



**SPECTRA**

**“The content storage ecosystem of the future”**

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**40 Years Of Success – Since '79**

**Privately Held**

*Boulder, Colorado USA HQ*

*Bracknell, UK*

*Sydney, Australia*

**Over 400 Employees In 11 Countries**

**Over 20,000 Customer Installations World Wide**

**Innovative Storage Solutions for the Modern World**

# Current challenges

- A very dynamic world...
  - Competition is broader, more sophisticated and stronger
- Media land is under siege from IT savvy giants
  - Social Media, Amazon, Google, Twitter (whose strength is IT)
- Need greater agility & efficiencies
  - Need clever use of advanced technologies in the dynamic ways
  - Need seamless automated dynamic workflows
  - Need the ability to quickly change workflows with changing business needs
- Vast amounts of newly generated content needs efficient managing
- Use modern technologies to re-utilize existing assets

# Progression of Storage

Block storage

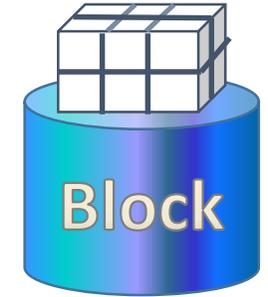


File-based storage

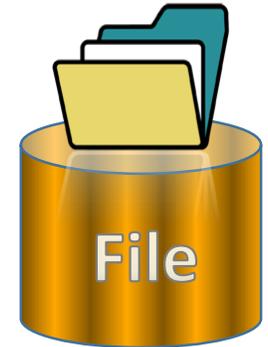


Object storage

Directly attached  
Great performance  
Complex  
\$\$\$\$



Network attached  
Shareable, easy  
Limitations on size, # of  
files, geographic dist.  
\$\$\$



Network based  
Shareable Globally  
No limit on scale  
Friendly to Manage,  
Search and Automate  
\$\$



# Exploring Object Storage

## What is Object Storage

- An alternative to file based systems; ideal for storing large volumes of unstructured data.
- Decouples data from its physical medium or location
- Employs the inclusion of Meta Data, and Universal ID
- Its flat & infinite namespace make possible for large scale storage
- Provides a foundation for data longevity techniques

## How do you talk to Object Storage

- RESTful API
- Client server model
- Gateways/Appliances



*Bucket*

# Storage in today's M&E environment

- Many different islands of storage
- Difficult to manage, cumbersome
- Content has to move from island to island
- Not friendly to automation
- Expensive, refresh and difficult migrations
- Traditionally managed by Hierarchical Storage Manager (HSM) software to manage multiple tiers of storage

# HSM Limitations...

- File centric – not data centric
- Limitations on scale (size & number of files)
- Complex to manage
- Costly licensing model
- Proprietary in nature
- Difficult to migrate
- Less freedom
- Less efficiency
- Less agility
- Less available



