EMC Archive Solutions for the Data Center

IT Challenges—Coping with Information Growth in Today's Economy

In 2010, IT budgets are flat or declining*

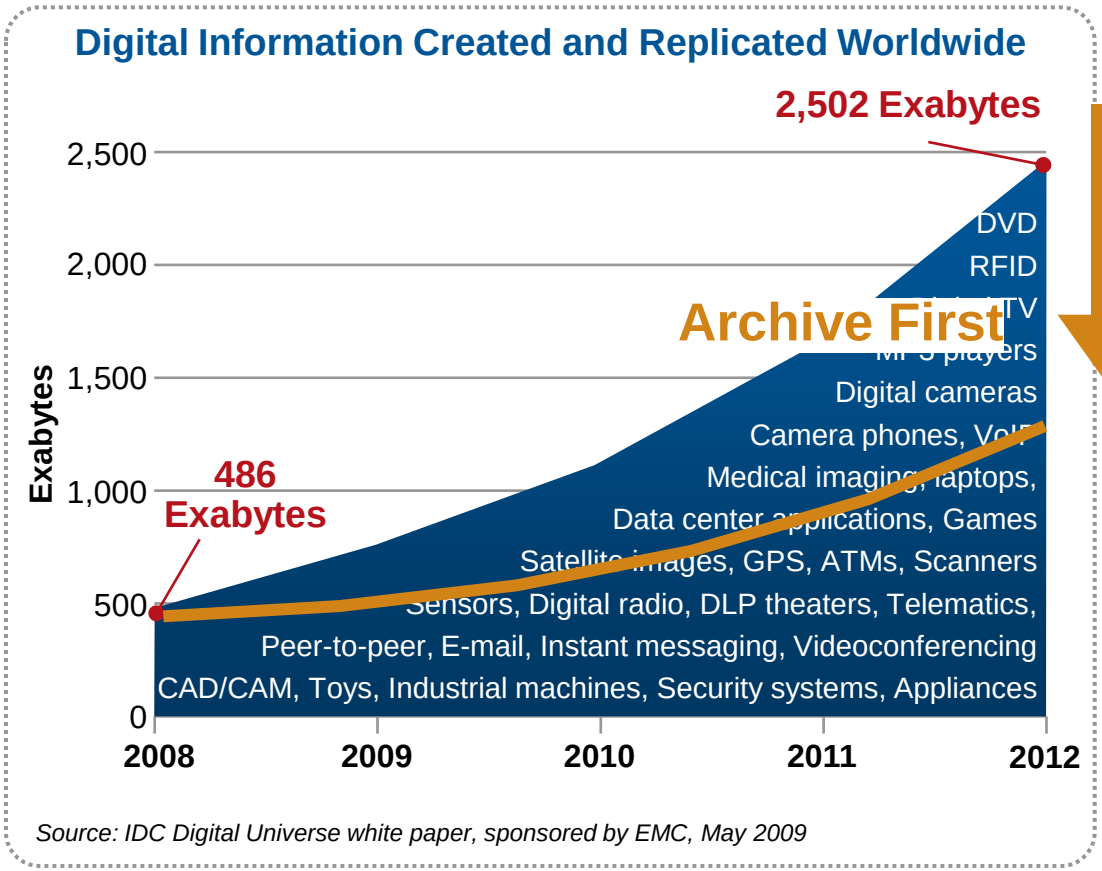
- Escalating costs for primary storage
- Difficulty meeting backup and recovery windows
- Ensuring high availability of information
- Providing timely access to historical information

*"Global purchases of IT goods and services… will equal $1.66 trillion in 2009, declining by 3 percent after an 8 percent rise in 2009."

Global IT Market Outlook: 2009, Forrester Research, January 12, 2009

Information Explosion

EMC²
where information lives®



Source: IDC Digital Universe white paper, sponsored by EMC, May 2009

How will you:

- Manage growth?
- Manage risk?
- Manage effectiveness?

