals
Website	http://groups.google.com/group/cloud-computing-use-cases

Activities

Summary of activities	This group exists to define use cases for cloud computing. The ToC of the latest version (V3) of the white paper includes - Definitions and Taxonomy - Use Case Scenarios - Customer Scenarios - Developer Requirements - Security Scenarios - Security Use Case Scenarios
Website full description / ToR	
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Cloud Computing Use Cases	White paper	V3.0	2010-02	http://groups.google.com/group/cloud-computing-use-cases/files

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CSA

Summary

Full name of (standards) body / group	**Cloud Security Alliance**
Status	active
Chairman/Contact	Mr. Jim Reavis (Executive Director), Mr. Christofer Hoff (Technical Director)
Membership	Individuals (via LinkedIn Group, http://www.linkedin.com/groups?gid=1864210), Affiliates (Not-for-profit associations and industry groups), 40+ Corporate Members
Website	http://www.cloudsecurityalliance.org/

Activities

Summary of activities	The Cloud Security Alliance is a non-profit organization formed to promote the use of best practices for providing security assurance within Cloud Computing, and provide education on the uses of Cloud Computing to help secure all other forms of computing.
Website full description / ToR	http://cloudsecurityalliance.org/About.html

Comments	- 8 Working Groups:
	   o Group 1: Architecture and Framework
	   o Group 2: Governance, Risk Management, Compliance, Audit, Physical, BCM, DR
	   o Group 3: Legal and eDiscovery
	   o Group 4: Portability & Interoperability and Application Security
	   o Group 5: Identity and Access Mgt, Encryption & Key Mgt
	   o Group 6: Data Center Operations and Incident Response
	   o Group 7: Information Lifecycle Management & Storage
	   o Group 8: Virtualization and Technology Compartmentalization
	- Local "chapters" in Italy, China, Japan, India

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Top Threats to Cloud Computing	White paper	V1.0	2010-03	http://www.cloudsecurityalliance.org/topthreats/csathreats.v1.0.pdf
	Security Guidance for Critical Areas of Focus in Cloud Computing	White paper	V2.1	2009-12	http://www.cloudsecurityalliance.org/csaguide.pdf
	CSA Cloud Controls Matrix	Controls framework	V1.0	2010-04	http://www.cloudsecurityalliance.org/cm.html

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CSA/TCI

Summary

Full name of (standards) body / group	**Trusted Cloud Initiative**
Status	active
Chairman/Contact	Mr. Liam Lynch (eBay), Mr. Nick Nikols (Novell)
Membership	Individuals, CSA members and affiliates
Website	http://www.trusted-cloud.com/

Activities

Summary of activities	The Trusted Cloud Initiative will help cloud providers develop industry-recommended, secure and interoperable identity, access and compliance management configurations, and practices. We well develop reference models, education, certification criteria and a cloud provider self-certification toolset in 2010.
Website full description / ToR	http://www.trusted-cloud.com/pages/moreinfo/
Comments	- Initiative within CSA

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Domain 12: Guidance for Identity & Access Management	White paper	V2.1	2010-04	http://www.cloudsecurityalliance.org/guidance/csaguide-dom12-v2.10.pdf

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DMTF Open Cloud Standards Incubator

Summary

Full name of (standards) body / group	**Distributed Management Task Force: Open Cloud Standards Incubator**
Status	active
Chairman/Contact	Mr. Vinston Bumpus (President, DMTF)
Membership	DMTF members
Website	http://www.dmtf.org/about/cloud-incubator/

Activities

Summary of activities	DMTF's Open Cloud Standards Incubator focuses on standardizing interactions between cloud environments by developing cloud resource management protocols, packaging formats and security mechanisms to facilitate interoperability.
Website full description / ToR	http://www.dmtf.org/about/cloud-incubator/CloudIncubatorCharter2009-04-16.pdf
Comments	- Initiative within DMTF

