

Multi-Cloud Storage: Addressing the Need for Portability and Interoperability

Live Webcast

**December 12, 2017
12:00 pm PT**

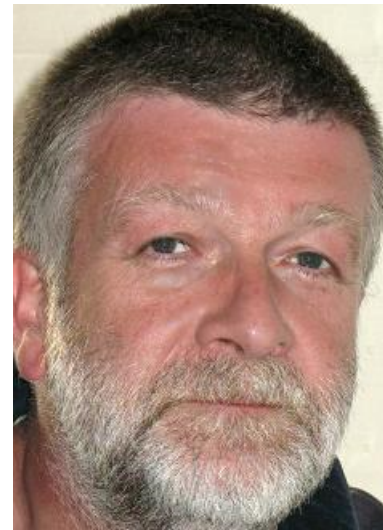
Today's Presenters



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Agenda

- Evaluator Group Enterprise Hybrid Cloud Survey results
- Hybrid cloud use cases, objectives, barriers
- Hybrid cloud storage
- Managing data
- How can standards help

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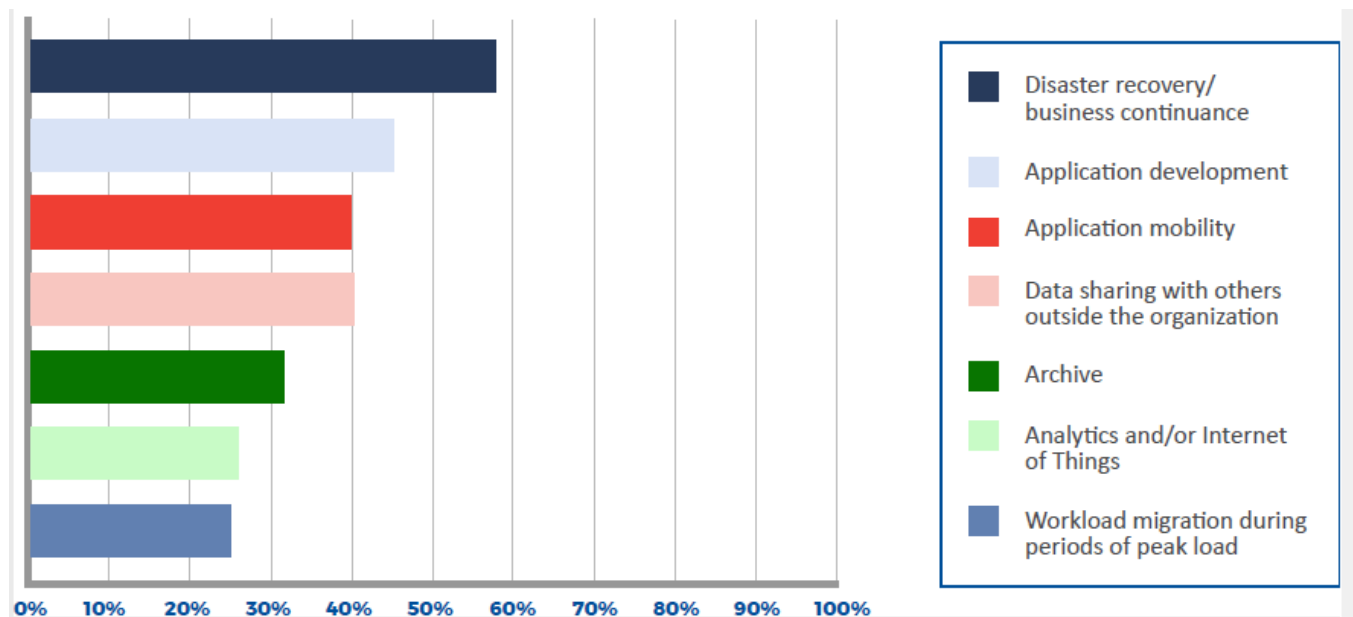
Research Studies, 2017