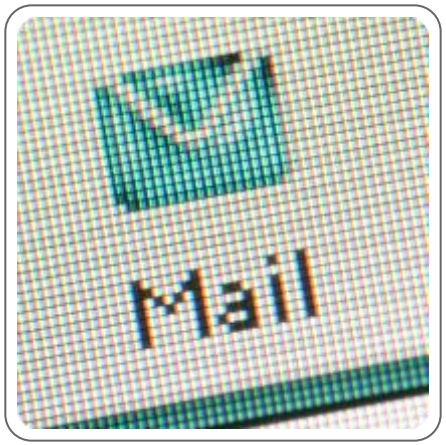
Reasons to Archive

- When information volumes dictate the need for:
  - A better TCO
  - A simplified IT infrastructure
  - Much easier information management
- Your backup process becomes time-constrained
- Ensure corporate governance policies are met
- Regulated industry requirements

Types of Archived Content

EMC² where information lives®

E-mail



MS Exchange
Lotus Notes
PST/NSF Files

Fixed Content

Medical Imaging
Call Center Voice Recording
Static Documents
Video Surveillance

Files

File Servers
NAS Devices
Inactive files
Duplicate Files

EMC Archiving Solutions

EMC² where information lives®

Archiving

- Reduce IT costs
- Increase IT efficiency
- Optimize content access and reuse
- Meet regulatory and corporate governance requirements

eDiscovery & Compliance

- Policy manage information
- Respond effectively to eDiscovery
- Implement a repeatable eDiscovery process and litigation hold
- Reduce eDiscovery costs

EMC SourceOne Archive Software Infrastructure

Archival Storage

Centera

Purpose built archive platform

Celerra

Primary storage platform with archive

Atmos Cloud Platform

Archive that extends to the cloud

EMC SourceOne

EMC²
where information lives®

Archiving

Compliance and eDiscovery

EMC SourceOne Email Management

Email/IM archiving to improve IT efficiency

EMC SourceOne Discovery Manager

Discovery and legal hold for EMC SourceOne email archives

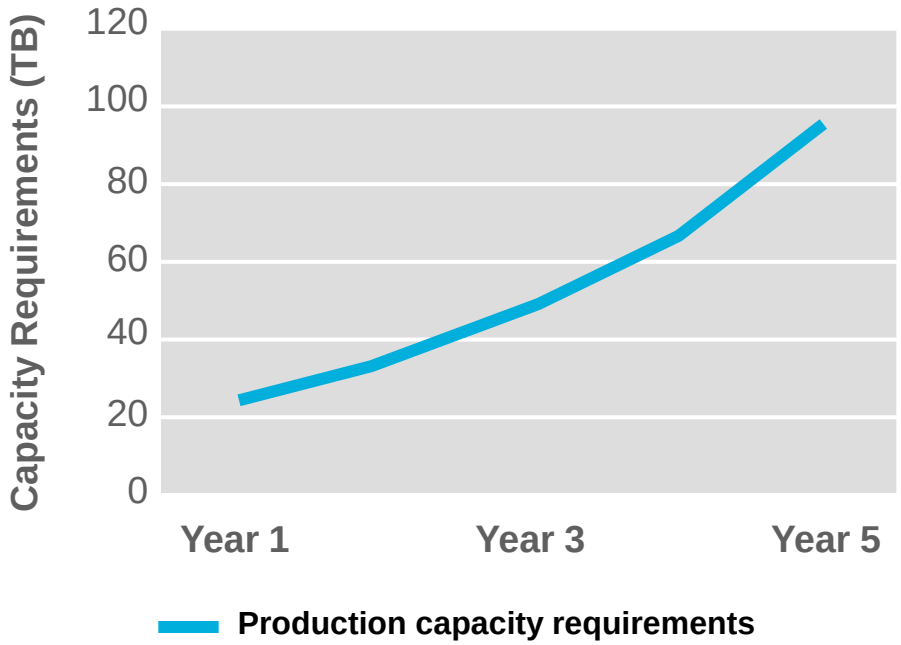
EMC SourceOne Discovery Collector

Indexing appliance to automate collection throughout the enterprise

Integrated Information Governance Solutions help you do more with less

Email

How Do You Manage Email Growth—By Adding Storage Capacity?



