

A modern office interior with glass walls and a blue overlay. The background shows a bright, open-plan office space with large windows and a curved ceiling. A blue rectangular overlay is positioned in the center, containing the title text. Below the overlay, the speaker's name and title are listed, and the Quantum logo is visible in the bottom right corner.

HYBRID CLOUD WORKFLOWS & IMPLEMENTATIONS

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Pre-Sales Solutions Architect/Engineer/QXS Ambassador

Quantum

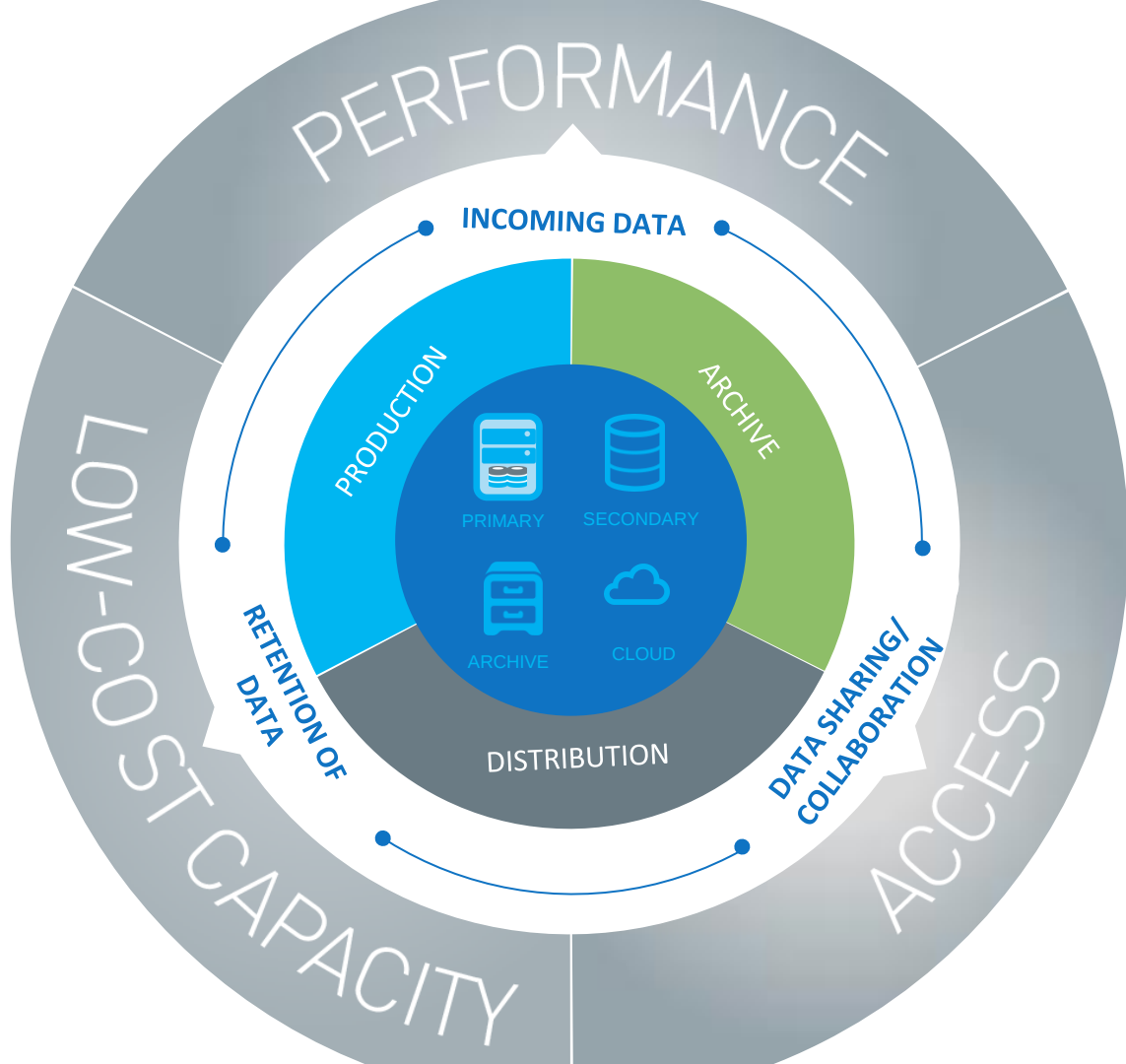
About your presenter



- 5 year Media Production Producer
 - Videographer, Writer, Director, Producer, Editor
- 10 year IT veteran
 - Apple System Administrator
 - Xsan Administrator
 - Quantum StorNext Administrator
- 5 year veteran of Media Solutions Design Architect/Engineer



