HYBRID CLOUD WORKFLOWS & IMPLEMENTATIONS

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Storage in Broadcast & Post
Workflow

Not every step in the workflow has the same storage requirements

As content is captured, ingested, edited, processed, transcoded, delivered and archived for the future, storage requirements vary greatly.
Lifecycle of Media Content

INGEST → WIP → Extended Online → Archive → Delivery

Primary → Private Cloud (Object Storage) → Public Cloud

More Affordable
More Expensive
Fast Access
High Latency
Public, Private, Community, and Hybrid Clouds

3 DEPLOYMENT MODELS (mainly for IAAS)

1. PRIVATE CLOUD
2. PUBLIC CLOUD
3. HYBRID CLOUD

Source: National Institute of Standards and Technology
U.S. Department of Commerce

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Media Size Has increased
Storage Prices have Dropped
Bandwidth Price is flat

Summary:
Bandwidth and resolution requirements may force public cloud workflows to proxy resolutions.
Object Storage 101

- Beyond storage as blocks or files - stores data as ‘objects’ that are infinitely replicable and highly accessible
- Objects are retrieved no matter where they may be physically stored
- Objects can be spread to multiple locations
- Leverages universal language and standard network protocols
- Object Storage has same interface as public cloud
Benefits of Object Storage as Private Cloud

- Self Describing Data
- Gold Copy of Data
- Geo Spread for Protection and Access
- Self Healing and Migrating
- Extreme Durability
- Petabyte Scale
- Private Cloud
Ingest is best on Primary

- Time to ingest data to cloud
- Bandwidth to the cloud can be cost prohibitive
- To work on the Asset it has to be brought back or proxied to edit
Video editing and visual effects most sensitive to latency

Broadcast-quality HD formats exceed sustainable cloud bandwidth

Collaboration can be a challenge
Real-time Operations:
- Edit
- Color Correction
- EFX
- Audio Sweeting
- Ingest
- Finishing

Non Real-time Operations:
- Transcode
- Render
- Delivery
- Archive
- Archive on Ingest
- QC
- Remote Operations
• Delivery from the private or public cloud is an excellent use of technology
• Transcode is CPU intensive and can leverage a public cloud
• Cloud Vendor Lock in

[Images of cloud service providers]
- Archive with high access will incur cost
- Archive with object storage gives public cloud interface with near line performance
- Archive in object can be used for many non-real time workflows
- Public Cloud is perfect for a Vault
- Good for Disaster Recovery
- Glacier like storage is great for long term no access storage
Cloud optimized workflow

In the future you can connect a device to work on data at any stage in the workflow.

Storage and Compute is flexible across all stages.

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Fast Access

More Affordable
High Latency
How to utilize the products today to get to the future

Data Center is Cloud Ready with Object Storage

- INGEST
- WIP
- Extended Online
- Archive
- Delivery

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Technologies that are adopting Hybrid Cloud

Software applications are using object and cloud to enhance workflows
Customers Embracing Hybrid Cloud

- Data is Access seamlessly through primary
- Primary is for Ingest and Editing
We may be closer than we think to nirvana

By utilizing object storage we are utilizing hybrid cloud

[Diagram of Hybrid Cloud, Private Cloud, Public Cloud, Azure, Amazon Web Services]