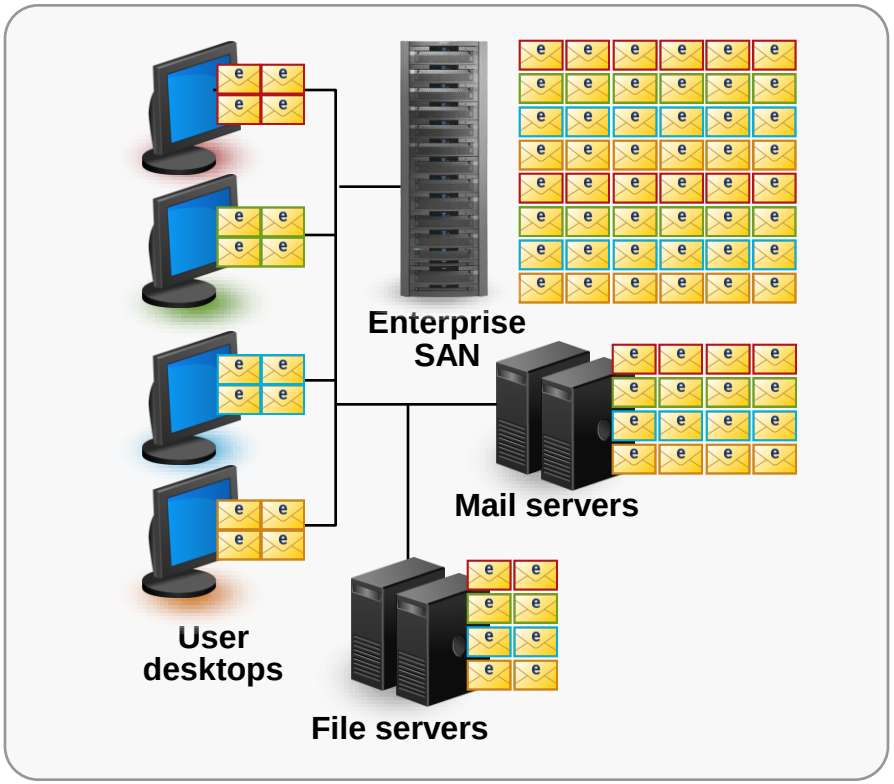
Larger mailboxes mean…

- Slower performance
- Increased administration overhead
- Longer backup windows
- More data to replicate
- Longer restores
- Duplicate copies

Source: EMC ROI/TCO Analyst estimates

Email

How Do You Manage Email Growth—By Restricting Mailbox Sizes?



Strict mailbox quotas…

- Delegate management to users
- Force the creation of personal archives (*e.g.,* PST, Notes local archives)
- Pose security and eDiscovery risks

Email

EMC SourceOne Email Management

Helps you…

- Reduce costs associated with production storage requirements, backup, and bandwidth
- Automatically and consistently enforce retention and disposition policies
- Leverage tiered storage infrastructure while preserving access to archived content
- Proactively manage e-mail environment needed for corporate recordkeeping requirements, regulatory obligations, and/or litigation readiness