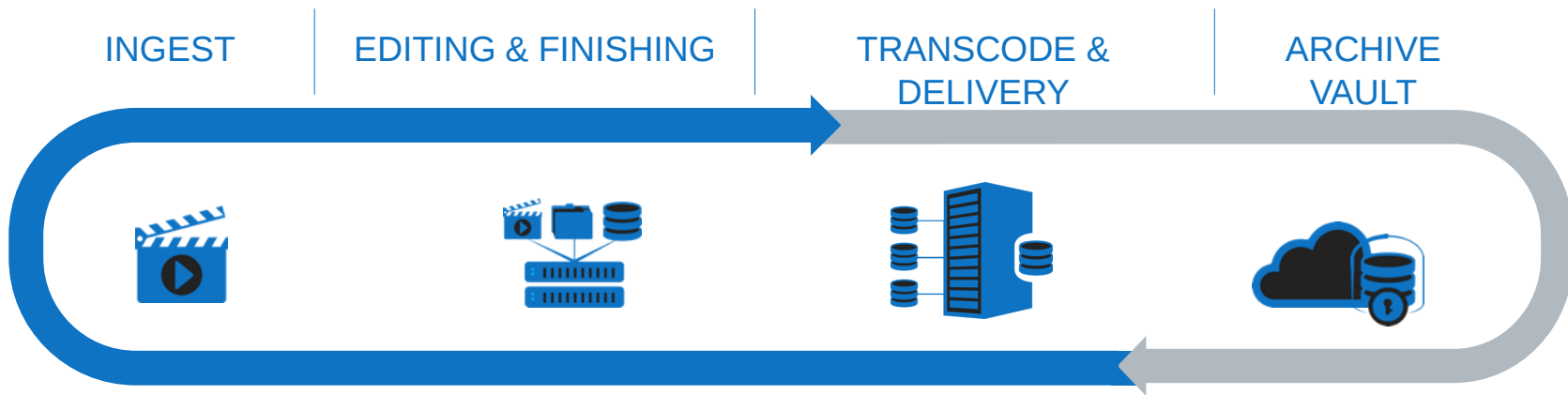
Storage in Broadcast & Post



Workflow

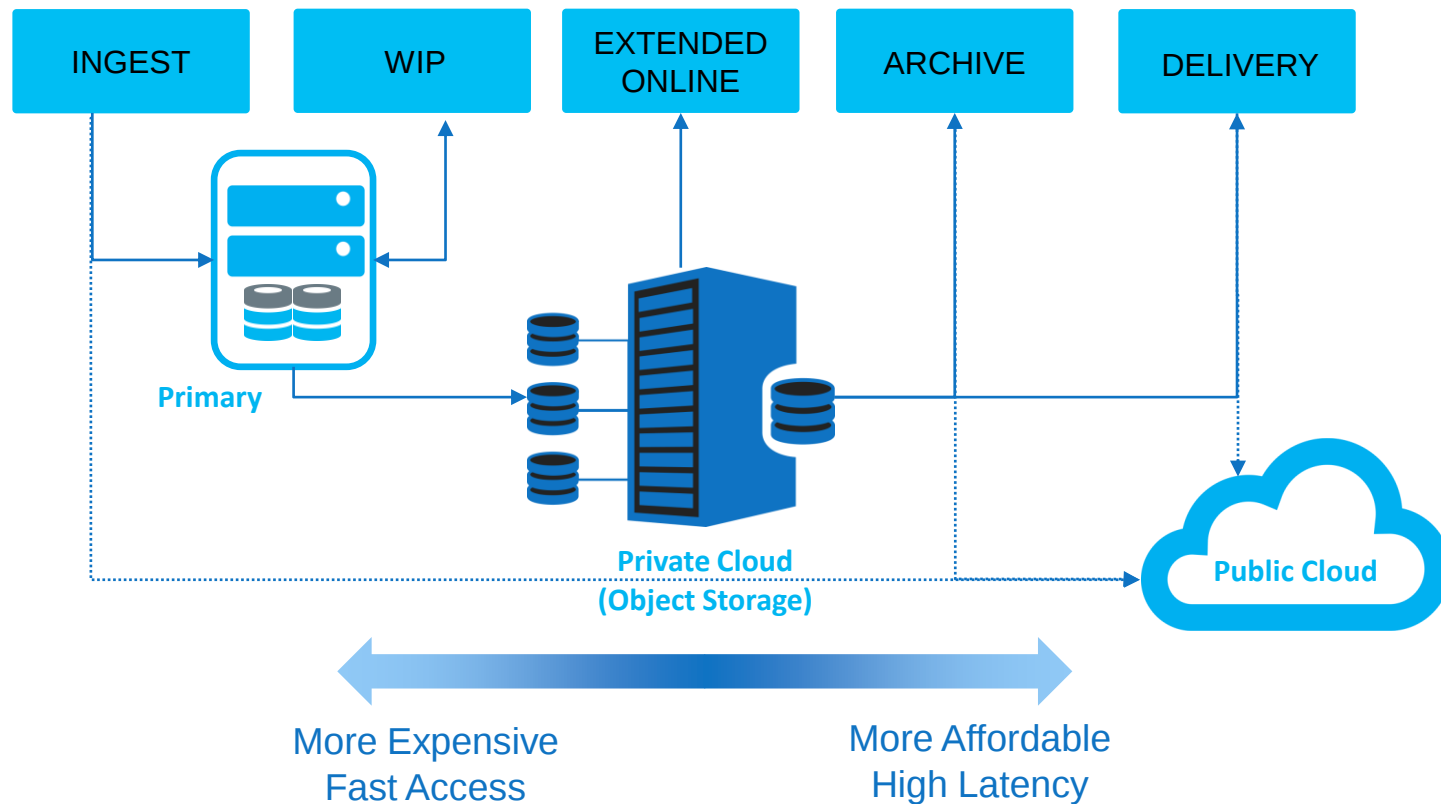
Not every step in the workflow has the same storage requirements

