Cloud Computing and Storage Panel: Will Enterprises be All-in and When?

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Craig Dunwoody, GraphStream
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Abstract

- Cloud Computing and Storage/Data is maturing but where are Enterprises in the adoption of the cloud? Are they increasingly adopting public cloud? Are they setting up their own private clouds? How successful are they in doing so?

- This panel will discuss the issues these customers are facing and how various products, services and data management techniques are addressing those issues.
Scott Sobhani

- Scott Sobhani, CEO and cofounder of Cloud Constellation Corporation and the SpaceBelt, Information Ultra-Highway is an experienced telecom executive with over 25 years in executive management positions, most recent as VP for business development and commercial affairs at International Telecom Advisory Group (ITAG). Previous positions include CEO of TalkBox, VP & GM at Lockheed Martin, and VP, GM & senior economist at Hughes Electronics Corporation. Mr. Sobhani was responsible for closing over $2.3 billion in competitive new business orders for satellite spacecraft systems, mobile network equipment and rocket launch vehicles. He co-authored “Sky Cloud Autonomous Electronic Data Storage and Information Delivery Network System”, “Space-Based Electronic Data Storage and Network System” and “Intermediary Satellite Network for Cross-Strapping and Local Network Decongestion” (each of which are patent pending). He has an MBA from the University of Southern California, and a bachelor’s degree from the University of California, Los Angeles.
Enterprises are subject to local laws governing how and where data is stored, and many [IT Decision Makers] were concerned that data in the cloud could theoretically be held in many different servers across the globe.

Source: Tata Communications 2015 Data Centre and Cloud Services Market Assessment Study – 1000 IT decision-makers from 8 major countries interviewed
Enterprise Use Cases

Bypassing the pandemic cybersecurity crisis to solve a multitude of diverse requirements.

Medical & Pharmaceutical
- Novartis – formulas and research data
- Amgen – formulas and research data
- Hospitals – patient privacy and image archiving

Government & Military
- US State Department – embassies
- US Department of Defense – drones
- Libraries – archiving
- Social Security – archiving
- Office of Personnel Management

Insurance
- Anthem – jurisdictional/regulatory
- Cigna – jurisdictional/regulatory

Transportation & Utilities
- Airports – ATC Networks
- PG&E – SCADA Networks

Energy
- Exxon-Mobil – exploration data
- Shell Oil – exploration data
- Proprietary Research Data

Media
- IBM Video Cloud – Expedited live video delivery
- Netflix – Bypass congested/expensive networks

Banking
- HSBC – global operations and jurisdictional
- FedWire – transactional risk
- Bitcoin – protection of cryptocurrencies deposits
Fredrik Forslund

- Fredrik Forslund serves as Director of Cloud & Data Center Erasure Solutions for Blancco Technology Group. Bringing over 15 years of experience, he previously founded SafeIT Security, a security software company focusing on encryption and selective data erasure. With a keen eye for streamlining corporate IT security efficiencies and maintaining compliance with data privacy legislation, he is often regarded as a trusted advisor among customers. Prior to joining the company, he served as a Management Consultant for McKinsey & Company. Having lived and worked in the U.S. and Europe, Forslund understands the operational, financial and cultural nuances of driving global business growth. When he’s not guiding customers through data erasure, or working with internal teams, he can be found speaking at industry conferences, such as Cloud Expo Europe, Datacloud Europe and others.
Data Lifecycle in the Cloud

1. Data Creation & Classification
2. Data Migration
3. Data Use/Storage
4. Data at Rest
5. Data End-Of-Life
6. Decommissioning of Device/Server
6 Scenarios When Data Removal Is Absolutely Necessary

- Sending Back Drives for Warranty
- Terminating Virtual Machines in IaaS Cloud
- Planned SAN/Server Decommissioning
- Regulation/Governing Bodies Conduct Audits
- Planned Data Migration & Data Center Consolidation
- Disaster Recovery Exercises
Craig Dunwoody

- **Craig Dunwoody** is co-founder and CTO of two Silicon Valley companies: GraphStream, an integrator of advanced scalable data infrastructure, and Birchbridge, an early-stage startup that is developing a cabinet-scale datacenter building block product with an innovative physical-layer architecture. Previously, at Silicon Graphics, he developed system software for seven successive generations of industry-leading visual computing systems. He earned BSEE, MSEE, and MSCS degrees from Stanford University, and has co-authored seven issued and five pending U.S. patents.
Unbundled scale-out storage software