Email

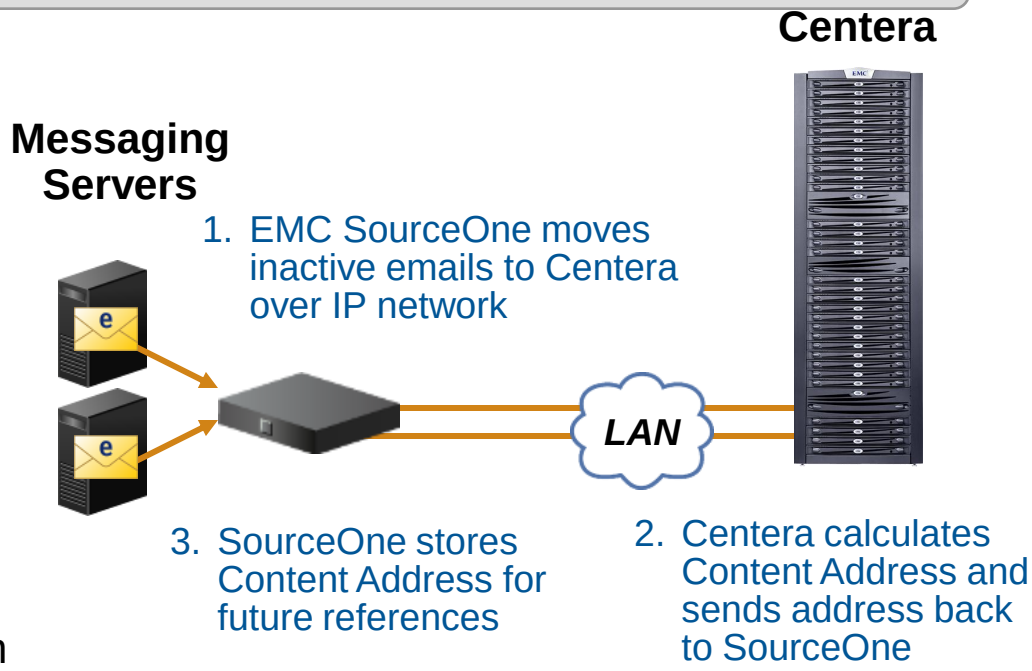
EMC SourceOne Email Management Example

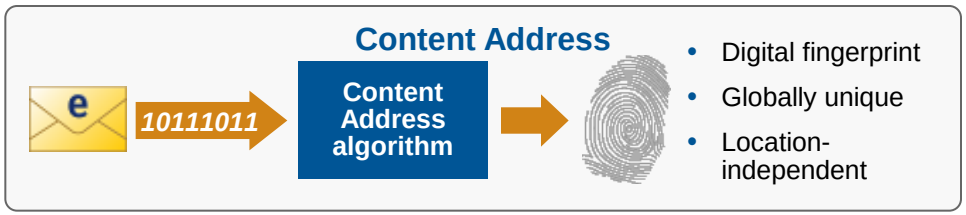
Issues

1. Must effectively manage, automate and enforce retention policies
2. Tier 1 storage is too costly for the entire email environment