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



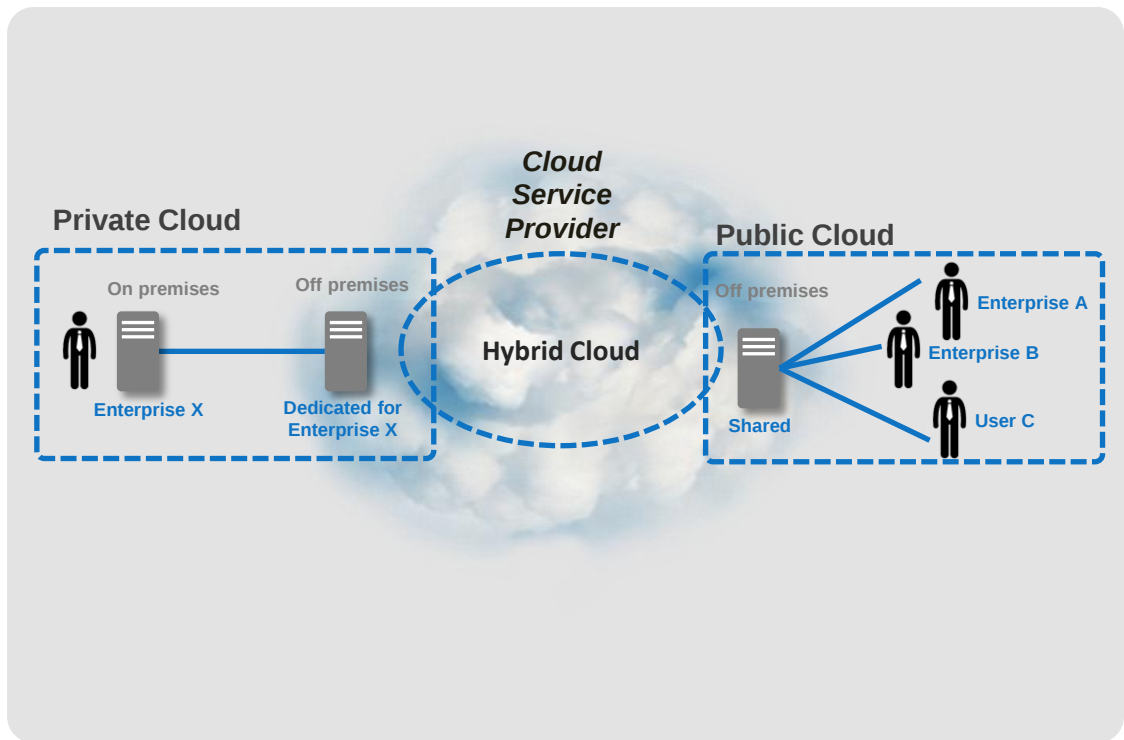
Lifecycle of Media Content

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Public, Private, Community, and Hybrid Clouds

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3 DEPLOYMENT MODELS (mainly for IAAS)