*Are we seeing the beginning of the end of traditional HSM's in the M&E market?*

# M & E Business Requirements

Ingest

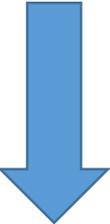


Distribution

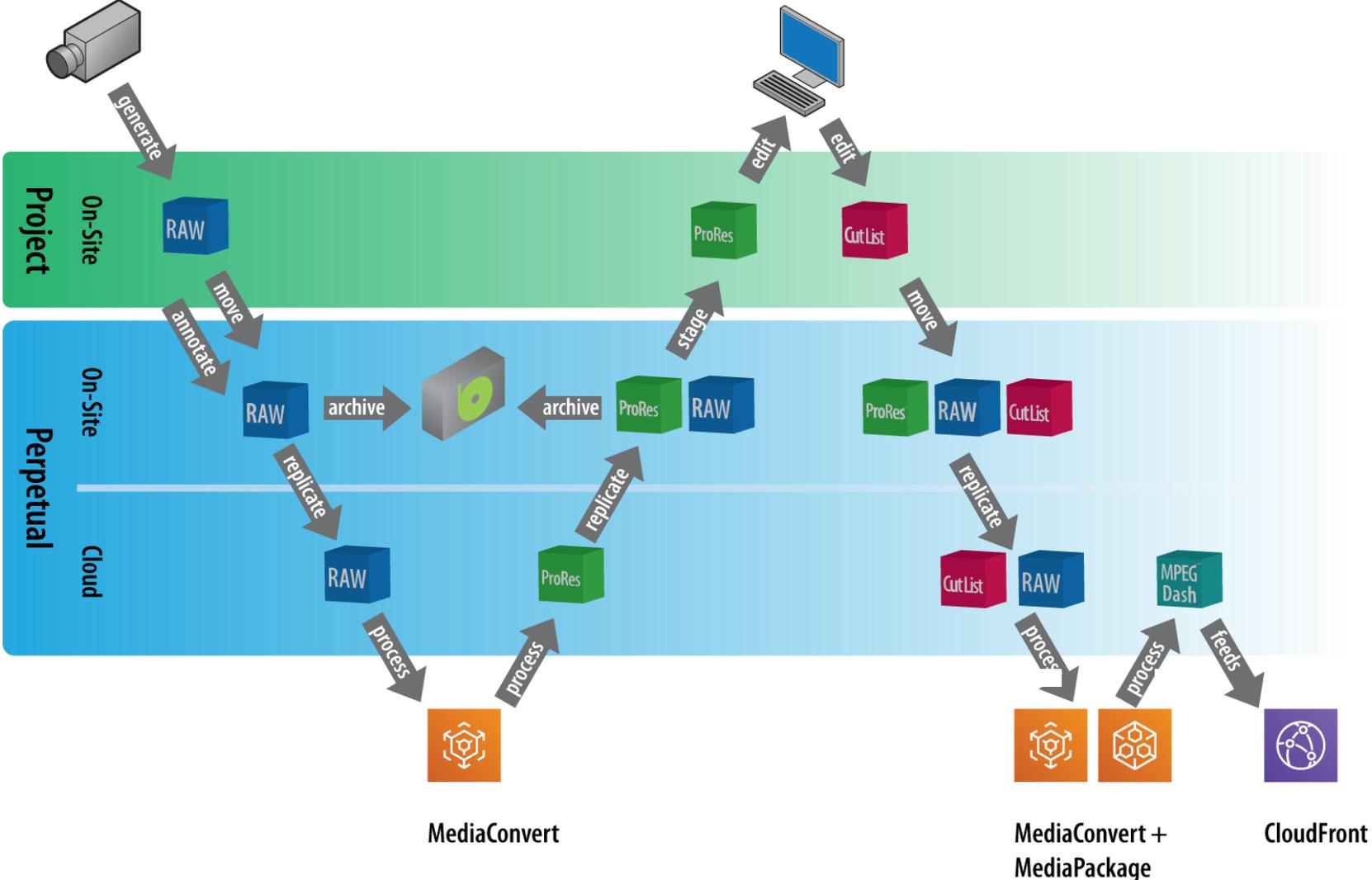
- Greater efficiency
- Greater agility
- Cost containment
- Broad content availability

# What does the new content storage model look like ?

Production Tier



Perpetual Tier

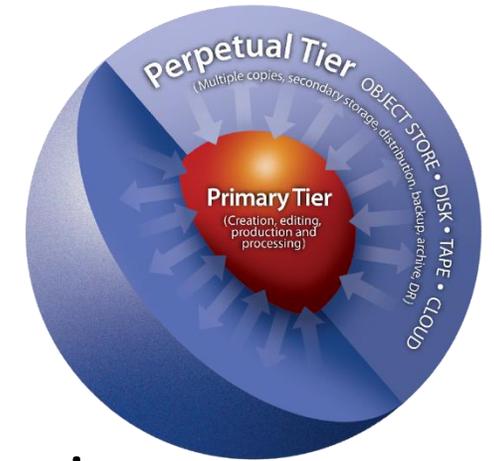


# What is the Production Tier ?

- File based
- A high performance platform (Flash or Enterprise HDDs)
- Higher cost storage
- Designed for “Work-in-Progress”
  - Editing
  - Conforming
  - Rendering
  - Transcoding to create proxies, Mezzanine
  - Streaming proxies
- Content in here is not available widely so usually on-premise
- *When work is done, no need to keep it here, the longer it stays the more it costs*