3. Offsite tape vaulting is expensive and slow to access

Benefits

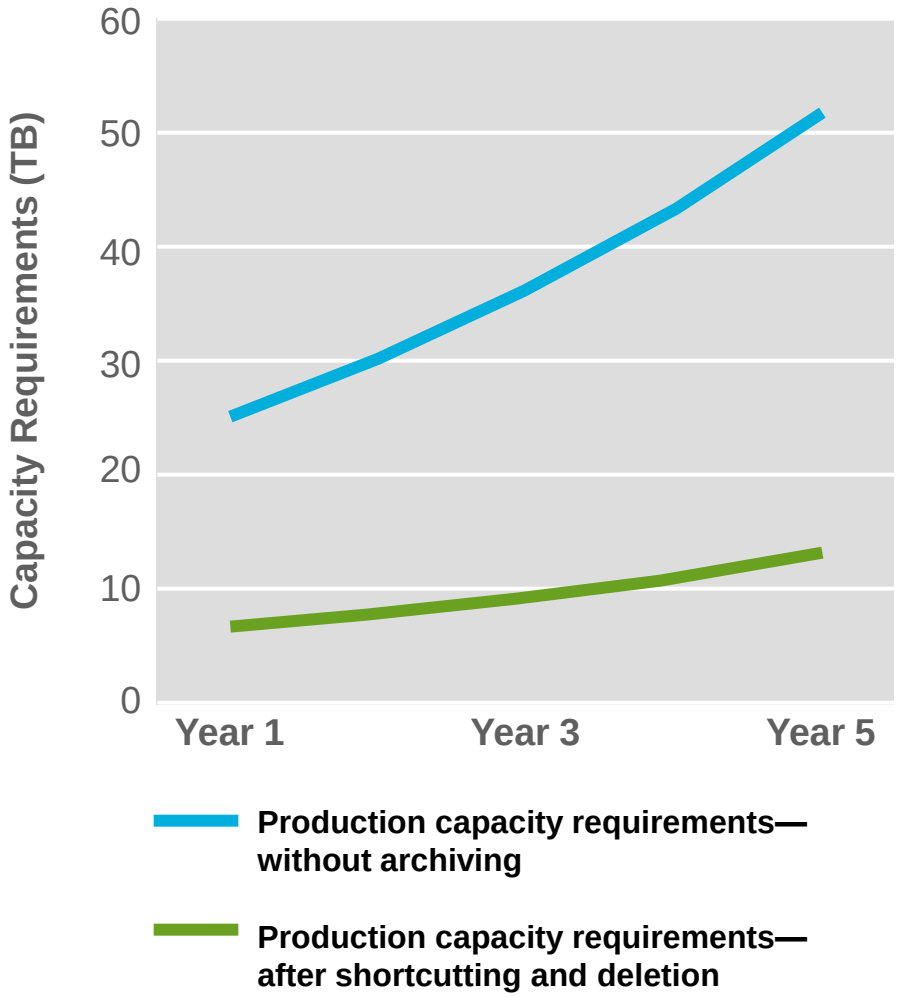
1. Eliminate PST and NSF files
2. Satisfies organizational and application policies for information retention and disposition.
3. Lowest TCO
4. Fast access to any archived information





