

# ISO/IEC JTC 1 SC 38 Cloud Works & Issues

*International Cloud Symposium 2011*

10-13 October 2011, Ditton Manor, UK

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# ISO/IEC JTC 1 SC 38 - History

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- In November 2009, JTC 1 established a new Subcommittee 38 on Distributed Application Platform and Services (DAPS).
- Proposed area of standardization work for interoperable Distributed Application Platform and Services including:
  - Web Services,
  - Service Oriented Architecture (SOA), and
  - Cloud Computing.



# ISO/IEC JTC 1 SC 38 - Overview

## Distributed Application Platforms and Services (DAPS)

- As per the JTC 1 Directives, SC 38 will establish its own substructure at the first meeting as follows:
  - WG 1, Web Services
  - WG 2, Service Oriented Architecture (SOA)
  - SGCC, Study Group on Cloud Computing
    - has transformed to a new WG (WG 3)



# SGCC - Terms of Reference (ToR)

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1. Provide a taxonomy, terminology and value proposition for Cloud Computing.
2. Assess the current state of standardization in Cloud Computing within JTC 1 and in other SDOs and consortia beginning with document JTC 1 N 9687\*.
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 open meetings to gather requirements as needed from a wide range of interested organizations.
6. **Provide a report of activities and recommendations to SC 38.**

*\*N9687: Report of JTC 1/SWG-Planning on possible future work on Cloud Computing in JTC 1 (2009)*

# SC 38 - External Liaisons on Cloud

- SC 38 confirms the following Category A liaisons and liaison representatives:

Group	Assigned Liaison from SC 38
<b>DMTF</b>	Mark Carlson
<b>IEEE Computer Society</b>	Stephen Diamond
<b>ITU-T FG Cloud</b>	Kangchan Lee
<b>ITU-T Study Group 17</b>	Dick Brackney
<b>Latin American Institute for Quality Assurance (INLAC)</b>	Fernando Gebara Filho
<b>OASIS</b>	Martin Chapman
<b>The Open Group</b>	Heather Kreger
<b>SNIA</b>	Alan Yoder

