



Education

Open Source and Standards: A Marriage Made in IT Heaven

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- This session will cover the best practices necessary for identifying the need for open source, evaluating open source options and integrating solutions based on standards like SMI-S, XAM and CDMI. The presentation also will examine the risks and benefits companies face when developing and deploying products, and why open source *and* standards are a marriage made in IT heaven.

- The Problem
- Reasons for Governments
- Reasons for Businesses
- Picking the Right OSS and Standards Based Solution
- Benefits of Using Standards
- Costing Models
- Sample Solutions
- Questions to ask

- Too costly for developing proprietary applications
- Complexity of deploying and integrating solutions
- Vendor lock-in
- No single pane of glass
- Reinventing the wheel

➤ Security

- ◆ It has been shown statistically that security increases by the number of users and developers of open source software (OSS)

➤ Procurement time

- ◆ Government procurement of proprietary software can take up to 3 years for approval

➤ No vendor lock-in or lock-out

- ◆ Since OSS is in the public domain it eliminates the vendor lock-in and also provides multiple vendor support i.e. Linux

➤ Reduced cost

- ◆ Using OSS increases the competition for professional services which results in lower cost for support contracts.

➤ Increased quality

- ◆ With increased usage of the OSS more reviews of the source code are conducted

➤ Collaborative environment

- ◆ By participating in OSS communities it allows governments to input their requirements for the software.

- **Commitments made by U.K. to its citizens and Free Software Developers**
 - ◆ Ensure that the Government adopts open standards
 - ◆ Ensure that open source solutions are considered properly
 - ◆ Embed an open source culture of sharing
 - ◆ Ensure that there are no procedural barriers to the adoption of open source products
 - ◆ Ensure that systems integrators and proprietary software suppliers demonstrate flexibility and ability to re-use their solutions and products as is inherent in open source.

➤ “Open Source Gains While Proprietary Software Declines” by Matt Asay

- ◆ Reduce costs by 87% (while meeting or exceeding expectations)
- ◆ Improve quality by 92%
- ◆ Ease integration and customization by 86%

- ◆ Footnote: http://news.cnet.com/8301-13505_3-10223005-16.htm

- Quicken pace of innovation by 82%
- Improve support by 84%
- Increase standards compliance by 91%
- Decrease time to market by 82%

Picking the Right OSS and Standards Solution I

- What are the business requirements
 - ◆ Build the Use Case
- Identify possible OSS and standard based solutions
- Do pros and cons to determine best solution
 - ◆ Community Forum
 - ◆ Type of Support
 - ◆ Vendors involved
 - ◆ ANSI and ISO standard

Picking the Right OSS and Standards

Solution II

- Develop prototype solution
 - ◆ Use Community Forum
- Testing and debugging
 - ◆ Ensure prototype meets business and end users requirements
 - ◆ Test Customer
- Rollout solution to entire organization

“It is relatively easy to sit alone and develop a proprietary solution that fits exactly what a single company wants to achieve. It's much harder to develop a standard that suits every voting member. Arguments, blockages, concessions and complications are all part of this process.

Does that mean the multi-vendor standardization process is flawed? Not at all! In fact, I would argue just the opposite. A standard that has the approval of all interested parties in that space has a far greater chance of acceptance and survival than does the rogue standard created by a single, uncooperative vendor.”

By Michi Henning, Managing Director, Triodia Technologies

Benefits for Using Standards I

- Greatly reduces IP infringement fears
- Interoperability – no vendor lock-in
- Enables more choices and competition for end users when selecting products
- Decreases time to market for products

➤ Increases of Ease of Use

- ◆ Establishes common terms for common capabilities across multiple vendors

➤ Reduces costs for developing products

- ◆ By reducing number of development teams for each proprietary interface

➤ Increases innovation

➤ Vendor Extensions to standards

- ◆ Provides for socialization and validation of potential new standards material

