Data Protection 2015-2025:
A Fundamental Strategic Transformation

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Bold Prediction

By 2025, backup and recovery will have ceased as a discrete IT activity for the majority of organizations.
Today’s Discussion

- A little historical perspective
- The drivers of fundamental change
- How data will be protected without B/R
- The looming “gotcha”
- Is there any hope for backup products?
First, a didactic journey…

- The First Epoch of Storage:
  - The dawn of computing – 1970’s
  - Mainframe era
- Each mainframe was the center of its universe
- All storage was directly attached and dedicated
- Standalone tape drives for backup
Innocence Shattered…

❖ The Second Epoch of Storage
  ❖ 1980s to 2010
  ❖ Client-server

❖ Proliferation driven by business units
  ❖ DAS grossly inefficient
  ❖ Backup a nightmare

❖ Thus, SAN/NAS was born
Storage Mantras of the 1990s-2000s

Consolidate!

Standardize!

Eliminate Silos!
Modern times

- The Third Epoch of Storage
  - Virtual Computing
  - Extending to the cloud
- Cloud proliferation driven by business units
  - Makes backup problematic
  - SAN/NAS not agile
And now…

- After 20 years of consolidating, standardizing and eliminating silos…
By 2020, SAN/NAS will be legacy architectures.
IDC Select Data Points

- 69.7% of x86 infrastructure is virtualized
  - Growing to 71.7% by 2018
- Recent SMB survey
  - 61% RTO < 4 hours
  - 37% RTO < 2 hours
  - 61.7% RPO < 1 hour
  - 53% use the cloud, 35% plan to do so within 12-24 months
Cloud Data Protection (XaaS)

- **IDC Definitions**
  - **Archive as a Service** – Capacity optimized offsite storage
    - May include tape (LTFS)
    - May include search/discovery/litigation services
  - **Backup as a Service** – Capacity optimized disk offsite disk repository
    - Direct, hybrid, PBBA
  - **Recovery as a Service** – BaaS plus on-demand compute/network services necessary to recover and application
    - Few added services
    - Not much different from IaaS
  - **DR as a Service** – RaaS plus added services around run books, personnel plans and test plan/execution
IDC XaaS Forecast (in millions USD)

- Archive as a Service (AaaS)
  - $299.64 (2015) growing to $397.82 (2018)
  - 9.03% 5 yr CAGR

- Backup as a Service (BaaS)
  - 9.65% 5 yr CAGR

- Recovery as a Services (RaaS)
  - 21.44% 5 yr CAGR
Business Drivers

1. SLAs are ever more stringent
2. IT managers increasingly need to be able to query the data (meta data)
   a. Discovery SLA becoming more common
3. Organizations desire more self-service recovery
4. IT managers want to make backup “somebody else’s problem.”
Third Epoch Storage Architecture

- VM-level / Object storage
  - No RAID, LUN or Volume
  - Protection via replication
  - Geographically distributed
    - Could include cloud

Once data is protected geographically and immediately recoverable, why would you ever backup again?
Real world example

- Insurance claims app
- Today’s architecture
  - iSeries processor
  - 100 TB of internal disk
- Summary
  - End-to-end transaction management
  - Stringent SLAs
    - 20 ms transaction SLA
  - Excessive downtime
  - Lack of agility
  - High costs
The looming “gotcha”

1. Application traverses geographically separated repositories
2. DB and file systems are queried and updated
3. How do we:
   a. Restore all repositories to a consistent state?
The hope for B/R apps

- **Recovery orchestration**
  - Leverage the ability to recover from multiple data repositories
  - Recovery to a point-in-time view of the data

- **Data interrogation**
  - Leverage knowledge about the data (meta data) and where it is
    - Governance, BI, legal self-service
Summary

- Storage will never get an “best actor” award
  - Best supporting actor is the most we can hope for
- Storage is transforming to response to virtual computing
- Data protection is transforming as well
- Expect disruption!