# What is the Perpetual Tier ?

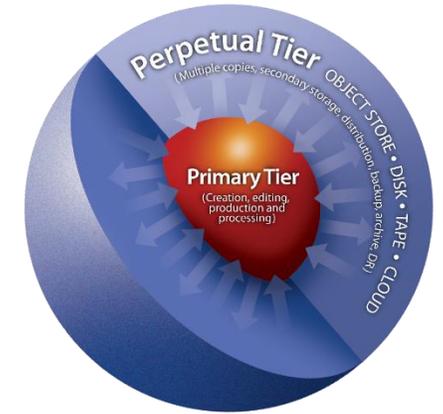
- Object based
  - Massively scalable
  - No size limitations
  - No limitations on number of files
  - ***Includes metadata so easily searchable***
- A less performant platform – but plenty good for most operations
  - Supports performance optimization relative to workflows
- Lowest cost storage
- Actionable Intelligence to keep content protected & available using data policies that define expenditure and workflow requirements
  - Health and integrity checking of content
  - Self healing of assets when necessary
  - Automated migration to new technologies offering lower cost/GB
    - Removes pain of migrations



# Perpetual Tier benefits

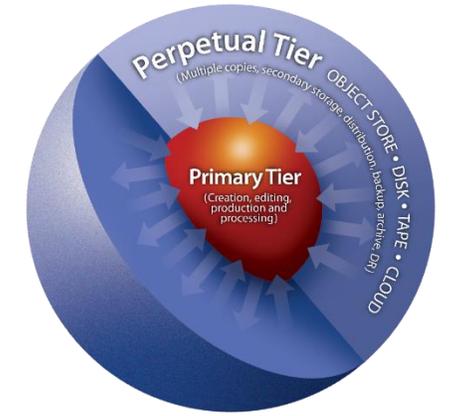
- Standard base (HTTPS, RESTful, LTFS, etc..), Open
- Web based architectural model
  - Content in here is available widely
  - Can be local and/or geographically distributed
  - Multi-tenant, Share content w/ different people & different applications via secure credentials
- Breaks the barriers of on-premise and cloud
  - Seamless cloud integrations
  - Hybrid cloud workflows
  - Business insurance – DR
  - Provides leverage against cloud runaway costs

## The Modern Storage Model



# Perpetual Tier benefits...continued

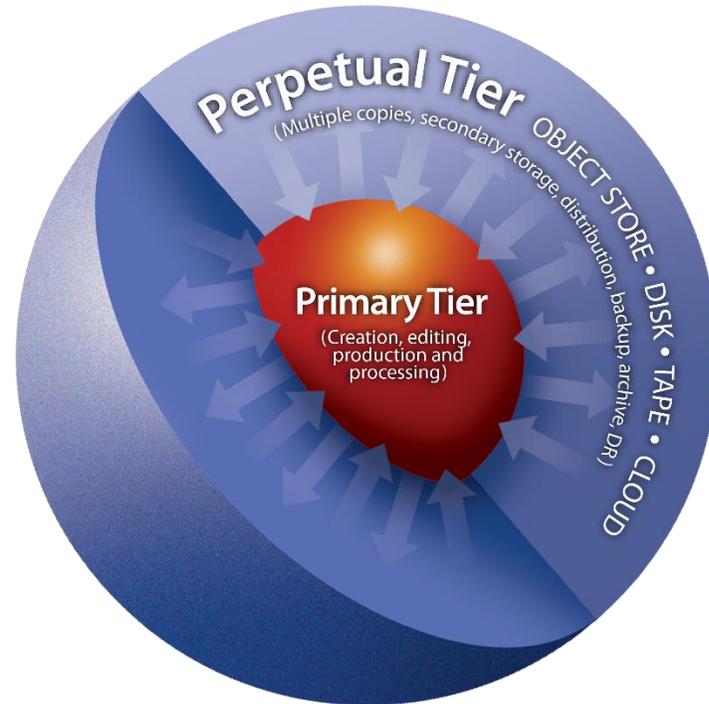
- Mechanisms to control cloud egress costs
- Supports faster collaboration and sharing
- Supports metadata driven workflows
- Flexible with great affinity for automation
  - Operational & cost efficiencies