Email

Reduce Production Storage Capacity Requirements and Improve Backup/Recovery



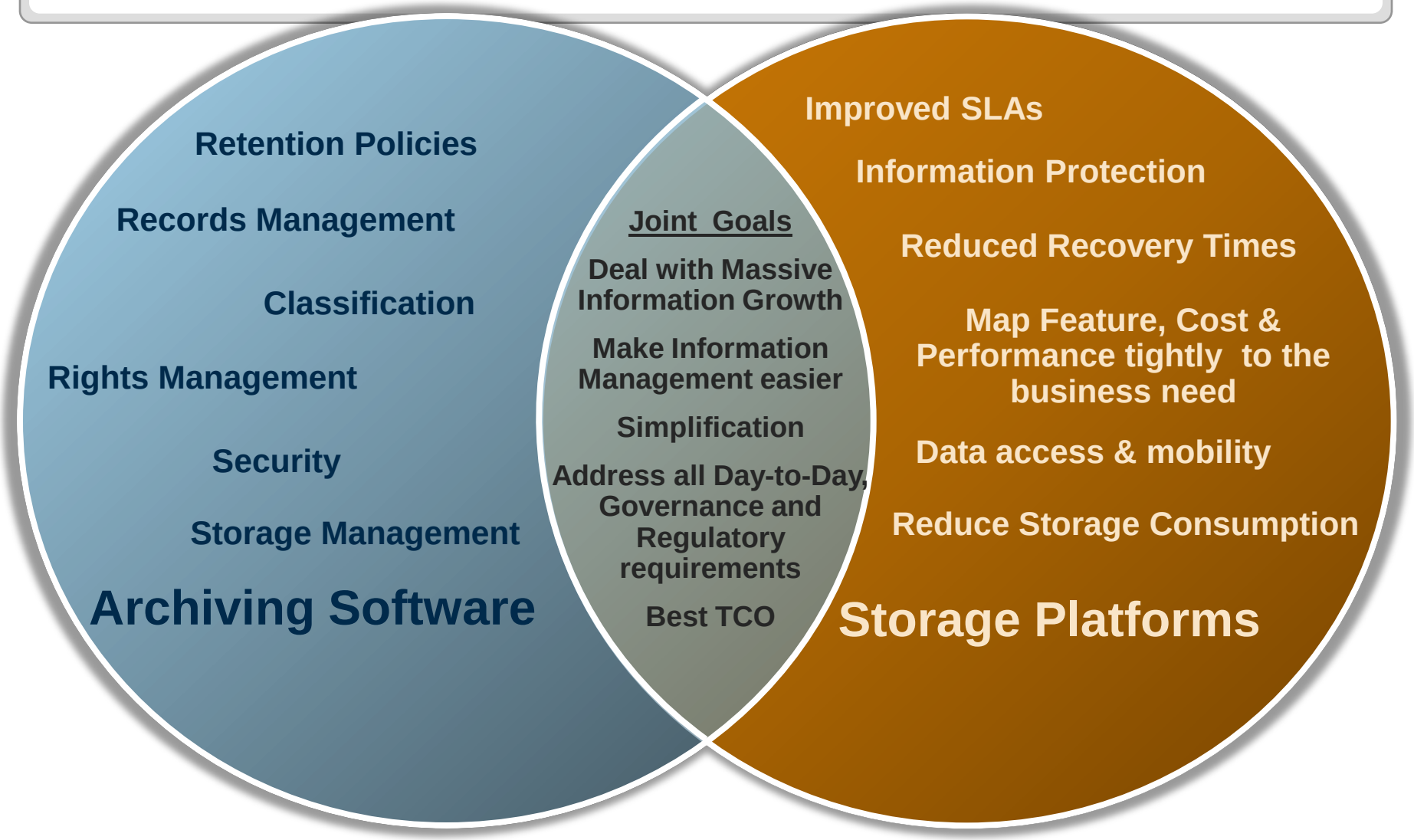
Source: EMC ROI/TCO Analyst estimates

ROI/TCO with EMC SourceOne Email Management

- Free up your production storage for newest content
- Decelerate recurring production storage purchases and reclaim production capacity
- Enforce retention and disposition policies
- Substantially shorten time required for each full backup by shrinking production environment
  - Equally important—shorter backups lead to shorter recovery times
- Reduce cost of backup infrastructure
- Reduce network bandwidth costs for redundant sites

Storage Platforms:
The Other Half of The Archiving Equation

EMC²
where information lives®



EMC Archive Storage Platforms

EMC² where information lives®

Centera	Celerra	ATMOS
		
Purpose built archive platform	**Primary storage platform with archive**	**Archive that extends to the Cloud**

EMC Centera

EMC² where information lives®

Purpose built archive platform

- Centera and XAM (Open Standard) API interface
  - End-to-End content authenticity and data integrity
  - Application driven retention policies
- Corporate and Regulatory Compliant WORM
- Self- Managing, Configuring and Healing
- Deduplication at file level
- High availability through RAIN
- Multi Petabyte addressable capacity

270+ EMC Centera Archive Solution Partners

- E-mail Archiving
- File systems
- Medical Images & Electronic Health Records
- Documents (ECM)
- SharePoint
- SAP information archiving
- Telco Call Detail Records
- Databases & Application Retirement
- Call Recording and Incident Event logging
- Video Surveillance
- Life sciences
- Seismic Data Archiving & Other Uses

Customer Use Case: Healthcare Information Archiving with Centera

EMC² where information lives®

Issues

1. High management costs
2. Compliance - HIPAA
3. Performance and scaling
4. Meeting backup windows

Benefits

1. Centera delivered the best TCO
2. Fast access to PACs images
3. Met compliance requirements
4. Integrated with 35 Healthcare partner applications. *(It is the de facto standard for online archiving of healthcare information)*