Output Documents

Name	Title	Type	Version	Date	Hyperlink
DSP-IS0101	Interoperable Clouds	White paper	V1.0	2009-11	http://www.dmtf.org/about/cloud-incubator/DSP_IS0101_1.0.0.pdf

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DMTF VMAN Initiative

Summary

Full name of (standards) body / group	**Distributed Management Task Force: Virtualization Management Initiative**
Status	active
Chairman/Contact	Mr. Vinston Bumpus (President, DMTF)
Membership	DMTF members: Technology vendors, government organizations, academia, end users
Website	http://www.dmtf.org/initiatives/vman_initiative/

Activities

Summary of activities	DMTF's Virtualization Management Initiative (VMAN) includes a set of specifications that address the management lifecycle of a virtual environment. VMAN's OVF (Open Virtualization Format) specification provides a standard format for packaging and describing virtual machines and applications for deployment across heterogeneous virtualization platforms. VMAN's profiles standardize many aspects of the operational management of a heterogeneous virtualized environment.
Website full description / ToR	http://www.dmtf.org/standards/mgmt/vman/
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
DSP0243	Open Virtualization Format Specification	DMTF Standard	V1.1.0	2010-01	http://www.dmtf.org/standards/published_documents/DSP0243_1.1.0.pdf
For complete list of DMTF VMAN standards and profiles, see http://www.dmtf.org/standards/mgmt/vman/					
DSP2013	Common Information Model System Virtualization	White paper	V1. 0	2007-11	http://www.dmtf.org/standards/published_documents/DSP2013_1.0.0.pdf
DSP2017	Open Virtualization Format	White paper	V1.0	2009-02	http://www.dmtf.org/standards/published_documents/DSP2017_1.0.0.pdf
	Enabling Portability & Simplified Deployment of Virtual Appliances	Technical note	V1.0	2008-09	http://www.dmtf.org/initiatives/vman_initiative/OVF_Tech_Note_Digital.pdf
	Virtualization MANagement (VMAN) Initiative	Technical note	V1.0	2008-09	http://www.dmtf.org/initiatives/vman_initiative/VMAN_Tech_Note_Digital.pdf

Virtualization MANagement (VMAN): A Building Block for Cloud Interoperability	Technical note	V1.0	2009-08	http://www.dmtf.org/initiatives/vman_initiative/VMAN_Cloud_Tech_Note_Digital_081909.pdf

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ETSI STF 331

Summary

Full name of (standards) body / group	**European Telecommunications Standards Institute** **Specialist Task Force on ICT GRID Technologies Interoperability and Standardization**
Status	finished (Work finished, waiting for final comments)
Chairman/Contact	Mr. Geoffrey Caryer (STF 331 team leader)
Membership	
Website	http://portal.etsi.org/STFs/STF_HomePages/STF331/STF331.asp

Activities

Summary of activities	The Specialist Task Force (STF) addressed, in general, IT-Telecom (Information Technology and Telecommunications) convergence and, in particular, the lack of interoperable GRID solutions built by IT in conjunction with the Telecom industry. At the request of TC GRID, this scope was extended to include "cloud computing".
Website full description / ToR	http://portal.etsi.org/STFs%5CToR%5CToR331v03_GRID_ECproposalFinal.doc
Comments	- gave presentation to ITU-T NGN GSI (see http://portal.etsi.org/STFs/STF_HomePages/STF331/Presentation%20to%20ITU%20NGN%20GSI_r2.pdf)

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Grid and Cloud Computing Technology: Interoperability and Standardization for the Telecommunications Industry	White paper		2009	http://portal.etsi.org/stfs/STF_HomePages/STF331/White%20Paper.pdf
ETSI TR 102 659-1	Study of ICT GRID interoperability gaps; Part 1: Inventory of ICT Stakeholders	Technical Report	V1.2.1	2009-10	http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=30421
ETSI TR 102 659-2	Study of ICT GRID interoperability gaps; Part 2: List of identified Gaps	Technical Report	V1.2.1	2009-10	http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=30417
ETSI TR	ICT GRID	Technical	V1.1.1	2009-10	http://webapp.etsi.org/WorkProgra