*Only functions that require high performance are left on Production Tier.*

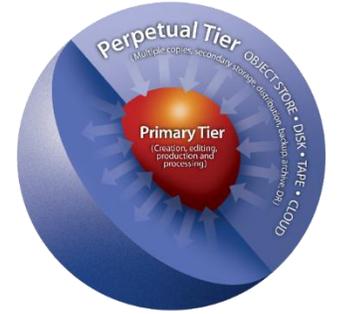
# The New Two Tier Model

## The Modern Storage Model



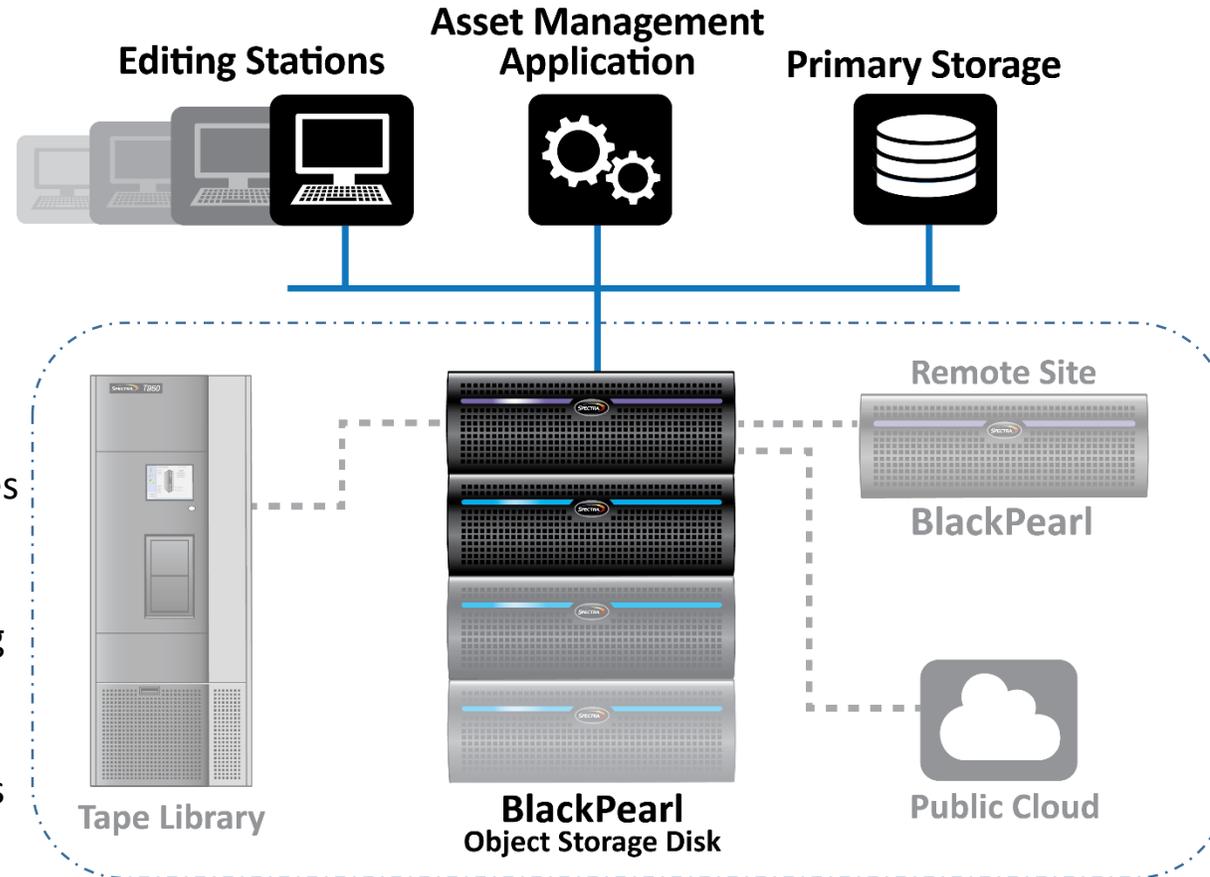
# Two Tier Model – The New Paradigm

The Modern Storage Model



## Perpetual Tier

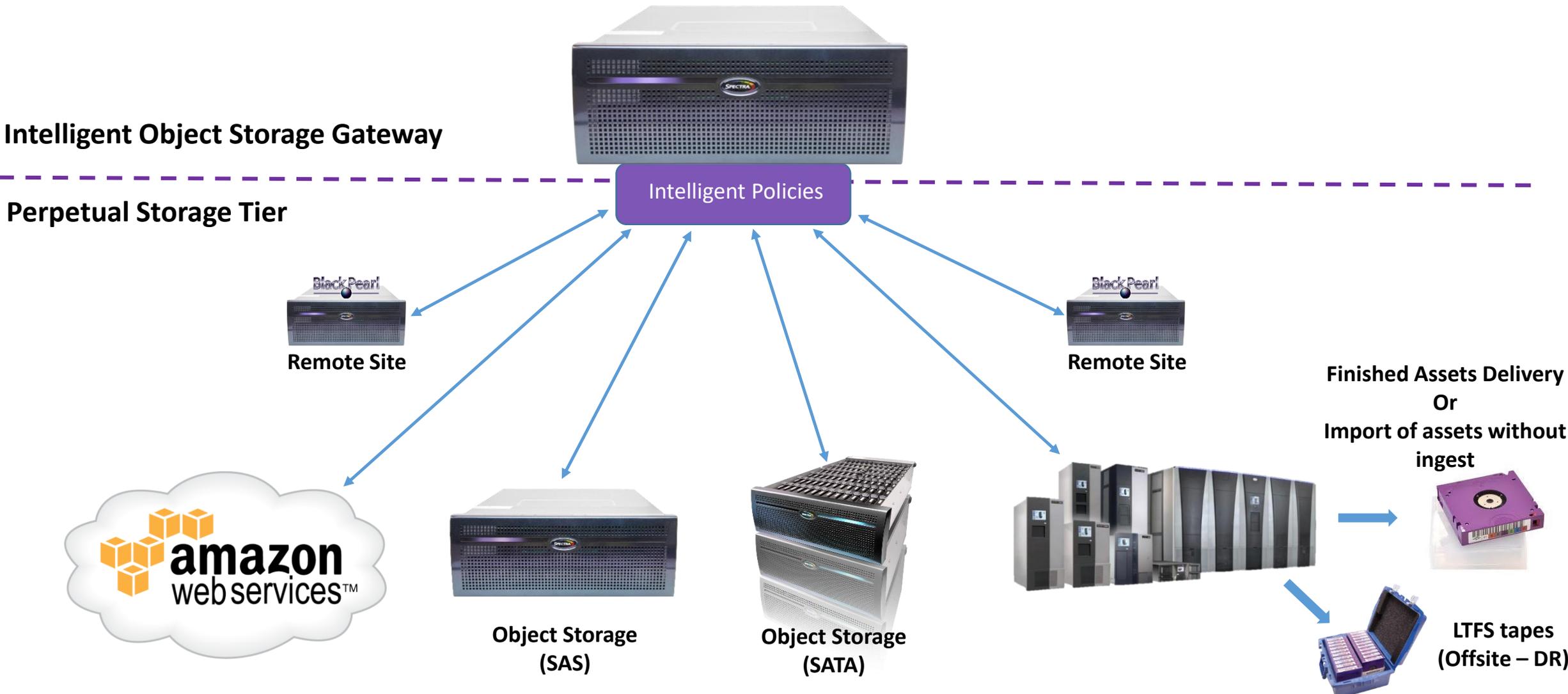
- Object Storage Based
- Supports Automation
- Supports Dynamic Workflows
- Breaks Geographic Barriers
- Breaks Phys. Medium Dependencies
- Enables Intelligent Tiering
- Enables Native Migration
- Supports Multi-dimensional Scaling
- Enables Seamless Scaling
- Supports Multi-tenancy
- Support Seamless Cloud Workflows
- Breaks Traditional Molds
- Supports high-availability



## Production Tier

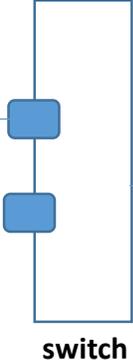
- File Based
- Expensive
- Best for Specific Functions
- Functions shifting to O.S.