Primary Storage

High performance and availability

Symmetrix, CLARiiON, Celerra

Archive Storage

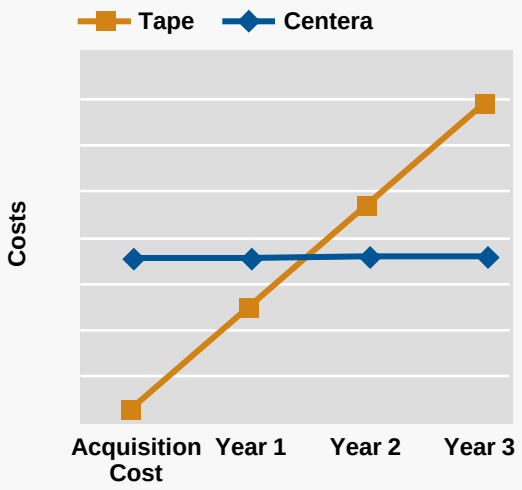
Long-term online archive

Centera

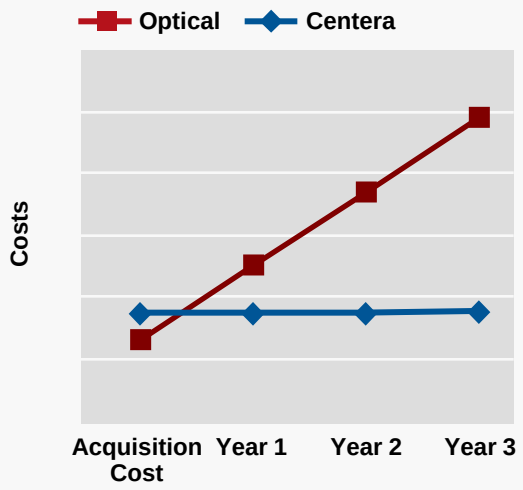
Centera's Superior Archive TCO

EMC²
where information lives®

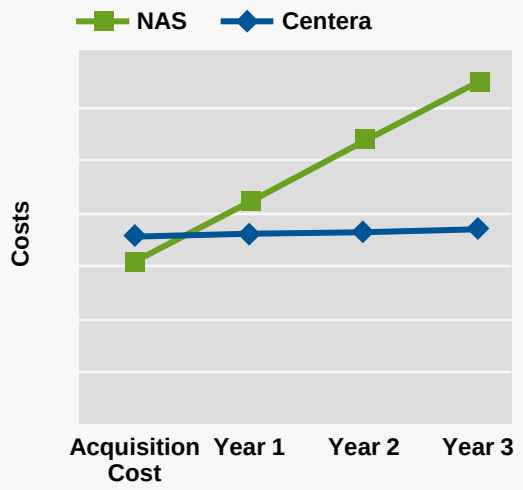
Two Centeras (Replicated) vs. Tape Systems



Two Centeras (Replicated) vs. Optical Systems



Two Centeras (Replicated) vs. NAS Storage Systems (Replicated)



Major Reasons:

- No duplicate copies of original information are stored
- Up to 100 times more information can be easily managed per Storage Administrator

EMC Celerra

EMC² where information lives®

Primary storage platform with archive

- Native CIFS, NFS interfaces
- Governance and Regulatory compliant WORM
  - Operator and API manageable
- Deduplication and compression at file level
- High availability through x-blade failover
- Up to 896 TB USABLE capacity per system

File Archiving with Celerra

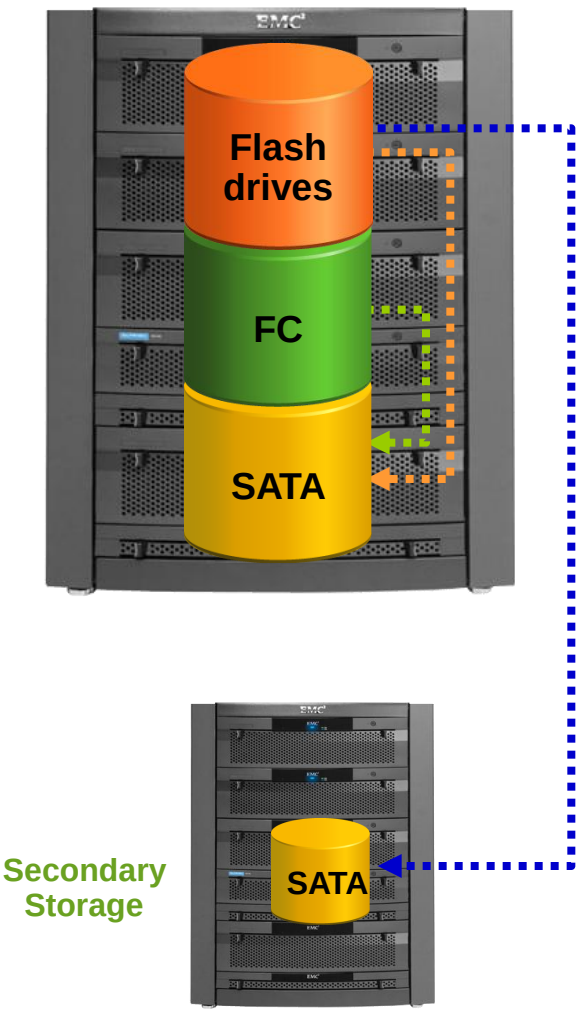
Challenges of Managing File Growth

- Most unstructured data quickly becomes inactive but consumes significant resources
  - Inefficient storage utilization
  - Backup windows cannot be met; jobs unfinished
- Maintaining end user and application service levels becomes difficult

Celerra

- Improves Storage Efficiency
  - Lowers overall storage costs
  - Reduces management complexity and overhead
  - Backup and recover is faster

How Does Filesystem Archiving with EMC Celerra Work?