102 766	Interoperability Testing Framework and survey of existing ICT Grid interoperability solutions	Report			m/Report_WorkItem.asp?WKI_ID=2 5105
ETSI TS 102 786	ICT GRID Interoperability Testing Framework	Technical Specification	V1.1.1	2009-10	http://webapp.etsi.org/WorkProgra m/Report_WorkItem.asp?WKI_ID=3 0422

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ETSI TC GRID

Summary

Full name of (standards) body / group	**European Telecommunications Standards Institute Technical Committee GRID**
Status	active
Chairman/Contact	Mr. Michael Fisher (BT Group Plc)
Membership	ETSI members
Website	http://portal.etsi.org/portal/server.pt/community/GRID/310

Activities

Summary of activities	The goal of TC GRID is to address issues associated with the convergence between IT (Information Technology) and Telecommunications. The focus is on scenarios where connectivity goes beyond the local network. This includes not only Grid computing but also the emerging commercial trend towards Cloud computing which places particular emphasis on ubiquitous network access to scalable computing and storage resources.
	Since TC GRID has particular interest in interoperable solutions in situations which involve contributions from both the IT and Telecom industries, the emphasis is on the Infrastructure as a Service (IaaS) delivery model. TC GRID focuses on interoperable applications and services based on global standards and the validation tools to support these standards. Evolution towards a coherent and consistent general purpose infrastructure is envisaged. This will support networked IT applications in business, public sector, academic and consumer environments.
	The approach is to complement existing activities in ETSI and other standards development organizations. TC GRID is expected to fulfill a specific role as a forum in which to develop consensus within the telecommunications sector which can then be represented in other bodies. It can also act to introduce new requirements into networking (e.g. NGN) standards which support new application paradigms such as Grid and Cloud. TC GRID will address interoperability aspects of end-to-end applications and develop formal test specifications to support them.
Website full description / ToR	http://portal.etsi.org/GRID/GRID_Tor.asp
Comments	- will be renamed to TC Cloud shortly - started work on standardization requirements for cloud services (ETSI TR 102 997)

Output Documents

Name	Title	Type	Version	Date	Hyperlink
ETSI TS 102 811	GRID; Grid Component Model (GCM); Interoperability test	Technical Specification	V1.1.1	2010-03	http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=31402

	specification				
ETSI TS 102 828	GRID; Grid Component Model (GCM); GCM Application Description	Technical Specification	V2.1.1	2010-03	http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=30947
ETSI TS 102 830	GRID; Grid Component Model (GCM); GCM Fractal Management API	Technical Specification	V1.1.1	2010-03	http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=28857

Last updated

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GICTF

Summary

Full name of (standards) body / group	**Global Inter-Cloud Technology Forum, Japan**
Status	Active
Chairman/Contact	Prof. Tomonori Aoyama (Keio Univ.)
Membership	open membership
Website	http://www.gictf.jp/index_e.html

