SNIA Storage Networking Industry Association
CDMI Cloud Data Management Interface

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Chairman SNIA France Committee, SNIA Europe
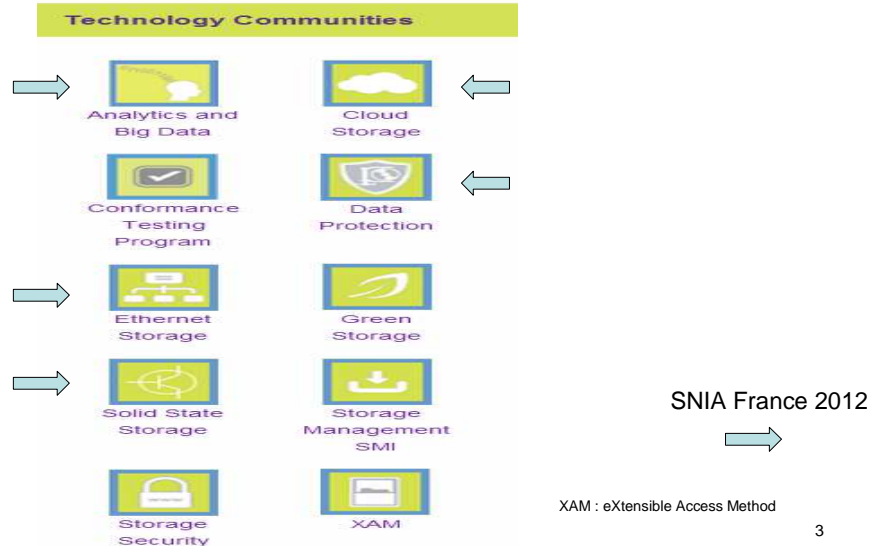CTO Storage IBM France

SNIA

SNIA in the world

SNIA
Advancing storage & information technology

- The voice of 'the storage industry representing circa $50-60 Billion of revenue (hardware and software)
- Around 100 companies – 10.000 professionals :
  http://www.snia.org/member_com/
- Established in the US in 1997 and 2000 in Europe as non profit organizations
- Yearly Budget circa $5-6 Million
- HeadQuarters in San Francisco
  - Australia-New Zeland, North America Canada, China, Europe, India, Japon, & Asia-Pacific
  - Within Europe : France, Germany, UK, Benelux, Italy…
- Technology Centers in Colorado Springs, Beijin, Tokyo & Bangalore
- Standards and education, certification, conferences, specifications/standards, industry alliance, best practices, "plugfests", and interoperability tests for SNIA specifications
- Co-owner of the SNW conference (Storage Networking World) – Dallas and Frankfurt

SNIA : Key domains

Technology Communities

- Analytics and Big Data
- Cloud Storage
- Conformance Testing Program
- Data Protection
- Ethernet Storage
- Green Storage
- Solid State Storage
- Storage Management SMI
- Storage Security
- XAM

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XAM : eXtensible Access Method

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Standards and SNIA contribution

Management

- SMI-S (SNIA) – Storage Management Initiative- Specification
  - Uses CIM (DMTF) – Distributed Management Task Force
- NDMP (SNIA) – Network Data Management Protocol
  - Standards and extensions from 2007 an onwards
- CDMI (SNIA) - Cloud Data Management Interface
  - Published the Cloud Data Management Interface as a SNIA Architecture (April 2010) – also moving to De Jure standardization
  - CDMI reference implementation available under BSD license

Stored Data

- RAID Layout (SNIA)- Redundant Array of Inexpensive/Independent Disks
- Fixed Content (SNIA) - data such as digital images, e-mail messages, presentations, video content, medical images and check images that don't change over time.
- ...

Cloud Data Management Interface

What is CDMI?

- The Cloud Data Management Interface (CDMI) defines the **functional interface** that applications will use to **C**reate, **R**etrieve, **U**pdate and **D**elete (**CRUD**) data elements from the Cloud.

- As part of this interface the client will be able to **discover the capabilities** of the cloud storage offering and use this interface to manage containers and the data that is placed in them. In addition, **metadata** can be set on **containers** and their contained **data elements** through this interface.

- This interface is also used by administrative and management applications to **manage data** (apply software data services), containers, accounts, security access and monitoring/billing information, **even for storage that is accessible by other protocols**. The capabilities of the underlying storage and data services are exposed so that clients can understand the offering.

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CDMI is maturing as a standard

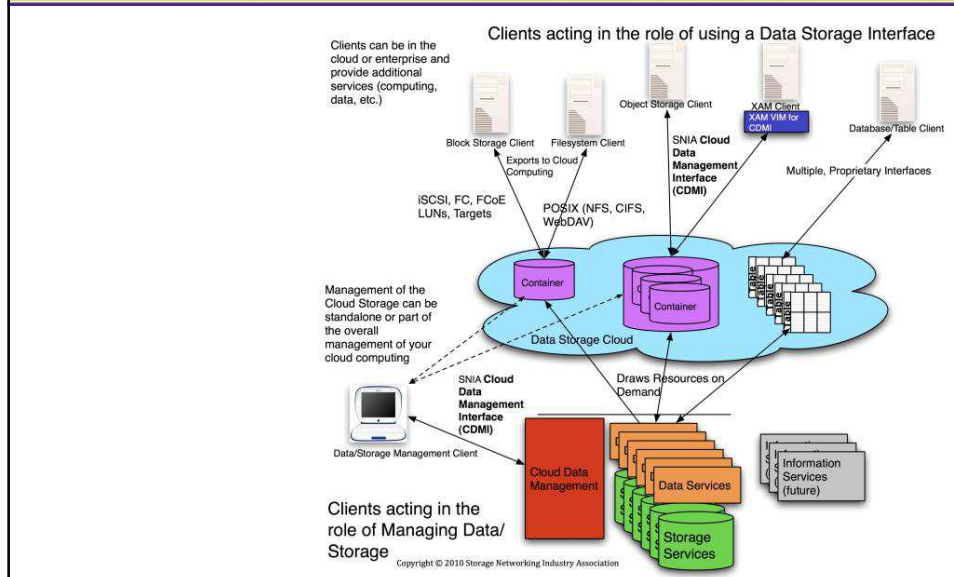| Maturity Level*	Description	Recommendation
1.No Standards	Standardization needed	Encourage standards development
2.Under Development	Discussions within standards groups. Open source project launched.	Monitor and provide feedback to standards development
3. Specification Document Published	Initial specification posted for public review	Review specification and plan testing
4.Initial Reference Implementation	Reference implementation available	Evaluate reference implementation
5.Early Third Party Testing	Evaluation in test environments	Pilot Projects should consider use
6.Initial Production Implementations	Successful use in production	Mainstream projects should consider use
7.Many Deployments	Widespread use by many groups	Projects should use the standard as a default
8.Accepted Standard	De facto or de jure acceptance as a standards	Projects should use unless special circumstances require exemption
9.Aging Standards	Newer standards are under development	Projects should explore alternatives

CDMI open source reference implementation available

Plug fests started with multiple implementers

Relationships with ANSI and ISO, CDMI being submitted to ISO

*Source: Draft NIST Cloud Standards Roadmap

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The Complete Picture

Thank you

www.snia-europe.org

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