- 1 PRIVATE CLOUD
- 2 PUBLIC CLOUD
- 3 HYBRID CLOUD

source **NIST**
National Institute of
Standards and Technology
U.S. Department of Commerce

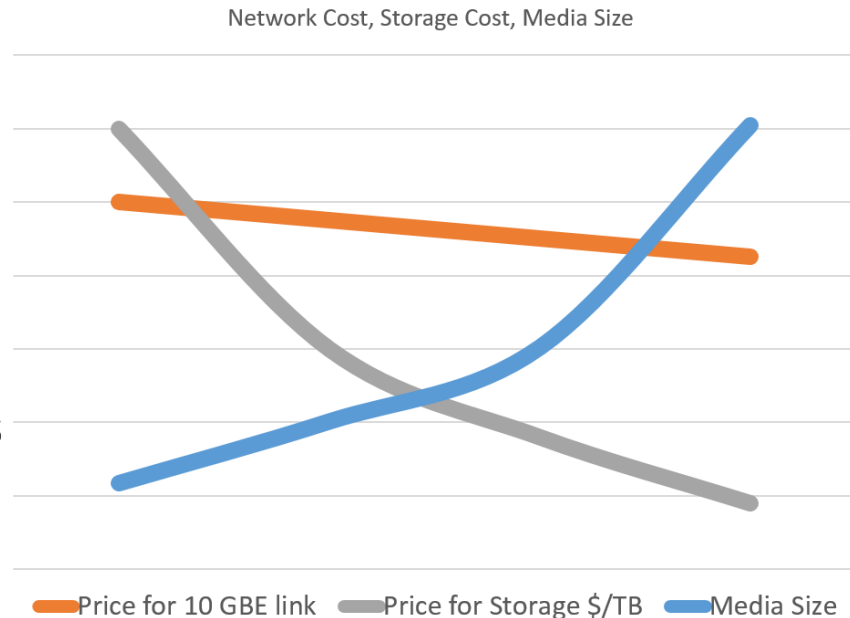
Analysis of Storage, Network and Content

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

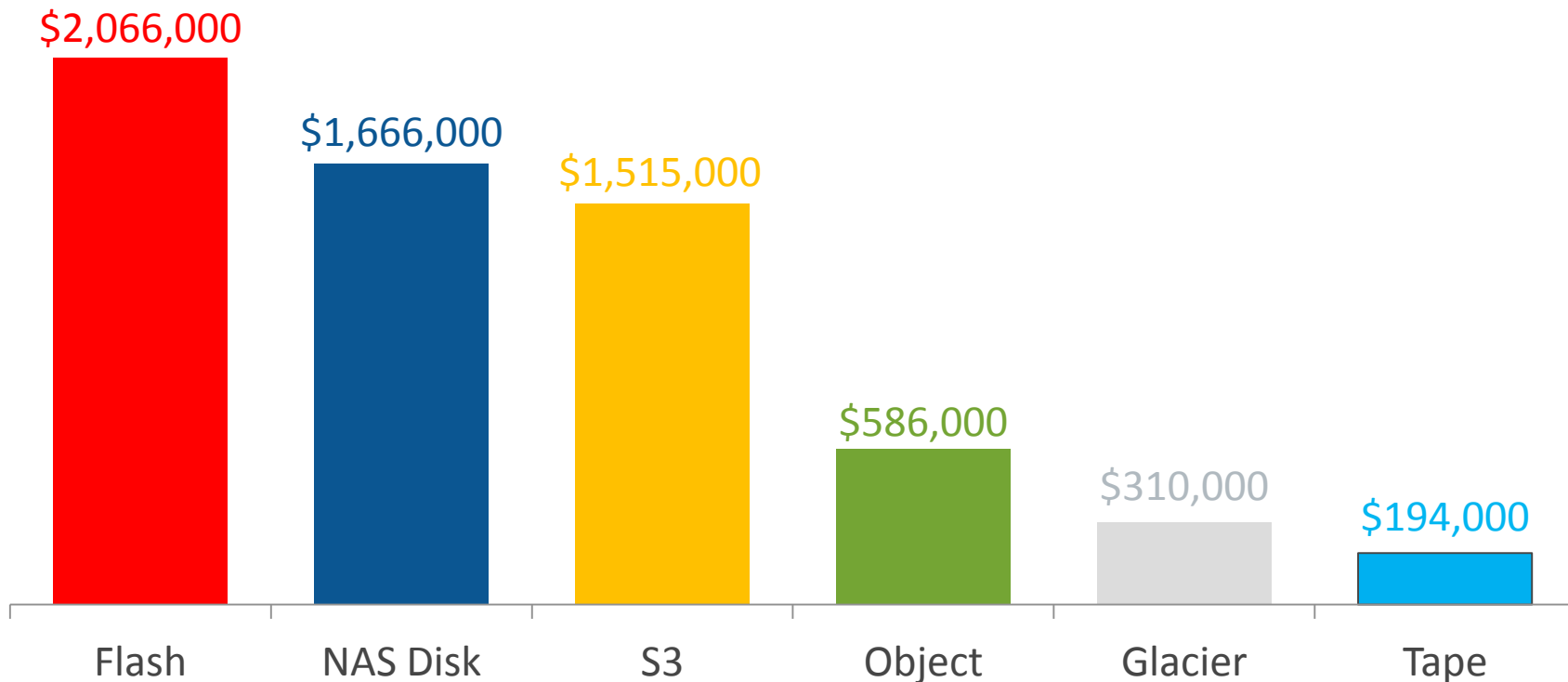
➤ Summary:

Bandwidth and resolution requirements
May force public cloud workflows to
proxy resolutions



Cost to Store 1PB Over 3 Years

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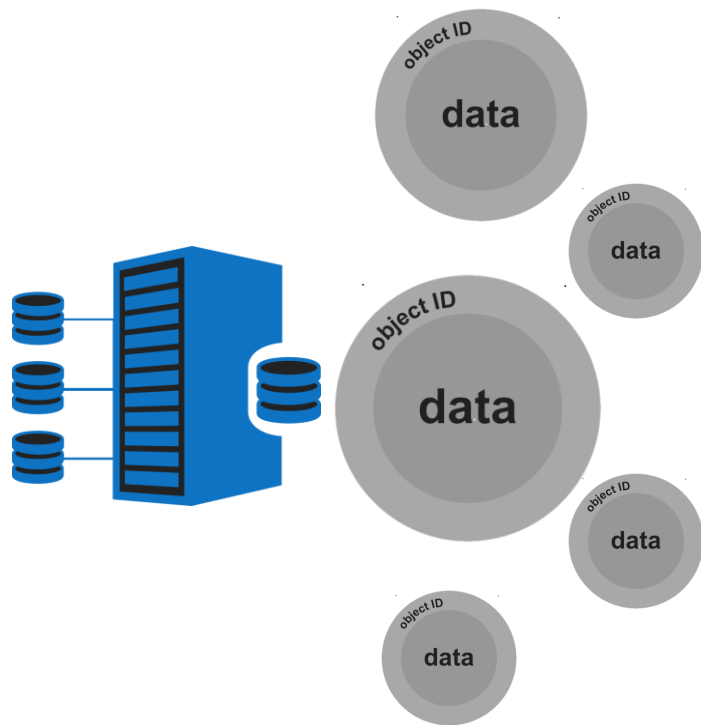


Sources and assumptions: Includes product price, 3 year support, \$1,000 per month hosting fees, and storage admin costs for non-cloud items.
For S3 and Glacier, assumes 10% of data accessed each month out of the cloud.

Object Storage 101

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- › 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

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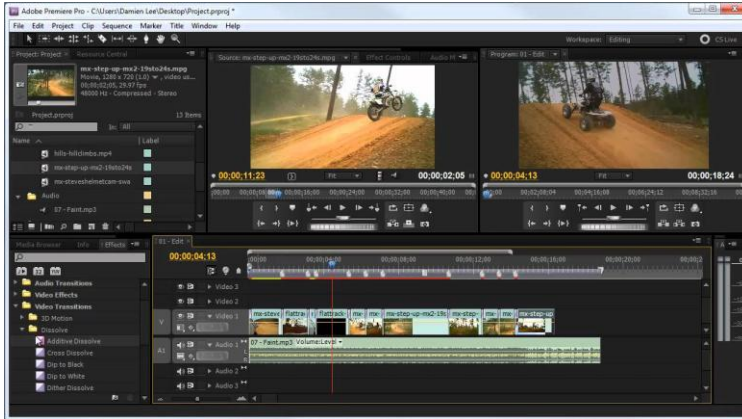


- Self Describing Data
- Gold Copy of Data
- Geo Spread for Protection and Access
- Self Healing and Migrating
- Extreme Durability
- Petabyte Scale
- Private Cloud

- › 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 proxy 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 Sweetening
Ingest
Finishing