➤ Open Source Applications

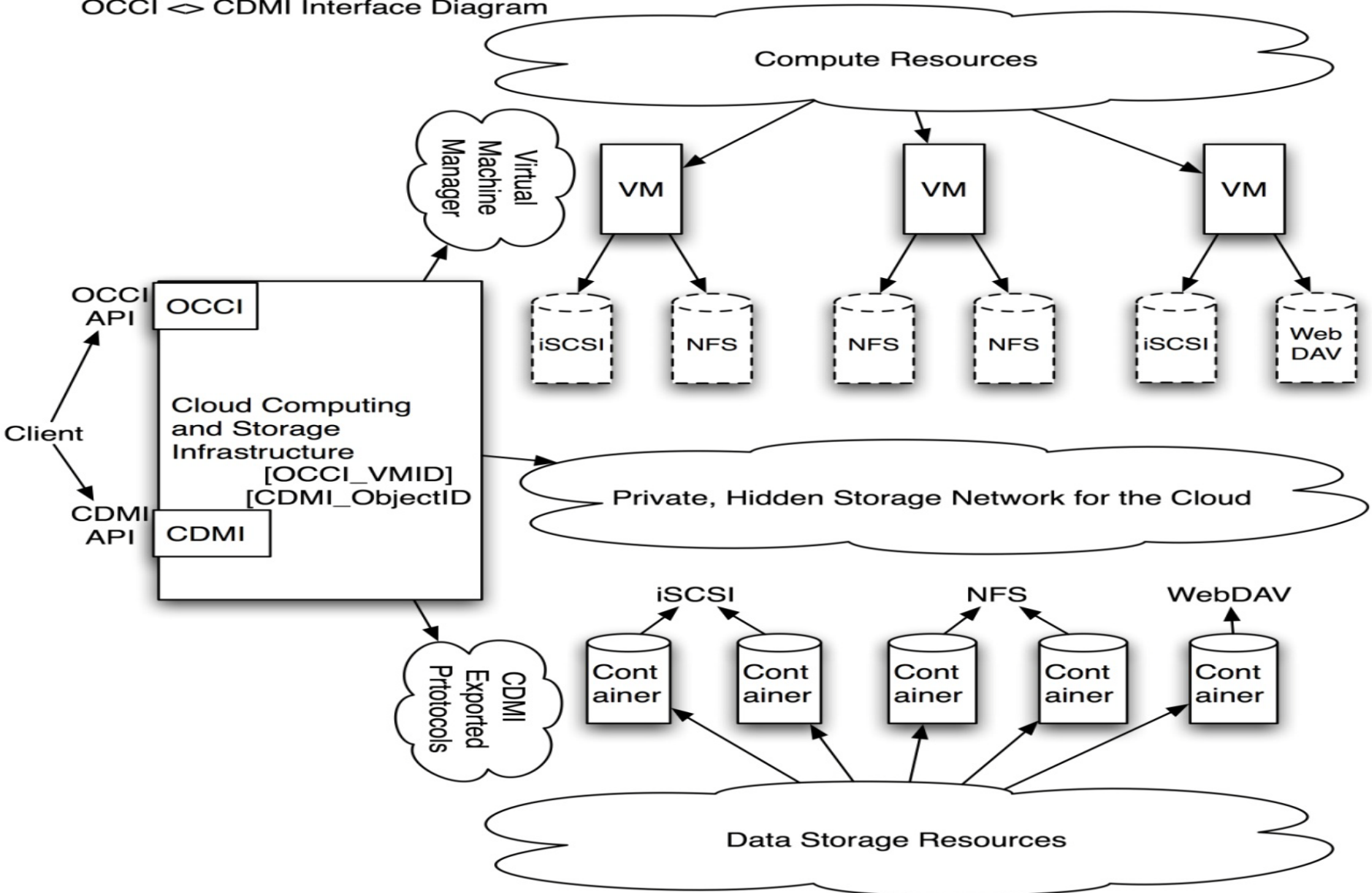
- ◆ Free
- ◆ Open Core – subscriptions

➤ Proprietary Applications

- ◆ Price per number of ports
- ◆ Price per number of devices
- ◆ Price per modules/capabilities