# Perpetual Storage Tier Solution



# Most and Simplest Scenario

Cloud for DR



switch



Object Storage

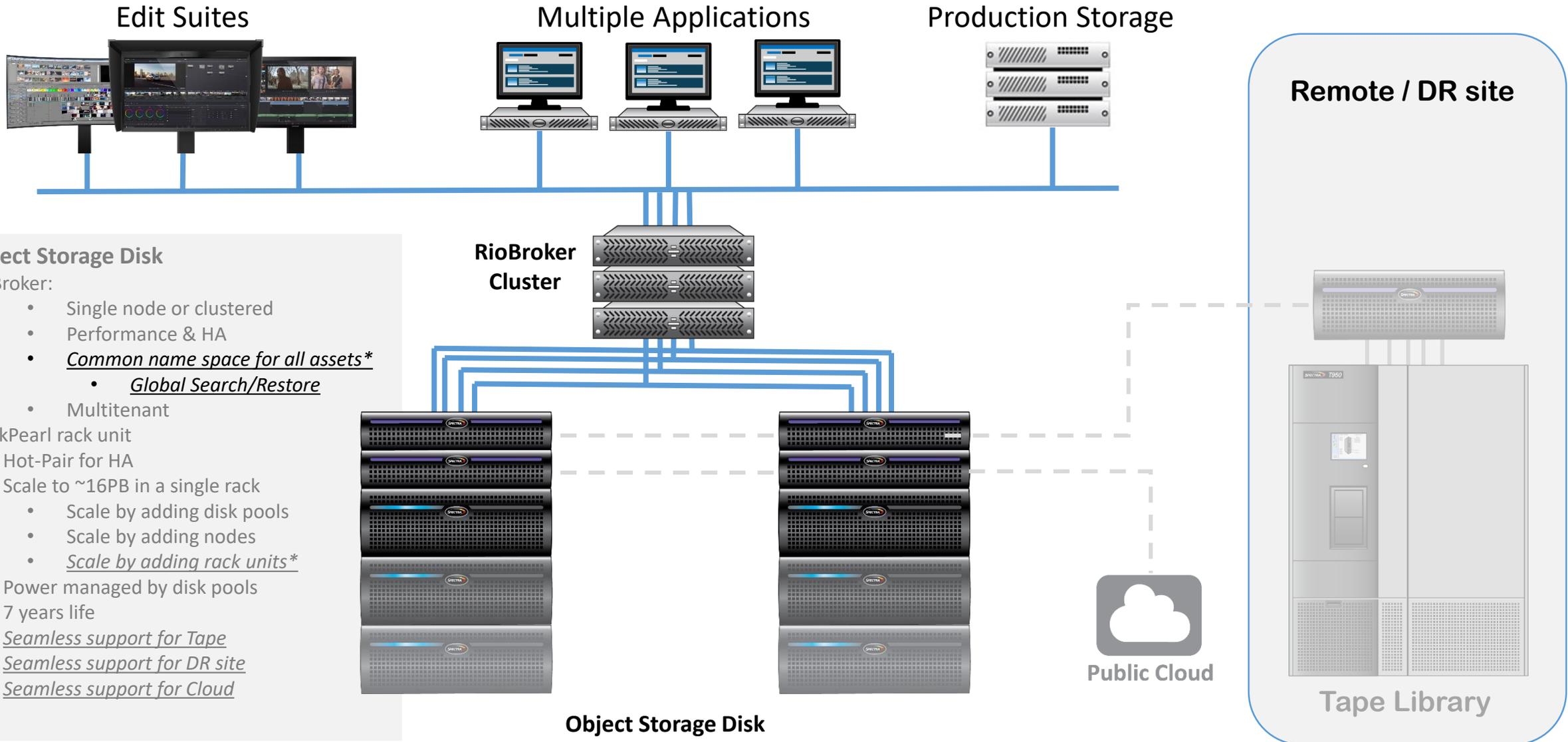


Production Storage



Tape Library

# An Enterprise Level Perpetual Tier Implementation...

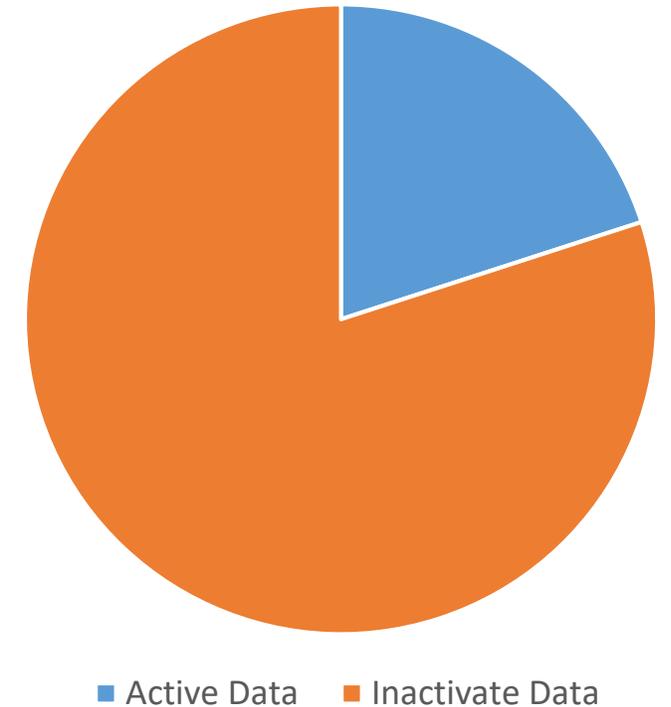


# Managed Storage vs Unmanaged Storage



# Challenges of Unmanaged Storage

- 80% of Data is on the Wrong Tier of Storage
- Active & Inactivate data stored on many islands of expensive (often) primary tier
- Data growing faster than budgets



# Organizations Must Change to Survive



- Cannot leave all data on primary storage
- Purchasing secondary storage alone isn't enough
  - How do you determine what to move
  - How do you maintain consistent access
- *What is needed is Visibility & Insight*

# A Modern Storage Lifecycle Management



Identify

## Easy & Automated Asset Identification

Scan file systems and network shares for inactive files, or schedule projects and datasets for Perpetual Storage.

## Policy Based Migration

Define sources, targets, and selection criteria for singular or repeating execution. Multiple disk, cloud, tape copies should be made in and stored in separate locations.