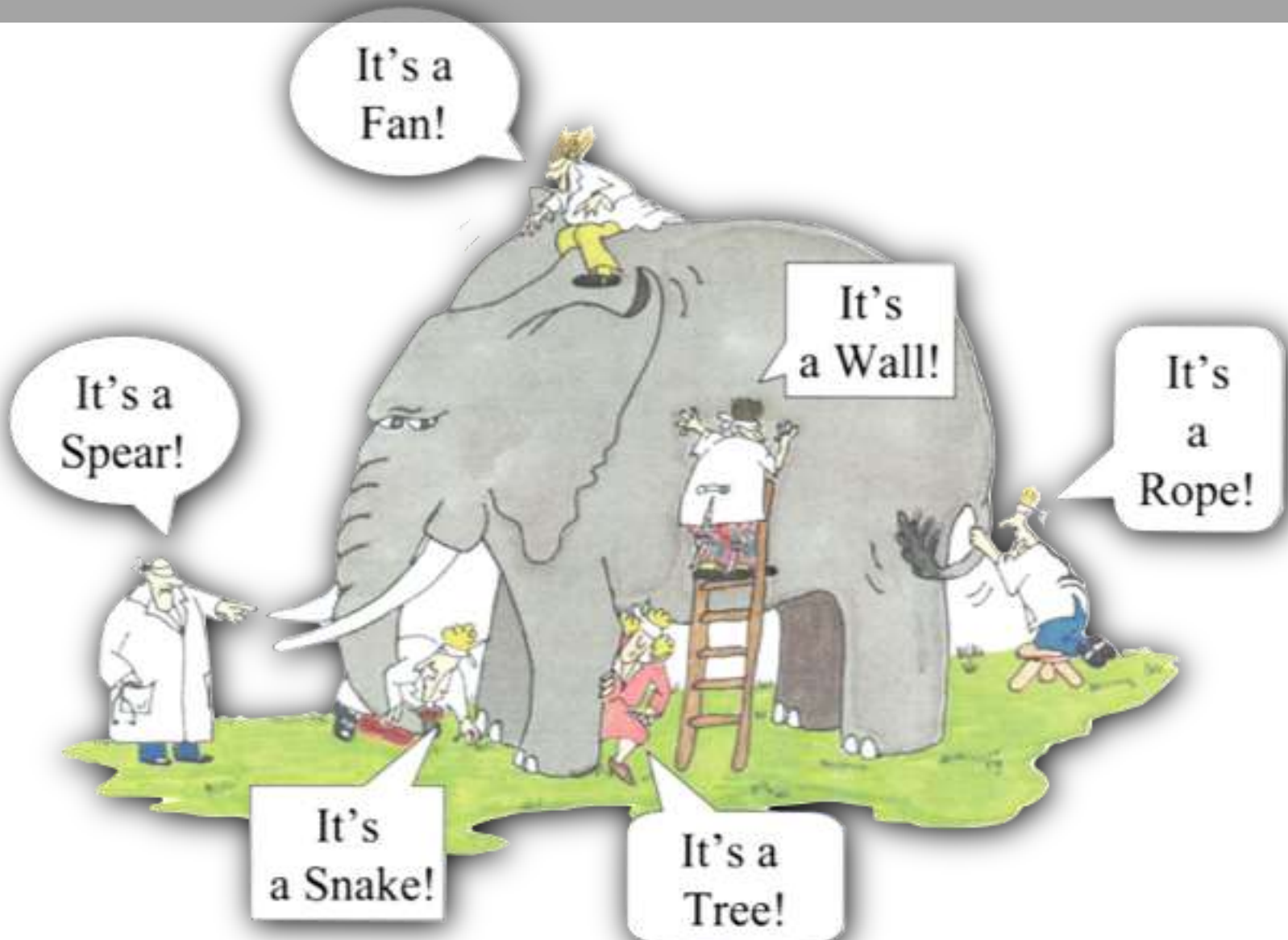


# Issues & Working Method on SGCC

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## From Problem toward Solution

# What is the Cloud?





"The cloud to us (at Ford Motor Co.) is about delivering services, features and information that exist outside the vehicle, in the Internet or on servers that are part of our solution network and presenting it to customers in the way they can use and consume to make the driving experience a much better one."

**JIM BUDZAKOWSKI**

Henry Ford technical fellow and director of electrical and electronic systems research & advanced engineering, Ford Motor Co.



"Fundamentally the cloud model to me means a different way of delivering, billing for and consuming IT capabilities."

**ALEX ZAVGORODNI**

Director, storage management, EmblemHealth



"I'm pretty liberal in my view on cloud; really, in a sense, the whole industry is becoming cloud computing. It's hard to differentiate today the software industry and cloud computing."

**DEVA PERRY**

Independent cloud strategist



# What is cloud computing?

Everybody has a different definition of cloud computing, so we asked 6 analysts and end users for their take on the cloud.

"It's a distributed environment, a bunch of shared services delivered from our systems or in partnership with external solutions providers that allow us to cut up a very complicated problem into smaller steps. The advantage of that is speed to market and the scalability we can achieve."

**DAVID GIBSON**

Service delivery network operations manager, Ford Motor Co



"We're defining cloud as an approach to solving information systems needs. From a technology standpoint, cloud is an evolutionary progress along virtualization, automation and advances in the needs and capabilities of security."

**MARK WHITE**

CTO of Deloitte Consulting's technology practice

"I have a tendency to use the NIST definition of cloud computing, where it's basically a shared resource, there's resource pooling, you're paying per use, you're typically leveraging multitenant infrastructure and it's used in three major ways – software as a service, infrastructure as a service and platform as a service – and it's delivering the economies of scale that give us cost and efficiency advantages."