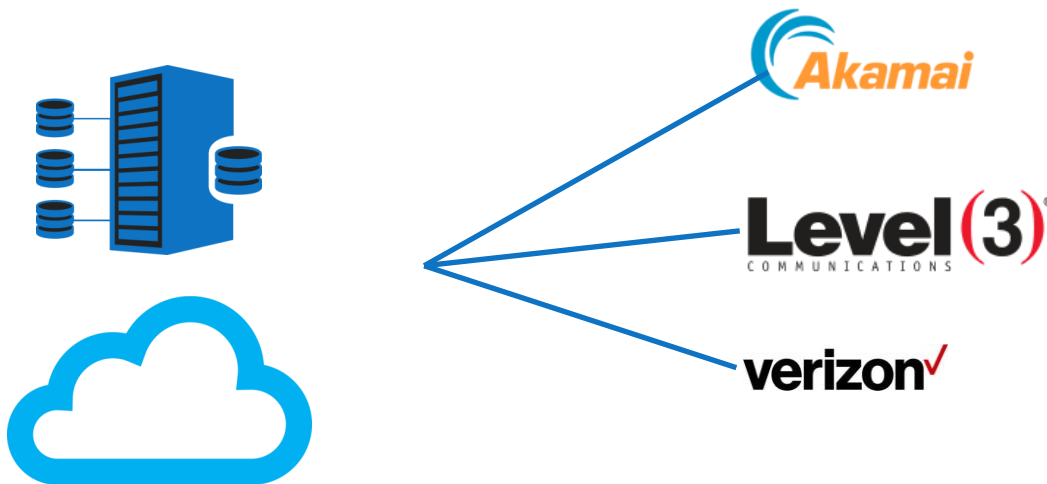


Non Real-time Operations:

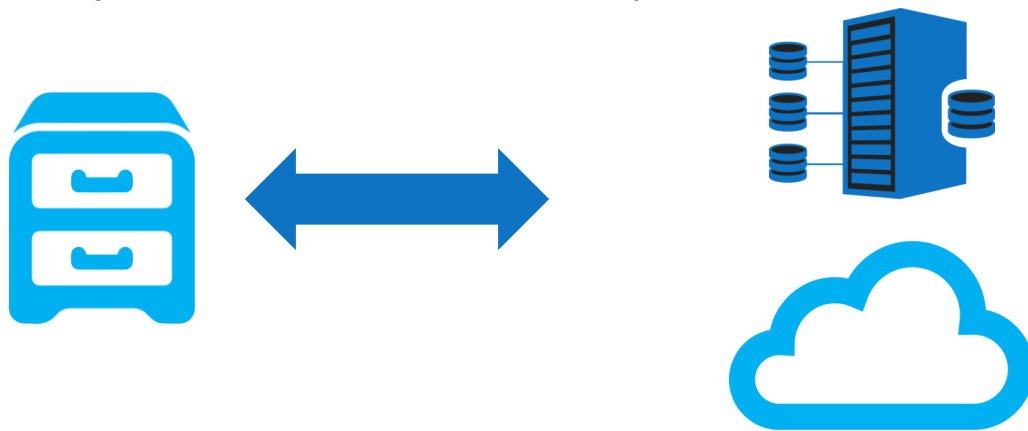
Transcode
Render
Delivery
Archive
Archive on Ingest
QC
Remote Operations



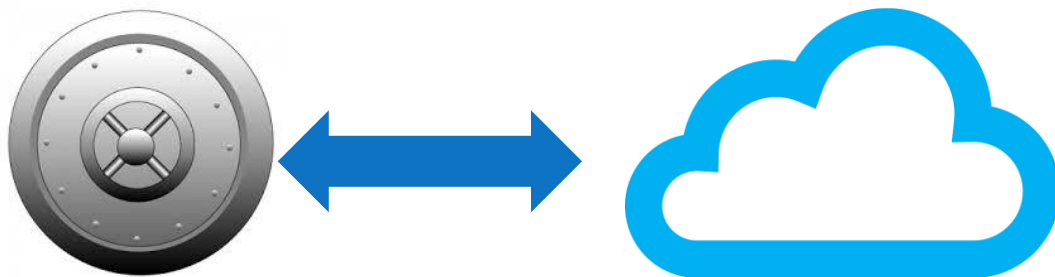
- › Delivery from the private or public cloud is an excellent use of technology
- › Transcode is CPU intensive and can leverage a public cloud
- › Cloud Vendor Lock in