Migrate



Protect

## Protect & Migrate

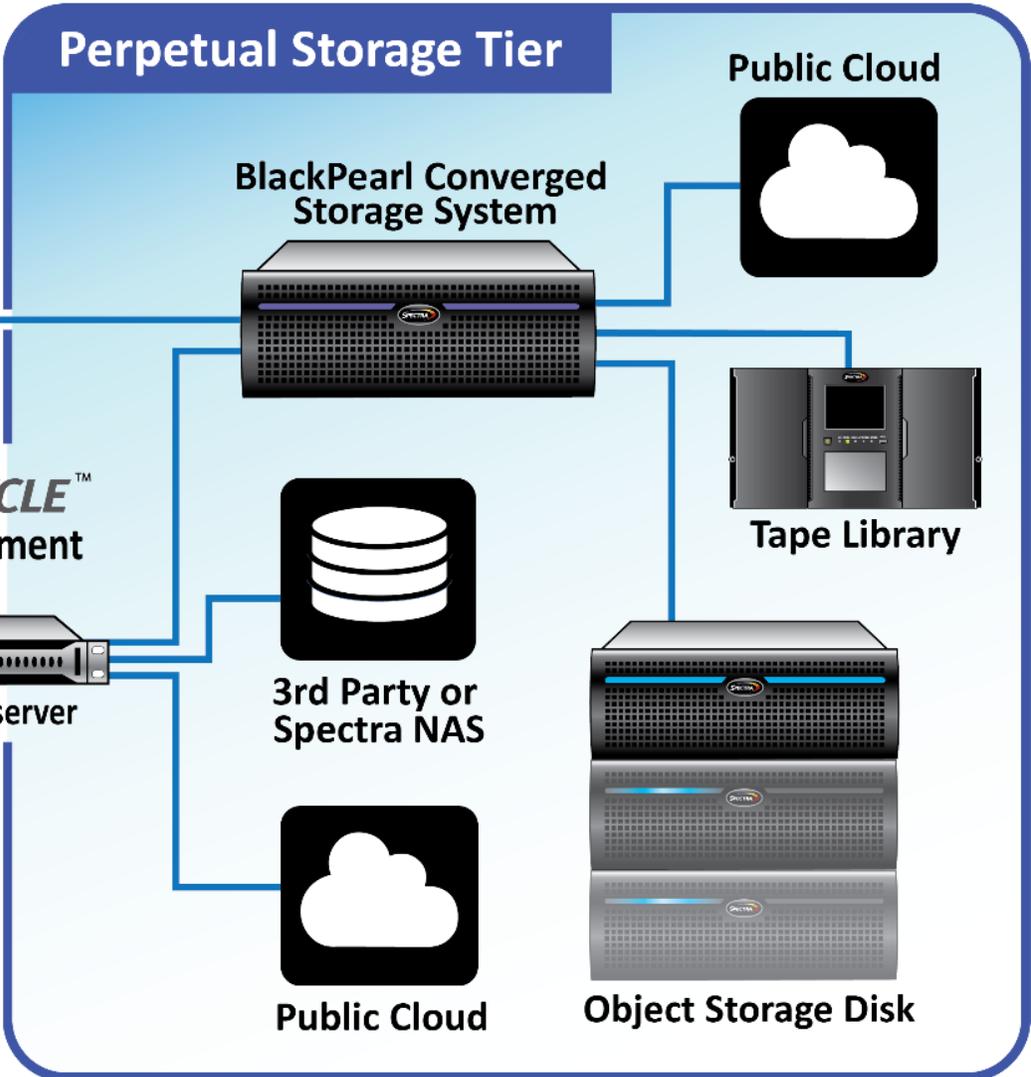
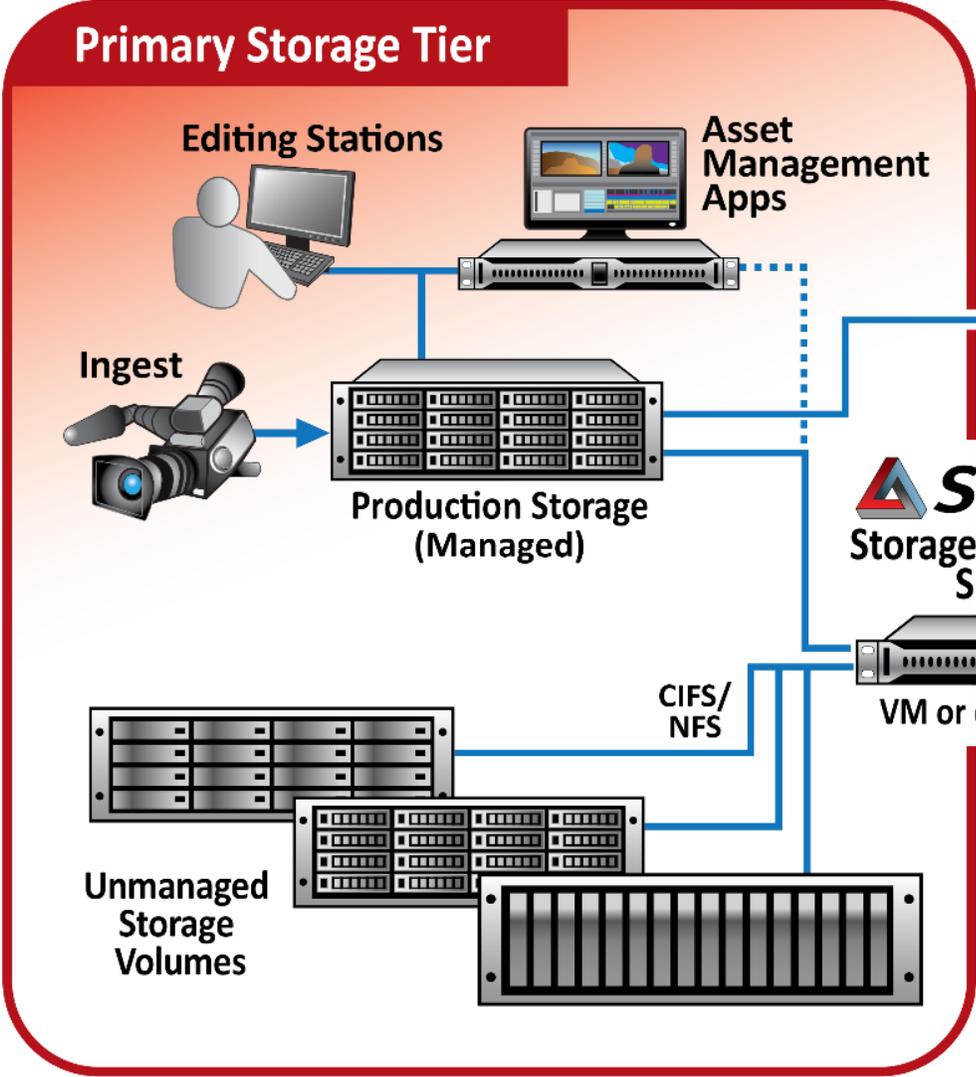
Ensure your files are stored safely now and later. Protect from ransomware and disaster. Migrate to newer technologies transparently

## User Oriented Access

Retrieve storage data with a variety of seamless access methods: HTML links, symlinks, application-based restore request.

Access







**Thank you,**