SPFE: Storage Platform Frontend Software: Interfaces to Apps

SPBE: Storage Platform Backend Software: Interfaces to Capacity Pools

Storage Platform Native APIs/Protocols

Other Storage Building Blocks

Apps

SPFE

SPBE

Cap Pool

SPBE

Cap Pool

SPBE

Cap Pool

SPBE

Cap Pool

SPFE

SPBE

SPFE

SPBE
Combining self-op & hosted storage

Self-op DC1
- Apps
- Apps
- Apps
- Apps
- Unbundled node01
- Unbundled node02
- Unbundled node03
- Unbundled node04

Self-op DC2
- Apps
- Apps
- Apps
- Apps
- Unbundled node05
- Unbundled node06
- Unbundled node07
- Unbundled node08

ColoA DC1
- StorageSvc
- Storage+Ssvc
- StorageSvc
- Storage+Ssvc
- Unbundled node09
- Unbundled node10

ColoB DC1
- StorageSvc
- Storage+Ssvc
- StorageSvc
- Storage+Ssvc
- Unbundled node11
- Unbundled node12

HosterA DC1
- StorageSvc
- Storage+Ssvc
- StorageSvc
- Storage+Ssvc
- Apps
- Apps
- Apps

HosterB DC1
- StorageSvc
- Storage+Ssvc
- StorageSvc
- Storage+Ssvc
- Apps
- Apps
- Apps

Public Internet
Self-op net
HosterA net
HosterB net
Laz Vekiarides

- Laz Vekiarides is the CTO and co-founder of ClearSky Data, an enterprise storage company that simplifies the entire data lifecycle as a managed service and recently raised $27 million in a Series B investment round. Most recently, he served as the Executive Director of Software Engineering for Dell’s EqualLogic Storage Engineering group, where he led the development of numerous storage innovations and established the EqualLogic product line as a leader in host OS and hypervisor integration. Laz joined Dell from EqualLogic, which was acquired in early 2008, where he was a member of the core leadership team – playing a key role in the company’s early success as a Senior Engineering Manager and Architect for the PS Series SAN arrays and host tools. He holds several storage technology patents, as well as a BSEE from Northeastern University, and an MSCS from the Worcester Polytechnic Institute.
Data and Latency Are a Problem.

- Data footprints have inertia
  - Hard to move them around
- Data + apps in the cloud:
  - UX Latency
- Data in cloud + local apps:
  - Storage latency
- Security issues everywhere

Companies deliver an average of **ONLY 18%** of their workloads from the cloud today.

Padmavathy Madhusudhanan

- Padmavathy K.M is a Principal Consultant with Wipro Technologies having an overall experience of 18 years in s/w development. Her expertise includes development of Client-Server based applications, Component development and Storage applications. She is a post graduate from University of Madras with a Master's degree in Computer Applications. In her current role, she works in the Product Engineering Services division focused on Technology evaluation & selection, solution architecture, engagement model definition and demonstrations to address customer specific requirements in Enterprise computing & Storage platform. Earlier she had worked on Data migration, storage virtualization & tape virtualization products for various leading storage vendors. Her interest includes SMI-S, storage virtualization, Cloud storage, Bigdata and is a member of SNIA SMI-S core and cloud storage groups. - See more at: http://www.snia.org/events/dsicon/speakers#Madhusudhanan
Challenges in Public Cloud

- Compatibility Issues during migration
- Different security protocols supported by different cloud providers.
- Recurring Cost when data growth is exponential & retention period is high
Best suited for public cloud

- Unstructured data storage ex. Social Media

- Deals with large amount of data but performance is not a key criteria. Ex R&D - Drug analysis

- Accessing data across locations. Ex. Tracking warehouses & on time shipment
Q & A
Questions

- What are the most pressing issues with internal and external cloud adoption?
- Do Enterprises trust the public cloud?
  - Can the vendors meet expected service levels?
  - Is it “secure enough”?
- Which applications make sense for the cloud?
- What to do with existing applications that cannot use the cloud?
- Are there valid reasons for building data centers and running their own cloud? What issues arise?
- What does the “post-cloud” era look like?
- What will be the most enduring elements of self-operated data infrastructure?