Activities

Summary of activities	GICTF aims to promote standardization of network protocols and the interfaces through which cloud systems interwork with each other, and to enable the provision of more reliable cloud services than those available today. Applications that have been implemented on legacy systems will migrate to cloud systems under the paradigm shift from "owning" to "leasing" IT. However, if each single system (hereafter a "single cloud") is to provide a highly reliable system on a continuous basis, it must have high redundancy. To solve this problem, it is important to develop an inter-cloud world, in which multiple cloud systems running with different policies interwork with each other to share resources so that SLAs to users can be maintained even in the event of large fluctuations in the computing load that cannot be handled by a single cloud system. In order to promote interworking between international cloud systems, GICTF was established, as an organization aimed at bringing together the knowledge of industry, academia and government, and supporting R&D and feasibility tests on the technologies related to interworking between cloud systems. Main activities and goals of GICTF are: - Promote the development and standardization of technologies to use cloud systems; - Propose standard interfaces that allow cloud systems to interwork with each other; - Collect and disseminate proposals and requests regarding organization of technical exchange meetings and training courses; - Establish liaison with counterparts in the U.S. and Europe, and promote exchange with relevant R&D teams. The Global Inter-Cloud Technology Forum will undertake the following activities in fiscal 2009 (July 2009 - June 2010). -Research on cloud system usage technology, cloud system interworking technology, technical trends in cloud network protocols, and trends in standardization activities -Provision of the basic architecture needed for establishing standard interfaces related to interworking between cloud systems, and cloud network protocols
Website full description /	http://www.gictf.jp/porspectus_2e.html

ToR			
Comments	-	1st General Assembly Meeting of the GICTF. (Kickoff Meeting) (2009.07.17).	

Output Documents

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IEEE SA

Summary

Full name of (standards) body / group	**IEEE Standards Association**
Status	Active
Chairman/Contact	
Membership	
Website	http://standards.ieee.org/

Activities

Summary of activities	IEEE SA collaborated with CSA in a cloud security standards survey, and in some events related to cloud standards. A number of existing IEEE standards is indirectly linked to cloud computing.
Website full description / ToR	
Comments	

Output Documents

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IETF

Summary

Full name of (standards) body / group	**Internet Engineering Task Force**
Status	Active
Chairman/Contact	
Membership	
Website	http://www.ietf.org/

Activities

Summary of activities	Besides the many RFCs cloud computing is based on, IETF-77 (2010-03) saw an ad-hoc BoF (birds of a feather) session on cloud computing. Minutes: http://www.ietf.org/mail-archive/web/clouds/current/msg00095.html
Website full description / ToR	
Comments	

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ISO/IEC JTC1 SC38 SGCC

Summary

Full name of (standards) body / group	**ISO/IEC JTC1 SC38 (Distributed Application Platforms and Services) Study Group on Cloud Computing**
Status	active
Chairman/Contact	SC38 Chairman: Dr. Donald Deutsch (USA) SGCC Convenor: Dr. Seungyun Lee (Korea)
Membership	P-member(16), O-member(5)
Website	http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee.htm?commid=601355

Activities

Summary of activities	Study Group on Cloud Computing(SGCC) 1. Provide a taxonomy, terminology and value proposition for Cloud Computing. 2. Assess the current state of standardization in Cloud Computing within JTC1 and in other SDOs and consortia. 3. Document standardization market/business/user requirements and the challenges to be addressed. 4. Liaise and collaborate with relevant SDOs and consortia related to Cloud Computing. 5. Hold workshops to gather requirements as needed. 6. Provide a report of activities and recommendations to SC38.
Website full description / ToR	
Comments	- The first meeting was held on 12-14 May 2010 in Beijing (China).

Output Documents

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ITU-T FG Cloud

Summary

Full name of (standards) body / group	**ITU Telecommunication Standardization Sector Focus Group on Cloud Computing**
Status	active
Chairman/Contact	Mr. Vladimir Belenkovich
Membership	Open to individuals from 191 ITU Member States
Website	http://www.itu.int/ITU-T/focusgroups/cloud/

Activities

Summary of activities	Scope: - Identify potential impacts on standards development and priorities for standards needed to promote and facilitate telecommunication/ICT support for cloud computing - Investigate the need for future study items for fixed and mobile networks in the scope of ITU-T - Analyze how interoperability can be assured in telecommunication/ICT support for the cloud computing - Familiarize ITU-T and standardization communities with emerging attributes and challenges of telecommunication/ICT support for cloud computing
Website full description / ToR	http://www.itu.int/ITU-T/focusgroups/cloud/tor.html
Comments	- ITU-T published a Technology Watch Report "Distributed Computing: Utilities, Grids & Clouds" in March 2009, available at http://www.itu.int/oth/T2301000009/en.