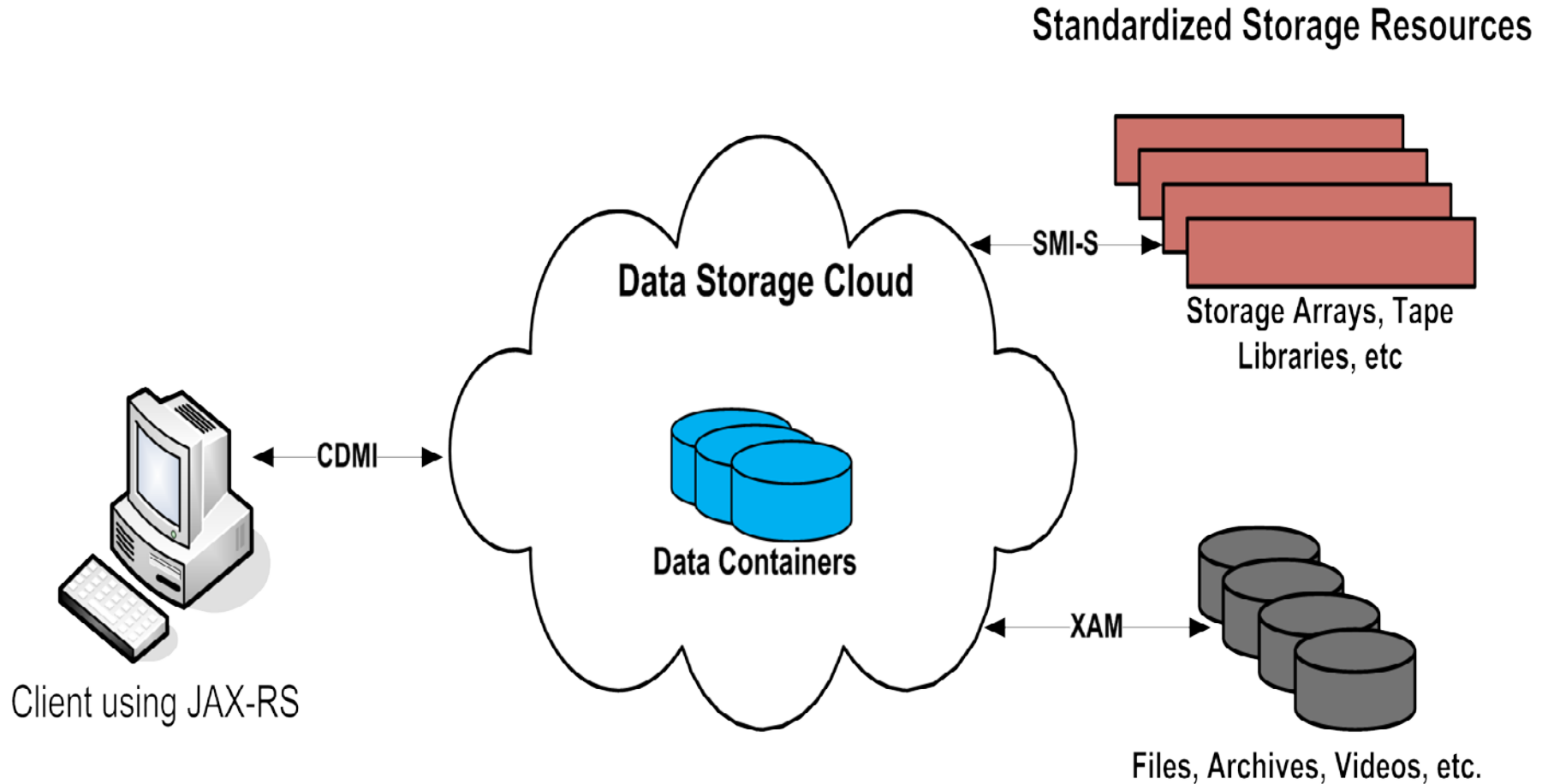
OCCI and CDMI

OCCI <-> CDMI Interface Diagram



- Open Grid Forum (OGF) and SNIA joint collaboration
- Open Cloud Computing Interface (OCCI) provides the access for managing the user accounts
- Cloud Data Management Interface (CDMI) provides the access for managing and configuring the storage resources
- Joint demonstrations coming up

Open Source and Standards



Open Source & Standards Integrations

- Client uses JAX-RS for web services
- CDMI for accessing storage resources
- XAM for controlling data path
- SMI-S for configuring and provisioning the backend storage

- Ask your vendor why they are still developing to multiple proprietary interfaces when they could be saving money and time by developing to a standard interface
- Ask why they belong to standard organizations but don't implement or promote standard based product lines

- Are the vendors' members of standard organizations?
- Are they actively engaged in technical working groups working on the standards?
 - ◆ Such as in the SNIA they should also be authors of the standards being developed i.e. CDMI
 - ◆ Can verify by looking at the authors listed in the specifications at http://www.snia.org/tech_activities/publicreview/

What to Ask Vendors III

- Do they actively participate in interoperability testing for the standards
 - ◆ Vendors equipment in interoperability labs is available for testing more than 75% of the time
 - ◆ Ask for uptime report of vendor's equipment in labs i.e. SNIA SMI-Lab

- Do conformance testing and test more than minimum capabilities for passing conformance testing for compliance to standards such as SMI-S
 - ◆ Compare testing done by storage vendors for SMI-S at http://www.snia.org/forums/smi/tech_programs/ctp/conformingproviders

- Require standards and OSS in RFQs and RFPs
- Verify vendors are implementing standards (don't take the vendors word for it)
- Get involved in standard organizations and open source projects
 - ◆ Provide feedback to companies implementing open source/standard based products.

- The number one way to change the situation and give the power back to you as the customer is to vote with your **wallet**.

- Only buy products compliant to standards and using open source.

- Please send any questions or comments on this presentation to **SNIA: *Storage/Storage Management***

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