- Hybrid Cloud IT in the Enterprise- released Aug 2017
- Hyperconverged and the Enterprise User Adoption - Oct
- Changes in Solid State Adoption – Q1 2018
- High Performance Computing in the Enterprise - Q1 2018

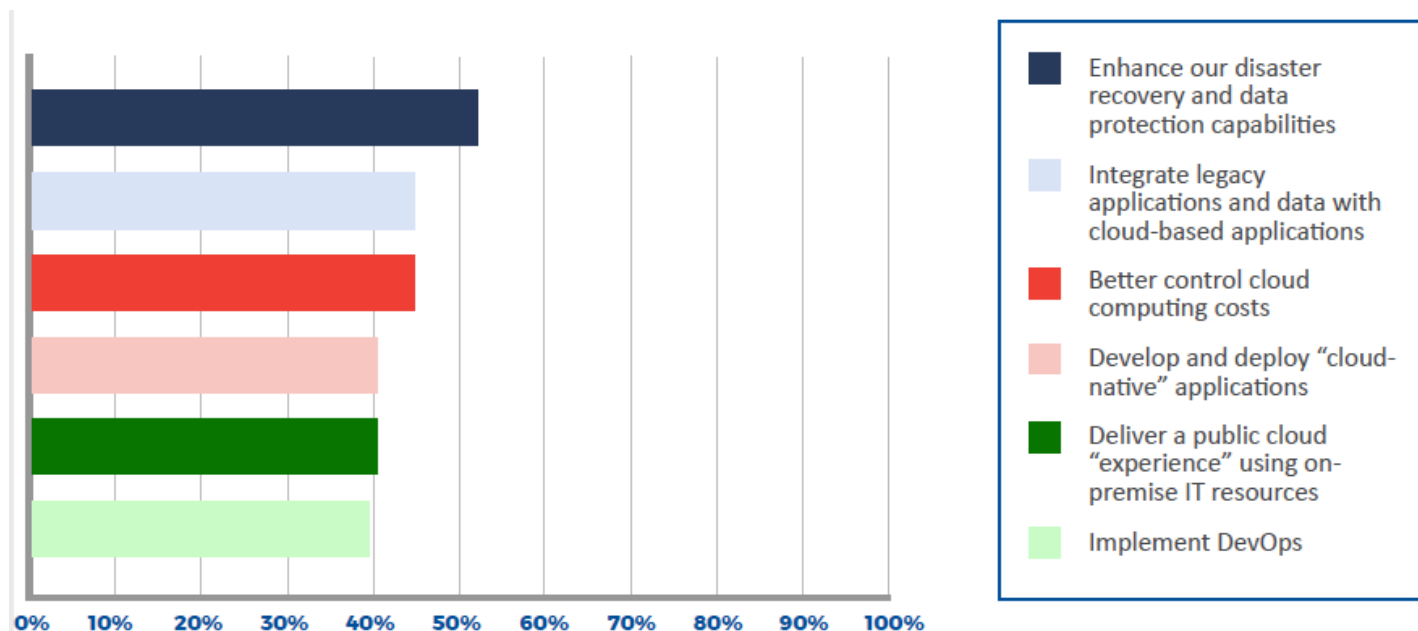
EGI Enterprise Hybrid Cloud Survey

- 62% that have deployed hybrid cloud say it is their long-term future
 - ◆ Most large enterprise IT organizations now strive to become a more agile IT service delivery center (65%)
- 30% say they are “just getting started” although many have been engaged in hybrid cloud projects for more than a year
- 58% say they will increase their hybrid cloud workloads in 2017
- “Getting APIs to work out of the box is a myth”