Output Documents

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KCSA

Summary

Full name of (standards) body / group	**Korea Cloud Service Association**
Status	active
Chairman/Contact	Mr. Choi Do-Hwan
Membership	
Website (in Korean)	http://www.kcsa.or.kr/index.jsp

Activities

Summary of activities	1. Create demand of Cloud service 2. Create Cloud service activation framework and its environments 3. Disseminate and promote Cloud service to public sectors
Website full description / ToR	http://www.kcsa.or.kr/cloud/cloud_03.jsp
Comments	- KCSA was established in June 2009 and does not have concrete output at present

Output Documents

Name	Title	Type	Version	Date	Hyperlink

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Liberty Alliance / Kantara Initiative

Summary

Full name of (standards) body / group	**Liberty Alliance / Kantara Initiative**
Status	Active. As of June 2009, the work of the Liberty Alliance is transitioning to the Kantara Initiative.
Chairman/Contact	Mr. Joni Brennan (Managing Director, Kantara Initiative)
Membership	Kantara Initiative is a global, open, public-private, technology-agnostic forum comprised of identity ecosystem stakeholders, co-founded by Liberty Alliance, Internet Society, and others
Website	http://www.projectliberty.org/, http://kantarainitiative.org/

Activities

Summary of activities	The vision of Liberty Alliance is to enable [a networked world] web services based on open standards where consumers, citizens, businesses and governments can more easily conduct online transactions while protecting the privacy and security of identity information. - Build open standard-based specifications for federated identity and identity-based Web services. - Drive global identity theft prevention solutions. - Provide interoperability testing. - Offer a formal certification program for products utilizing Liberty specifications. - Establish best practices, rules, liabilities, and business guidelines. - Collaborate with other standards bodies, privacy advocates, and government policy groups. - Address end user privacy and confidentiality issues. Kantara Initiative: Bridging and harmonizing the identity community with actions that will help ensure secure, identity-based, online interactions while preventing misuse of personal information so that networks will become privacy protecting and more natively trustworthy environments.
Website full description / ToR	http://www.projectliberty.org/liberty/about/ http://kantarainitiative.org/confluence/display/GI/Mission
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink

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NIST Cloud Computing Project

Summary

Full name of (standards) body / group	**National Institute of Standards and Technology Cloud Computing Project**
Status	
Chairman/Contact	Mr. Peter Mell
Membership	
Website	http://csrc.nist.gov/groups/SNS/cloud-computing/index.html

Activities

Summary of activities	NIST's role in cloud computing is to promote the effective and secure use of the technology within government and industry by providing technical guidance and promoting standards.
Website full description / ToR	http://csrc.nist.gov/groups/SNS/cloud-computing/index.html
Comments	- research project of NIST's IT Lab, Systems & emerging technologies security research group

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	NIST definition of Cloud Computing	Definition	V15	2009-10	http://csrc.nist.gov/groups/SNS/cloud-computing/cloud-def-v15.doc
	Effectively and Securely Using the Cloud Computing Paradigm	Presentation	V26	2009-10	http://csrc.nist.gov/groups/SNS/cloud-computing/cloud-computing-v26.ppt

Last updated

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OASIS

Summary

Full name of (standards) body / group	**Organization for the Advancement of Structured Information Standards**
Status	active
Chairman/Contact	
Membership	open membership
Website	http://www.oasis-open.org/