- 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

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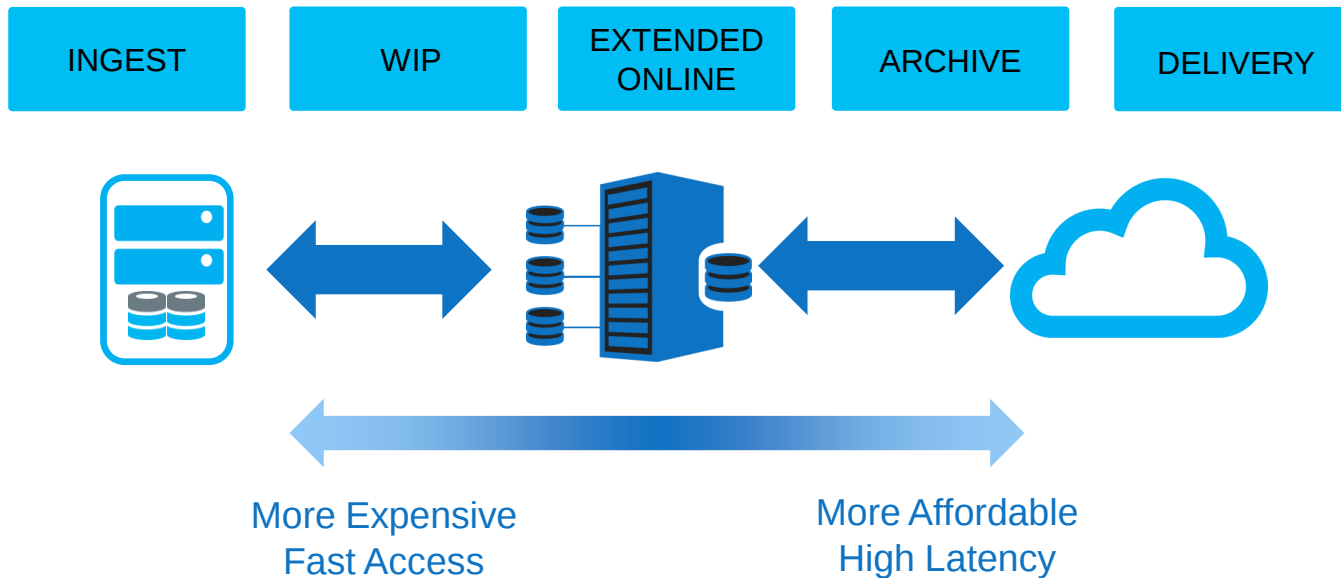
In the future you can connect a device to work on data at any stage in the workflow



How to utilize the products today to get to the future

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► Data Center is Cloud Ready with Object Storage



Technologies that are adopting Hybrid Cloud

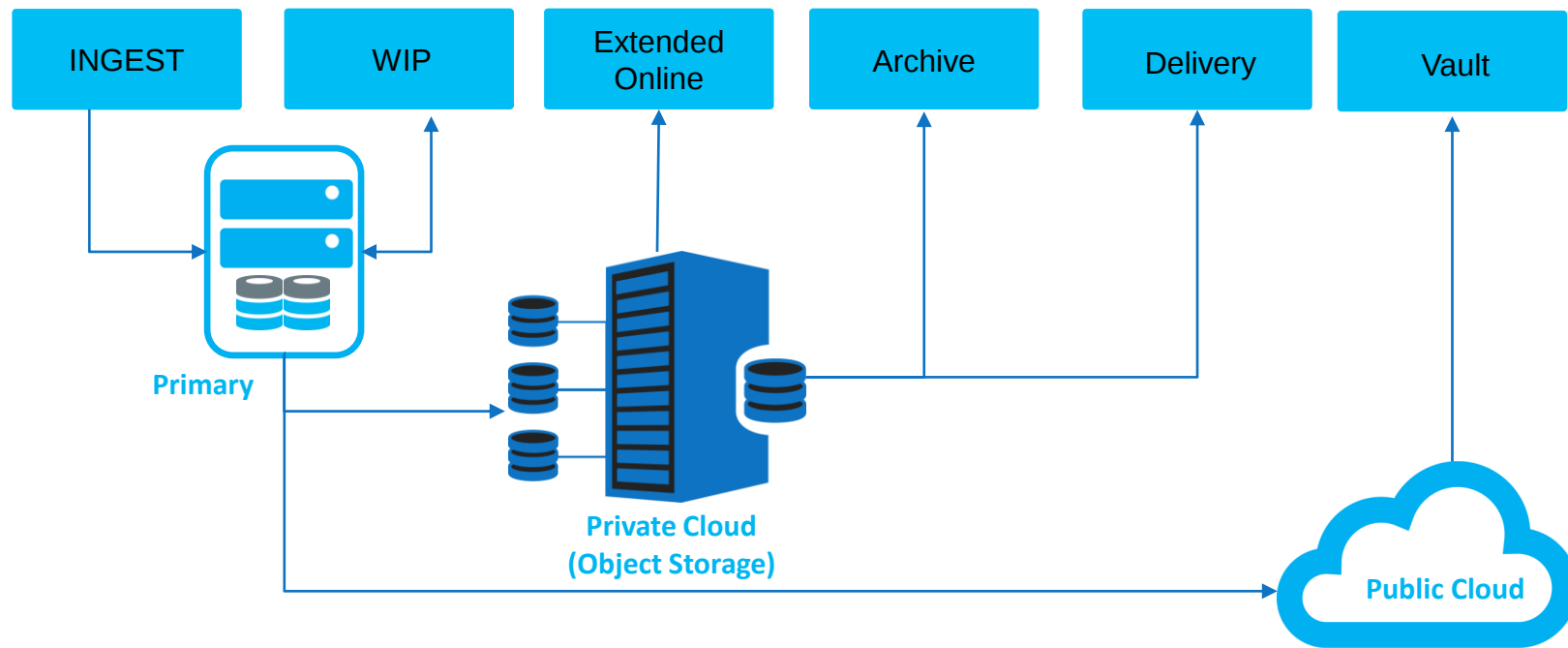
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- Software application are using object and cloud to enhance workflows