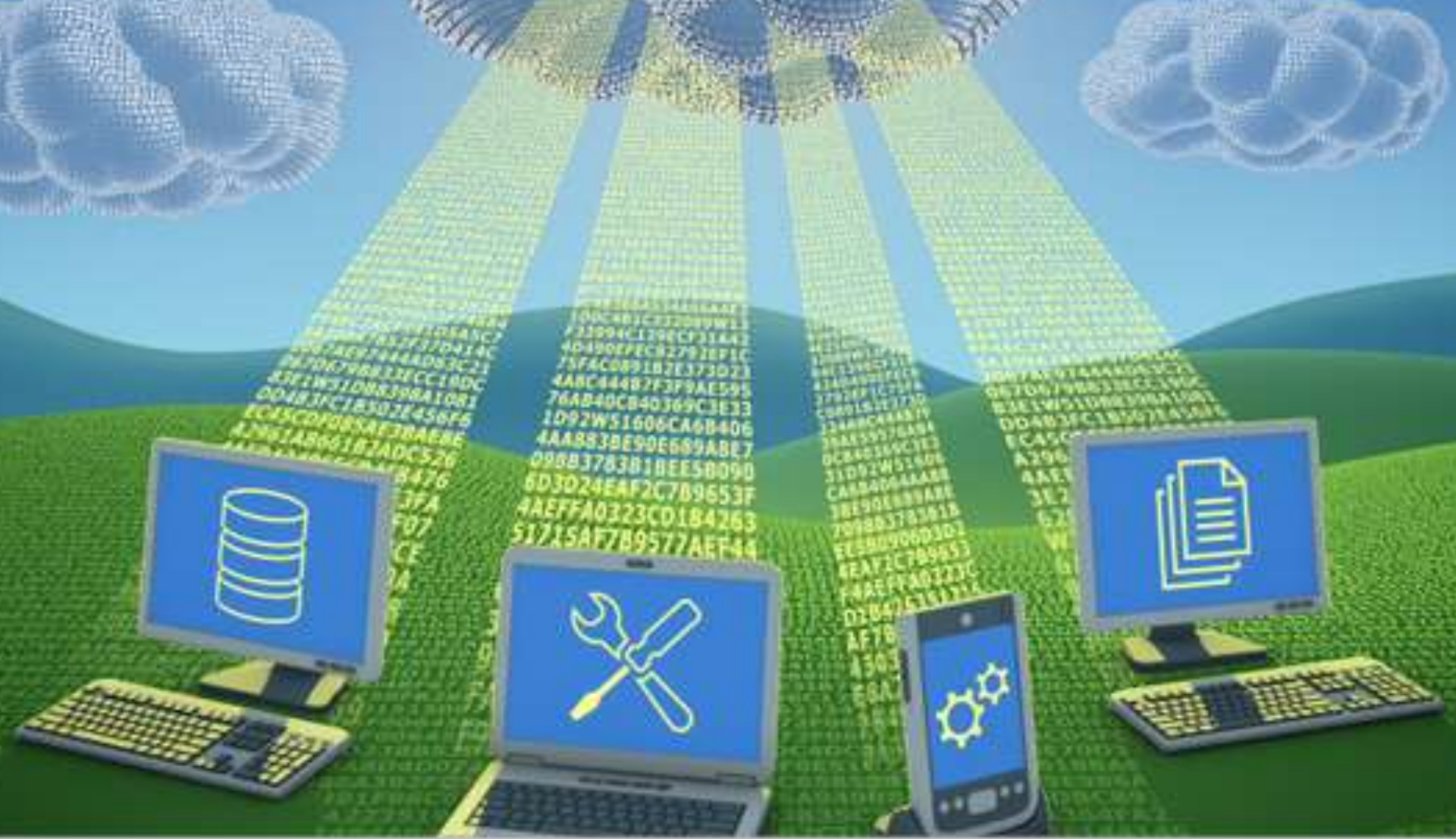
**DAVID INTHICUM**

CTO at Blue Mountain Labs



GIACOMO MARCHES





# What is NOT the Cloud Computing ?

International Cloud Symposium 2011, 10-13 October 2011, Ditton Manor, UK





**No Standards yet!**

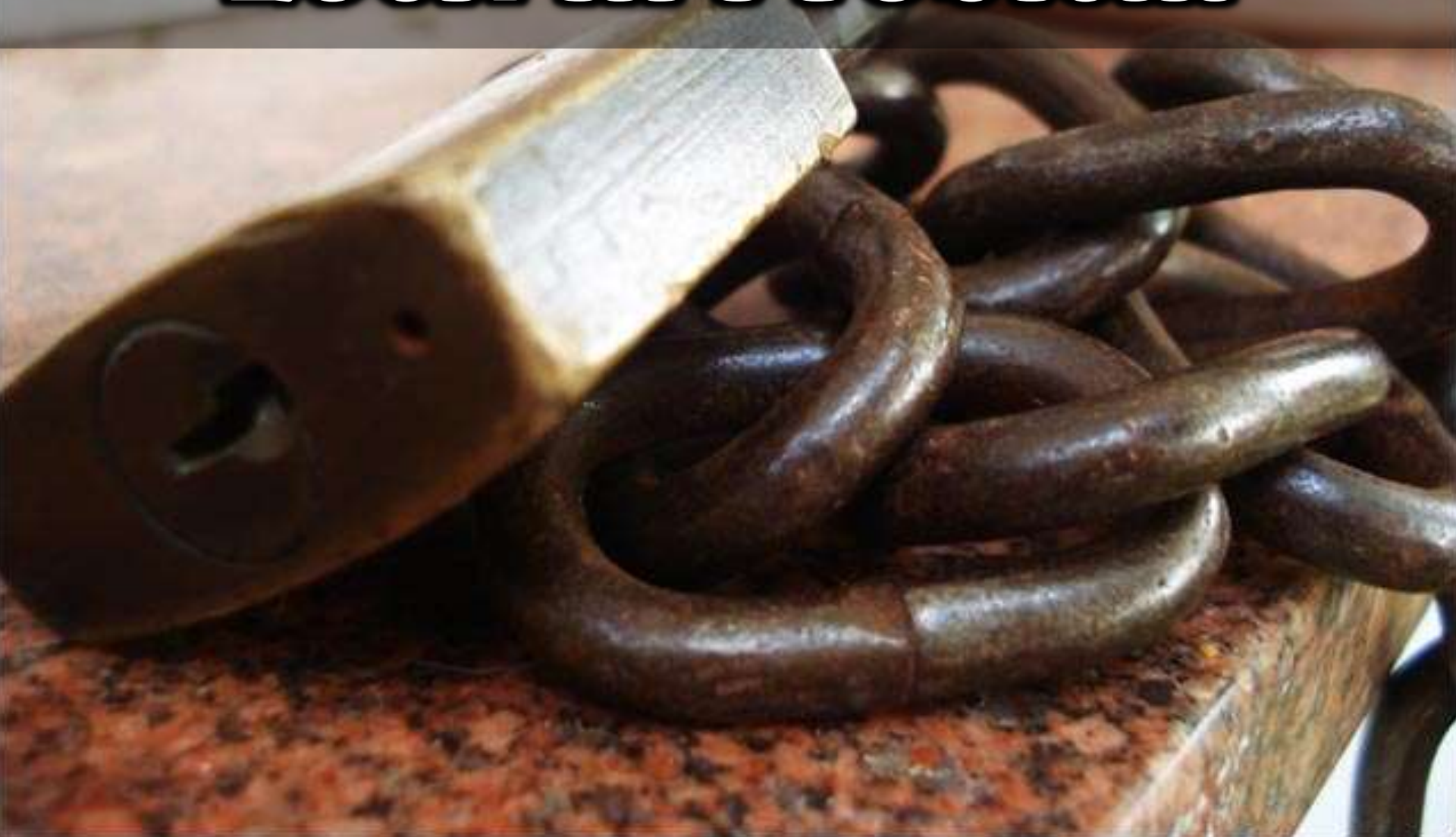




# Cloud Computing Standards: Too Many, Doing Too Little

By Kevin Fogarty, CIO - April 06, 2011

# Lock-in Problem







**Interoperability**



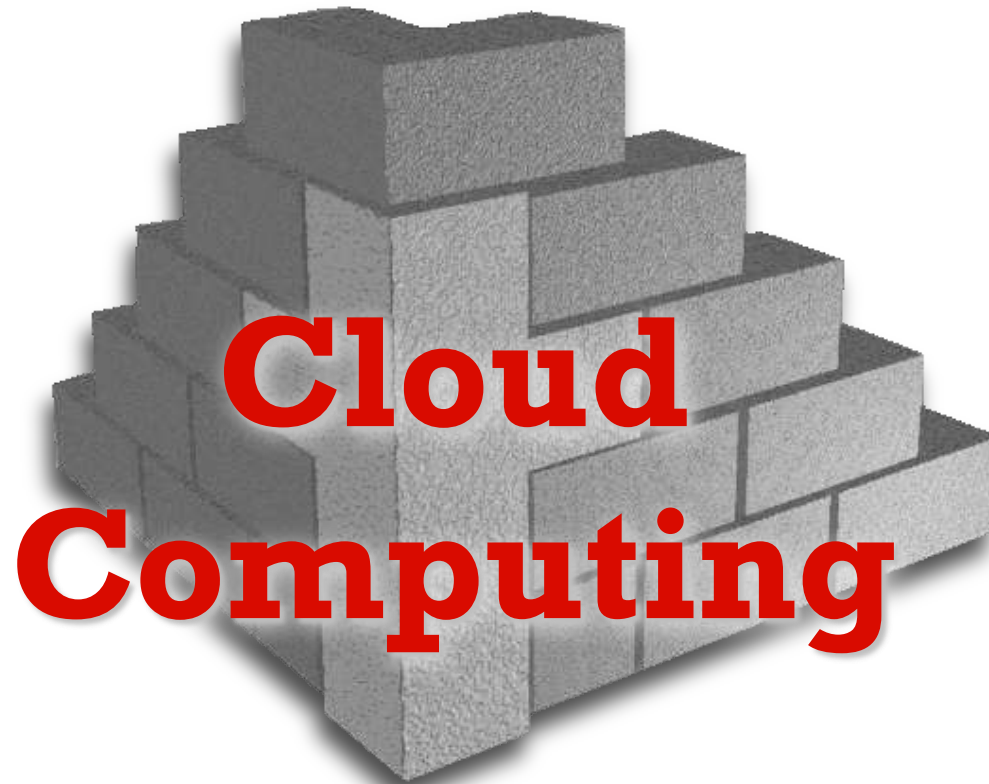


**Security & Privacy**



# We need some CornerStone !!!

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# Working Method in SC 38 SGCC

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- It needs to provide an overall review on the specified topics of Cloud Computing in terms of exploring standardization opportunities.
