



# Library of Congress Designing Storage Architectures

## **Mr. Marcelo Olascoaga**

Service Line Manager

Cloud Computing Services Program Management Office (CCS PMO)

Federal Acquisition Service (FAS)

Integrated Technology Services (ITS)

**September 23, 2013**

Email: [CloudPMO@gsa.gov](mailto:CloudPMO@gsa.gov)

**The role of standards or standards bodies in determining specifications that are vital for identifying integrity and reliability for long-term data storage in cloud services.**

- NIST (National Standards and Technology)
  - Taxonomy and reference model for cloud computing architecture.
- SNIA (Storage Network Industry Association)
  - Nonprofit vendor neutral trade association dedicated to developing standards, technologies and providing educational services on management of information.
- CDMI (Cloud Data Management Interface)
  - Created by the SNIA to define interfaces that allow users to use to create, retrieve, update, and delete data elements from the Cloud



## Cloud services will continue to influence the interoperability and portability in storage architectures.

- General increase in the adoption of Cloud from end users to enterprises.
- BYOD (Bring Your Own Device) and extensive use of mobile devices requiring elastic data storage.
- Application design and approach to data management are moving towards the Cloud delivery model.



**Users and developers of long-term storage applications should do the following to promote integrity and reliability in cloud services:**

- Select providers/vendors who support industry wide accepted standards such as CDMI.
- Build applications with loosely coupled or simple interfaces for access to data in the Cloud such as REST (Representational State Transfer) .
- Implement and regularly enforce risk assessments, audits, and monitoring regarding data storage/access.
- Create enforceable SLAs with providers/vendors.



- NIST Cloud Computing Reference Architecture  
[http://collaborate.nist.gov/twiki-cloud-computing/pubCloudComputing/ReferenceArchitectureTaxonomy/NIST\\_SP\\_500-292\\_-\\_090611.pdf](http://collaborate.nist.gov/twiki-cloud-computing/pubCloudComputing/ReferenceArchitectureTaxonomy/NIST_SP_500-292_-_090611.pdf)
- SNIA  
<http://snia.org>
- CDMI  
[http://www.snia.org/tech\\_activities/standards/curr\\_standards/cdmi](http://www.snia.org/tech_activities/standards/curr_standards/cdmi)