Customers Embracing Hybrid Cloud

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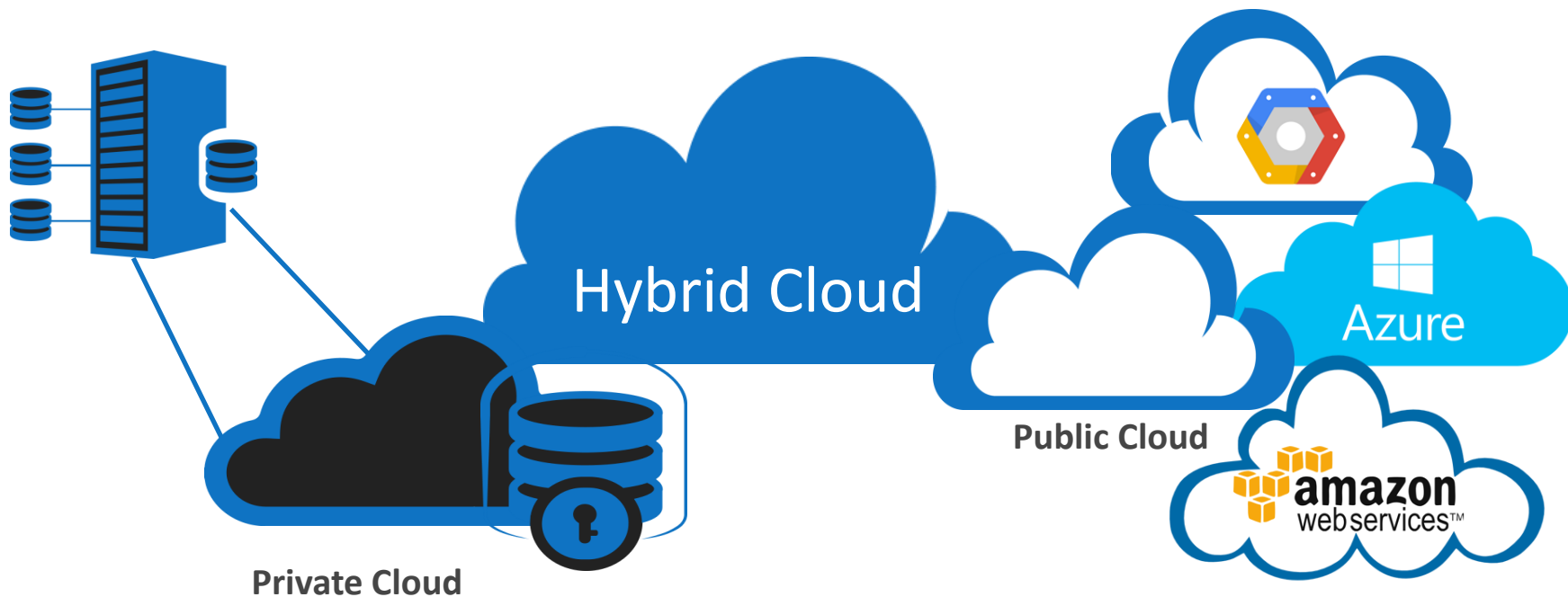


- Data is Access seamlessly through primary
- Primary is for Ingest and Editing

We may be closer than we think to nirvana

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By utilizing object storage we are utilizing hybrid cloud



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