Activities

Summary of activities	OASIS is a not-for-profit consortium that drives the development, convergence and adoption of open standards for the global information society. The consortium produces more Web services standards than any other organization along with standards for security, e-business, and standardization efforts in the public sector and for application-specific markets. OASIS sees Cloud Computing as a natural extension of SOA and network management models. Related standards are: -Security, access and identity policy standards -- e.g., OASIS SAML, XACML, SPML, WS-Security Policy, WS-Trust. -Content, format control and data import/export standards -- e.g., OASIS ODF. -Registry, repository and directory standards -- e.g., OASIS ebXML and UDDI. -SOA methods and models, network management, service quality and interoperability -- e.g., OASIS SOA-RM, and BPEL.
Website full description / ToR	http://www.oasis-open.org/specs/#spmlv2.0
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
SAML	Security Assertion Markup Language	Technical specification	V2.0	2005-03	http://docs.oasis-open.org/security/saml/v2.0/saml-2.0-os.zip
XACML	eXtensible Access Control Markup Language	Technical specification	V2.0	2005-02	http://docs.oasis-open.org/xacml/2.0/access_control-xacml-2.0-core-spec-os.pdf
SPML	Service Provisioning Markup Language	Technical specification	V2.0	2006-04	http://www.oasis-open.org/committees/download.php/17708/pstc-spml-2.0-os.zip
WS-Security Policy	WS-Security policy	Technical specification	V1.2	2007-07	http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200702/ws-securitypolicy-1.2-spec-os.pdf
WS-	WS-Trust	Technical	V1.3	2009-02	http://docs.oasis-open.org/ws-

Trust		specification			sx/ws-trust/v1.4/os/ws-trust-1.4-spec-os.pdf
ODF	Open Document Format for Office Applications	Technical specification	V1.1	2007-02	http://docs.oasis-open.org/office/v1.1/OS/OpenDocument-v1.1.pdf
ebXML	ebXML Registry Information Model	Technical specification	V2.0	2002-04	http://www.oasis-open.org/committees/regrep/documents/2.0/specs/ebrim.pdf
UDDI	Universal Description, Discovery and Integration v3.0.2	Technical specification	V3.0.2	2005-02	http://www.oasis-open.org/committees/uddi-spec/doc/spec/v3/uddi-v3.0.2-20041019.htm
SOA Referen ce Model	Reference Model for Service Oriented Architecture	Technical specification	V1.0	2006-10	http://docs.oasis-open.org/soa-rm/v1.0/soa-rm.pdf

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OCC

Summary

Full name of (standards) body / group	**Open Cloud Consortium**
Status	Active
Chairman/Contact	Mr. Robert Grossman
Membership	Industry, R&D, academia
Website	http://opencloudconsortium.org/

Activities

Summary of activities	The Open Cloud Consortium (OCC) is a member driven organization that supports the development of standards for cloud computing and frameworks for interoperating between clouds, develops benchmarks for cloud computing, and supports reference implementations for cloud computing. The OCC also manages testbeds for cloud computing, such as the Open Cloud Testbed, and operates clouds computing infrastructure to support scientific research, such as the Open Science Data Cloud.
Website full description / ToR	http://opencloudconsortium.org/about-occ/
Comments	Currently, there are four OCC working groups: - Working Group on Standards and Interoperability For Large Data Clouds - The Open Cloud Testbed Working Group - The Open Science Data Cloud (OSDC) Working Group - Intercloud Testbed Working Group

Output Documents

Name	Title	Type	Version	Date	Hyperlink
The OCC has developed a benchmark called MalStone that is often useful for benchmarking large data clouds. More information and a data generator can be found at http://malgen.googlecode.com.					