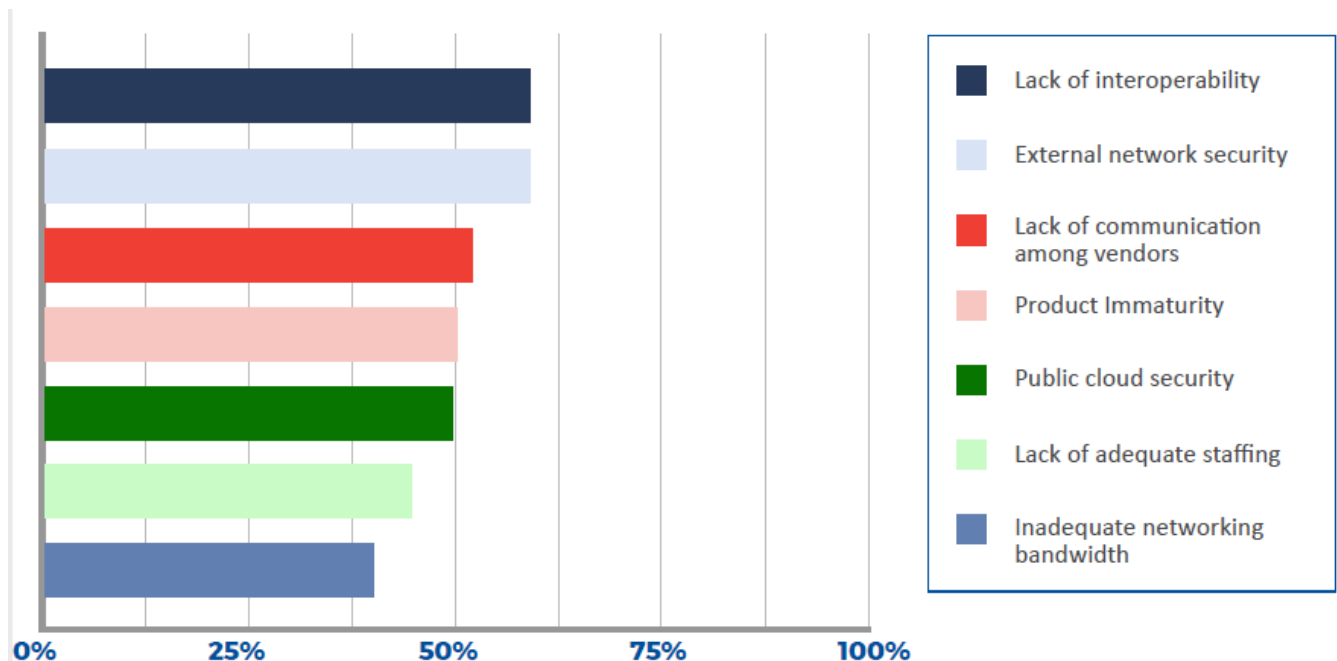
Current Use Cases



Hybrid Cloud Objectives

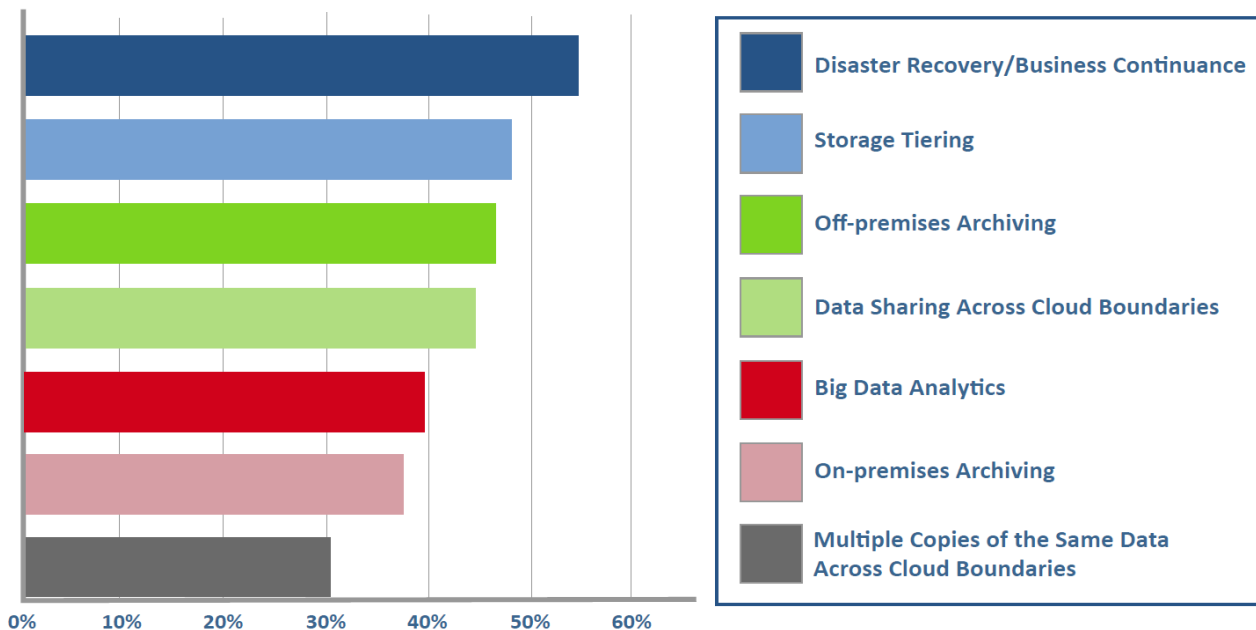


Barriers to Overcome



Storage in Hybrid Clouds

Our hybrid cloud storage environment includes (select all that apply):



Take-Aways

- Hybrid clouds are multi-clouds with lots of moving parts
- Data protection, disaster recovery and business continuance are critical capabilities
- Interoperability at the data layer is key
- Up to now, open source BIY cloud projects have had an 80% failure rate among enterprise users

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How do you manage the data?

- Local data managed by proprietary interfaces?
 - ◆ Primary location protection, backup, retention
 - ◆ Policies on when to move local data to the cloud
 - ◆ Multiple tiers locally
- Cloud data managed by different interfaces?
 - ◆ Number of copies in the cloud
 - ◆ How long to retain
 - ◆ Multiple cloud tiers

- Ideal situation would be comprehensive management of data no matter where it lives
 - ◆ What tier should host it at this point in its lifecycle?
 - ◆ How much protection should it get at this point in its lifecycle?
 - ◆ What are the QoS requirements now?
 - ◆ Does it need long term retention and archiving?
 - ◆ When should it be deleted?
- Look to vendors to solve this problem – ask the right questions
- Solve the problem short term with comprehensive automation in house

How can standards help?

- The SNIA Cloud Data Management Interface (CDMI) has standardized a scheme to manage data in public and private clouds
 - ◆ The approach is to use metadata to describe the requirements for the data at this point in its lifecycle