- In order to do this, the followings works have to be done:
  1. Reviewing current concepts, characteristics, definitions, types and components used in Cloud Computing;
  2. Comparison of Cloud Computing to related technologies;
  3. Analyzing standardization activities for Cloud Computing in other standards organizations;
  4. Recommendations for developing of relevant standards

# Major Outcomes at the last SC38 Plenary (19-23 September 2011, Seoul Korea)

1. **Approval of final Study Group Report on Cloud Computing (SGCC Report)** (Document: SC 38 N 430)
2. **Identify two New Work Item Proposals (NWIPs)**
  - ① **Cloud Computing Vocabulary**
  - ② **Cloud Computing Reference Architecture**
3. **Establish a New WG for Cloud Computing (WG3)**
  - **1<sup>st</sup> meeting : 20-24 February 2012, Vancouver, Canada**



# Final SGCC Report : Study Group Report on Cloud Computing (SC 38 N 430)

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- 1. Introduction and Purpose**
- 2. Overview of Cloud Computing**
- 3. Cloud Computing Industry Initiatives**
- 4. Cloud Computing Standards Analysis**
- 5. Recommendations**
  - **Annex 1:** Repository of Industry Standards for Cloud Computing
  - **Annex 2:** China NB Contribution for Analysis of Standards Requirements for Cloud Computing
  - **Annex 3:** Cloud Computing Use Cases and Scenarios



