



Best Practices for Enterprise-Wide Data Protection and Compliance

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The Challenge to IT Infrastructure

With no end in sight to the explosive growth of data generation, legacy IT infrastructure does not address current demand

2018 Devices

2x growth
40 billion
5/person

2018 Mobile Users

50% growth
3.8 billion
50% penetration



Data

4x growth
24 Zetabytes
6.75 TBs/person/day

Datacenter cores

2x growth
77 billion
10/person

Source: IDC Presentation, Creating Agile Datacenter Resources for Speed, Scope, and Scale, March 2016

Data Center Agility and Scale

- ▶ The ongoing replacement of legacy systems and the management of data sprawl over siloed high cost storage systems continues to challenge IT organizations
- ▶ The answer to today's problems are not just new platforms – in fact, more platforms often = more problems
- ▶ Businesses demand 24x7x365 availability
- ▶ End users expect an “always-on” experience

4

What does “Data Protection” mean to me?

- ▶ **Data Protection covers a wide variety of needs**
- ▶ **Data Protection should primarily be ruled by the time value of data**
- ▶ **Falling infrastructure costs make novel solutions possible**





▶ The key metrics for Backup and Recovery:

- Backup Window – can I get my backups done?
- Recovery Window – how long does it take to recover a file?
- Data loss window – how far back do I have to go to find a valid backup?
- Storage efficiency – how much is it going to cost me to store all this stuff?

▶ Other considerations:

- Don't use backup for longterm retention
- Don't confuse backup with DR

Disaster Recovery

- ▶ **Historically, IT relied on tape-based backups and off site storage for DR**
- ▶ **Falling drive and WAN costs have made service continuity viable for all organization sizes**
- ▶ **We have entered an era where replication has gone beyond mission-critical data**
- ▶ **Replication still requires significant WAN bandwidth, storage and other compute infrastructure**



An effective archive strategy allows you to optimize cost versus the requirement to preserve data

- ▶ **Ensure that you have sufficient infrastructure based on expected access patterns**
 - Not all archives are infrequently accessed
 - Rarely changing but frequently accessed data
 - Cold data preserved for reference or legal reasons
- ▶ **Does the archive support common protocols, like NFS/SMB so that users can perform self service?**



Data Governance

Organizations need to take a comprehensive approach to data governance

▶ **Regulated Information**

- Do you know where the data lives?
- Can you place your data on legal hold?
- Are retention times in place, and are they being honored?

▶ **Confidential Information**

- Is your IP protected
- What happens when a cell phone or laptop is stolen?



What makes all this work?



Data Classification enables IT to know what to do with data because it know what it is and where it lives

- ▶ **Identify and prioritize data based on it's business value**

- ▶ **Actively manage the entire data lifecycle**
 - Creation
 - Storage
 - Manipulation
 - Analysis
 - Deletion



How to make it all work on the backend

So what are my storage options

General
purpose disk
storage

Tape Libraries

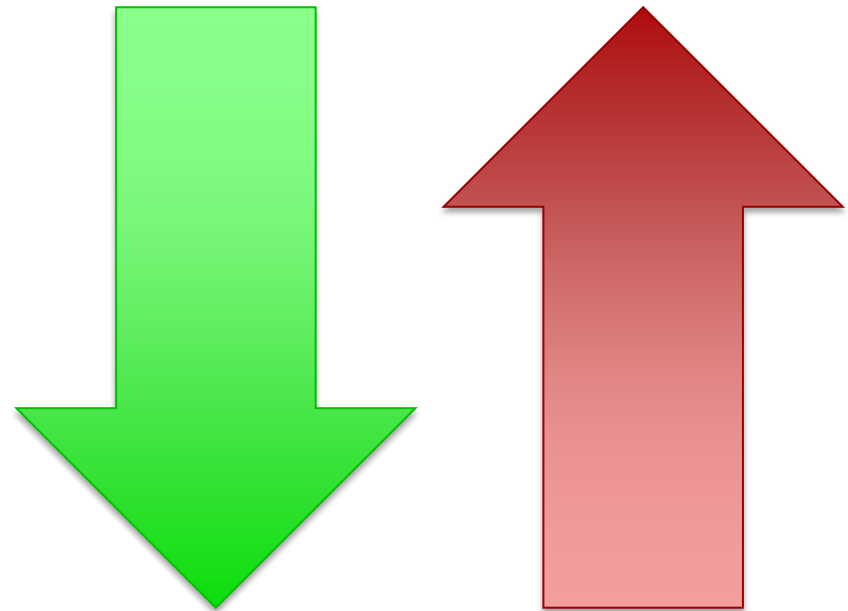
Object
Storage

Purpose built
hardware
solutions

Public Cloud

The falling cost of disk and rising demand

- ▶ **Disk media costs continue to decline on all metrics:**
 - Acquisition cost
 - Power costs per TB
 - Space required per TB
- ▶ **IT customers are demanding functional secondary storage**
 - Data access and integrity



Why is Object Storage a good fit?

- ▶ **Primary storage arrays too expensive**
 - Feature set is aimed at primary data
- ▶ **Tape continues to be attractive from a cost standpoint, but data is less actionable**
- ▶ **Purpose built devices create silos of storage**



Why is Object Storage a good fit?



- ▶ **Object Storage architecture is easily scalable**
 - Manage 100s of PB with a single employee
 - Exabytes of capacity
- ▶ **Object Storage makes data accessible**
 - S3, Swift, MFS, SMB, native APIs, etc.
- ▶ **Object Storage is dead simple**
 - One namespace
 - A single repository for multiple applications

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Solving HPC, Enterprise Big Data & Web Scale Challenges

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Founded in '98

World's Largest Private Storage Company

Double Digit Growth, Profitable, Self Funded

Headquarters

Santa Clara and Chatsworth, CA



World-Renowned & Award Winning



Inc.

Gartner.

the **451** group

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