 - ◆ The metadata may be set on individual data objects or on containers of objects
 - ◆ The metadata requirements on a container are inherited by any containers and objects contained

- CDMI metadata forms a “contract” between the data owner and the underlying cloud systems
 - ◆ Cloud implementation can now understand the requirements in an interoperable and portable manner
 - ◆ Automation software can properly invoke data services to attempt to meet those requirements
 - ◆ When data is moved between private and public clouds, the metadata goes with it (like a configuration file)
 - ◆ Same metadata is interpreted locally and remotely

Some examples

- Access hints: latency, bandwidth <- QoS for access
 - ◆ Drives staging in different tiers
- Protection settings: RPO, RTO
- Redundancy: number of copies geographically distributed
- Geographic location: which countries may host the data, which may not
- Retention time, Administrative holds, auto deletion

- Public cloud providers still lacking in data management features
 - ◆ Still managing data services directly instead of managing the data
- But you don't need the cloud providers to implement CDMI directly in order to benefit
- You can add CDMI metadata to your files and directories and use this to drive your own automation
 - ◆ Public Cloud Automation – invoking data services as they become available
 - ◆ Own local automation – invoking local data services to meet the specified requirements
- As a result you can start to get a handle on comprehensive hybrid cloud data management

After This Webcast

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<http://www.snia.org/forum/csi/knowledge/webcasts>
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Thank You