# Final SGCC Report : Study Group Report on Cloud Computing (SC 38 N 430)

## Cloud Computing Initiatives

Industry Initiative	Area of Interest
ITU-T Focus Group on Cloud Computing	International standard organization
ISO/IEC JTC 1/SC 7	International standard organization
ISO/IEC JTC 1/SC 27	International standard organization
European Network and Information Security Agency (ENISA)	EU agency
ETSI Technical Committee (TC) CLOUD	European standard organization
CESI (China Electronics Standardization Institute)	Chinese standard organization
CCF (Cloud Computing Forum in Korea)	Korean industry consortium
KCSA (Korea Cloud Service Association)	Korean industry consortium
Japan Cloud Consortium	Japanese industry consortium
Open Grid Forum (OGF)	Industry consortium
Distributed Management Task Force (DMTF)	Industry consortium
Cloud Security Alliance (CSA)	Industry consortium
OASIS	Industry consortium
Object Management Group (OMG)	Industry consortium
Storage Networking Industry Association (SNIA)	Industry consortium
Cloud Computing Use Case Discussion Group	Ad Hoc
The Open Group	Industry consortium
Institute of Electrical and Electronic Engineers Standards Association (IEEE-SA)	Standards Development Organization
ATIS Cloud Services Forum	Industry consortium
TeleManagement Forum	Industry consortium
Cloud Industry Forum (CIF)	Industry consortium
OSGi Alliance	Industry consortium
Open Data Center Alliance (ODCA)	Industry consortium



# Final SGCC Report : Study Group Report on Cloud Computing (SC 38 N 430)

## Standards Analysis

- **Standards for Interoperability**
  - **Functional Interface:**
    - IaaS: de facto CPU architectures
    - PaaS: runtime environment w/libraries
    - SaaS: application's UI
  - **Management Interface:**
    - IaaS: OCCI (OGF), CIMI (DMTF)
    - PaaS: none today
    - SaaS: none today
- **Standards for Portability**
  - OVF (DMTF), CDMI (SNIA)
- **Standards for Security**

# Final SGCC Report : Study Group Report on Cloud Computing (SC 38 N 430)

## Analysis Conclusion

- Number of organizations involved.
- Number of standards existing and in development
- Overlap of cloud standards with other standards
- Lack of framework for cloud standards
- Lack of industry-accepted coordination role

# Final SGCC Report : Study Group Report on Cloud Computing (SC 38 N 430)

## NEW WORKS

- **Cloud Computing Terminology**
  - a standard which provides common terminology for the field of Cloud Computing
  - *an agreed set of terms and definitions for use in Cloud Computing, consistent to the extent practical with other JTC1 terms and definitions*
- **Cloud Computing Reference Architecture**
  - *describe the key elements of Cloud Computing, their relationships and the interfaces between them*

# Terms of Reference (ToR) for SC 38 WG 3 (Cloud Computing)

- I. Identify, develop, and maintain JTC 1 deliverables initially in the field of Cloud Computing Reference Architecture and Terms and Definitions.
- II. Investigate the requirements for new work in the areas of Use case Analysis Methodology and Principle of Cloud Service Delivery, as provided in Clause 5.2 of the Study Group Report on Cloud Computing (SC 38 N 430).
- III. As a basis for the evaluation and development of new work, utilize a use case-based methodology as described in the SC 38 Study Group Report on Cloud Computing (SC 38 N 430) as appropriate.
- IV. Support SC 38 goals and respond to requests pertaining to Cloud Computing initiated by SC 38, JTC 1 and external Liaison organizations.
- V. Liaise and collaborate with SDOs and consortia related to Cloud Computing as appropriate.
- VI. Maintain future JTC 1 PAS and Fast Track submissions assigned to SC 38 in the area of Cloud Computing and Virtualization.



# Collaboration with other SDOs

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- **SGCC Open Meeting**

- 18 May 2011, Boulder, CO, USA
- About 64 experts from 12 SDOs including ITU-T, DMTF, SNIA, OGF, TMF, CSA, The Open Group, IEEE, ATIS and GICTF.
- URL: [http://www.dmtf.org/news/events/2011apts/2011\\_schedule#wed1](http://www.dmtf.org/news/events/2011apts/2011_schedule#wed1)

- **SC 38 SGCC & ITU-T FG Cloud Joint Meeting**

- 26 September 2011, Seoul Korea (co-located with ITU-T FG Cloud meeting, 27-30 September 2011)
- URL: <http://www.theclouds.or.kr/2011-en/joint/joint01.asp>

# JTC 1 SC 38 SGCC & ITU-T FG Cloud Joint Meeting

ITU-T FG Cloud and ISO/IEC JTC 1 SC 38 SGCC  
Joint Meeting

26 September 2011 (Mon) - Namada Seoul Bach

26 September 2011 (Monday), Seoul Korea

## *Purpose:*

- Information Exchange on current standardization
- Identification of what Cloud Topics for future joint standards
- Discussion for Joint Standards Collaboration





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# Thank you