Last updated

28 April 2010

OGF

Summary

Full name of (standards) body / group	**Open Grid Forum**
Status	active
Chairman/Contact	Steven Newhouse (CERN)
Membership	business, government, scientific and academic organizations from around the world
Website	http://www.ogf.org/

Activities

Summary of activities	OGF is an open community committed to driving the rapid evolution and adoption of applied distributed computing. Applied Distributed Computing is critical to developing new, innovative and scalable applications and infrastructures that are essential to productivity in the enterprise and within the science community. OGF accomplishes its work through open forums that build the community, explore trends, share best practices and consolidate these best practices into standards.
Website full description / ToR	http://www.ogf.org/About/abt_overview.php
Comments	- Areas of work of the OGF Standards Function (VP: Chris Smith (Platform Computing)) (http://www.ogf.org/gf/group_info/areasgroups.php) o Applications o Architecture o Compute o Data o Infrastructure o Liaison o Management o Security

Output Documents

Name	Title	Type	Version	Date	Hyperlink
150 informational documents, guidelines, and recommendations available at http://www.ogf.org/gf/docs/?final					

Last updated

28 April 2010

OMG Cloud Standards Coordination

Summary

Full name of (standards) body / group	**Object Management Group – Cloud Standards Coordination**
Status	Active
Chairman/Contact	Mr. Richard Soley (OMG), Mr. Robert Marcus
Membership	Cloud fora, consortia, standards bodies, including DMTF, CSA, OASIS, OGF
Website	http://www.omg.org/, http://www.cloud-standards.org/

Activities

Summary of activities	The Cloud Standards Coordination Group is committed to development of a joint resource on cloud computing strategies, standards and implementations. Different SDOs are bringing together different but complementary abilities: storage, execution models, deployment models, service level agreements, security, authentication, privacy. Specific cloud-related specification efforts have only just begun in OMG, focusing on modeling deployment of applications & services on clouds for portability, interoperability & reuse. Relevant committees include Analysis & Design Task Force (ADTF) and SOA Special Interest Group (SOA SIG)
Website full description / ToR	http://www.omg.org/news/meetings/GOV-WS/css/css-pdf/Soley.pdf
Comments	- Organized workshops on "Strategies and Technologies for Cloud Computing Interoperability (SATCCI)" (2009-03), and Cloud Standards Summit (2009-07). See presentations at http://www.omg.org/news/meetings/GOV-WS/css/Program.htm

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	OMG Cloud Computing Standards - Building a Multi-View Specification	Presentation		2009-07	http://www.omg.org/news/meetings/GOV-WS/css/css-pdf/OMG.pdf
	Cloud Standards: Opening the Clouds	Presentation		2009-07	http://www.omg.org/news/meetings/GOV-WS/css/css-pdf/Soley.pdf

Last updated

28 April 2010

Open Cloud Manifesto

Summary

Full name of (standards) body / group	**Open Cloud Manifesto**
Status	Active
Chairman/Contact	
Membership	No membership, manifesto has large support in the cloud industry, see http://www.opencloudmanifesto.org/supporters.htm
Website	http://www.opencloudmanifesto.org/

Activities

Summary of activities	The Open Cloud Manifesto establishes a core set of principles to ensure that organizations will have freedom of choice, flexibility, and openness as they take advantage of cloud computing. While cloud computing has the potential to have a positive impact on organizations, there is also potential for lock-in and lost flexibility if appropriate open standards are not identified and adopted
Website full description / ToR	http://www.opencloudmanifesto.org/faqs.htm
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Open Cloud Manifesto			2009 Q1	http://www.opencloudmanifesto.org/Open%20Cloud%20Manifesto.pdf

Last updated

28 April 2010

Open Group Cloud Work Group

Summary

Full name of (standards) body / group	**Open Group Cloud Work Group**
Status	Active
Chairman/Contact	Mr. David Lounsbury (VP Government Programs, The Open Group)
Membership	Open Group members: corporations, government organizations, consortia, academia and private individuals
Website	http://www.opengroup.org/cloudcomputing/

Activities

Summary of activities	The Open Group Cloud Work Group exists to create a common understanding among buyers and suppliers of how enterprises of all sizes and scales of operation can include Cloud Computing technology in a safe and secure way in their architectures to realize its significant cost, scalability and agility benefits.
Website full description / ToR	http://www.opengroup.org/cloudcomputing/
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
W104	Building Return on Investment from Cloud Computing	White paper	V1.0	2010-04	http://www.opengroup.org/cloud/whitepapers/ccroi/index.htm
R091	Cloud Computing Business Scenario Workshop	Workshop report	V1.0	2009-08	https://www.opengroup.org/cloudcomputing/uploads/40/20362/R091.pdf

Last updated

28 April 2010

SNIA Cloud Storage Initiative

Summary

Full name of (standards) body / group	**Storage Networking Industry Association – Cloud Storage Initiative**
Status	Active
Chairman/Contact	Mr. Vincent Franceschini (Member of SNIA Board)
Membership	Cloud computing industry, storage specialists
Website	http://www.snia.org/cloud/

Activities

Summary of activities	Mission: - To foster the growth and success of the market for cloud storage Goals: - Become the recognized authority for cloud storage standards and evangelism - Educate the vendor and user communities about cloud storage - Perform market outreach that highlights the virtues of cloud storage - Collaborate with other industry associations on cloud storage technical work in which they are involved
Website full description / ToR	http://www.snia.org/cloud/KickOffOf2010CloudStorage.pdf
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Cloud Data Management Interface (CDMI)	SNIA Architecture standard (SNIA Technical Position)	V1.0	2010-04	http://www.snia.org/forums/csi/knowledge/tech_activities/standards/curr_standards/cdmi/CDMI_SNIA_Architecture_v1.0.pdf
	Cloud Storage for Cloud Computing	White paper	V1.0	2009-09	http://www.snia.org/cloud/CloudStorageForCloudComputing.pdf
	Managing Data Storage in the Public Cloud	White paper	V1.0	2009-10	http://www.snia.org/cloud/ManagingDataPublicCloud.pdf

Last updated

28 April 2010

Study group on Smart Cloud (Japan)

Summary

Full name of (standards) body / group	**Study group on Smart Cloud**
Status	Active
Chairman/Contact	
Membership	key people from the academia and the industry
Website	

Activities

Summary of activities	Ministry of Internal Affairs and Communications of Japan holds study group meetings on smart cloud collecting key people from the academia and the industry in Japan. They surveyed the current status of cloud computing and identified important issues from the viewpoints of technologies, standardization and international cooperation.
Website full description / ToR	
Comments	

Output Documents

Name	Title	Type	Version	Date	Hyperlink
	Study group interim report on Smart Cloud (in Japanese only)	Study group report		2010-02	http://www.soumu.go.jp/main_content/000053919.pdf

Last updated

29 April 2010

TM Forum Enterprise Cloud Buyers Council

Summary

Full name of (standards) body / group	**TM Forum Enterprise Cloud Buyers Council**
Status	Active
Chairman/Contact	Mr. Matthew Edwards (Director, TMForum Cloud Services Initiative)
Membership	open membership (Microsoft, Cisco, IBM,…)
Website	http://www.tmforum.org/

Activities

Summary of activities	TM Forum's vision is to ensure acceleration of service standardization and commoditization in an effective and efficient marketplace of cloud computing services in all global geographies, through alignment with the needs of the world's largest IT buyers. Enterprise Cloud Buyers Council Goals are: - to foster an effective and efficient marketplace for cloud compute infrastructure and services across all industry verticals and global geographies; - Accelerate standardization and commoditization of cloud services, and identifying common commodity processes best consumed as a service; - Solicit definition for standardized core and industry-specific SKUs for cloud services; - Achieve transparency of cost, service levels and reporting across the ecosystem; - Enable benchmarking of services across service providers and geographies; - Enable vendor measurement against normalized and agreed service level metrics; - Radically reduce cost of acquisition and operations for commodity compute & services.
Website full description / ToR	http://www.tmforum.org/EnterpriseCloudBuyers/8009/home.html
Comments	- Established 2009-12

Output Documents

Name	Title	Type	Version	Date	Hyperlink

Last updated

28 April 2010