1. Two or more tiers of storage are created
   - Within one Celerra platform
   - Or a second tier is created on a secondary platform
2. Policies are defined to classify files
3. File systems are scanned, and files matching policies are identified and moved to second tier or secondary storage
4. Celerra replaces file contents with a stub file
   - Metadata remains
   - Retention coordination with Centera
5. When client reads migrated file, Celerra retrieves data according to policy
   - Pass through
   - Migrate back

Customer Use Case: File Archiving with Celerra (**F**ully **A**utomated **S**torage **T**iering)

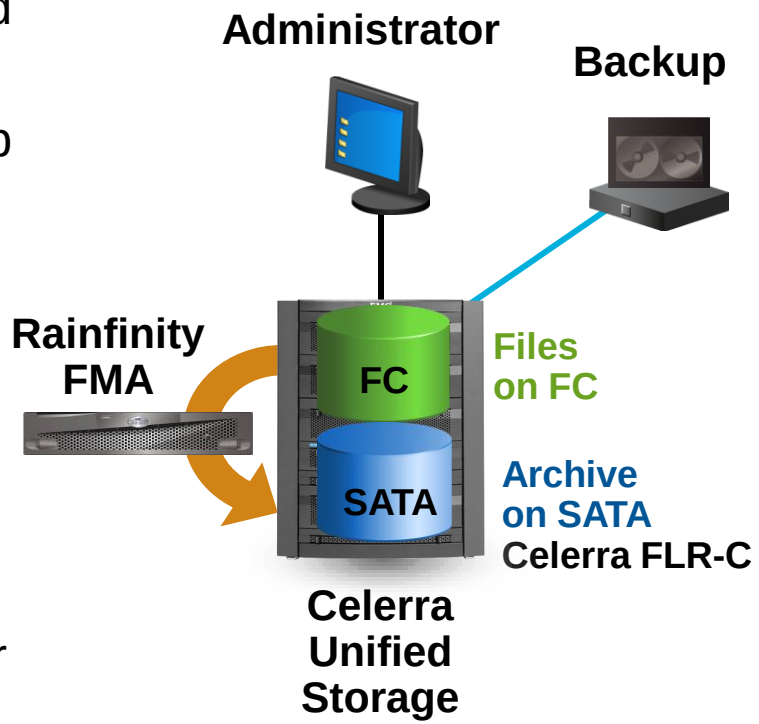
EMC² where information lives®

Issues

1. High cost of fileserver proliferation and managing 200+ tapes
2. Needed to purchase additional backup HW and SW
3. Tape restore did not meet new compliance requirements

Benefits

1. Eliminated file servers
2. Reduced numbers of tapes by a factor of 10
3. Unified Storage used for both Primary Storage and as an Archive

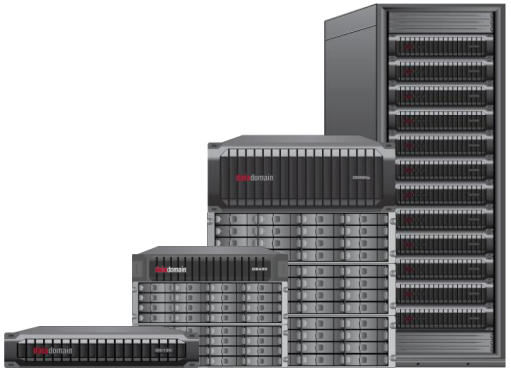


EMC Data Domain

EMC² where information lives®

Backup storage platform with archive

- CIFS, NFS, VTL and NetBackup OST interfaces
- Governance WORM capable
  - Operator and API manageable
- Deduplication and compression at sub file level
- Data resiliency through Data Invulnerability Architecture
- Up to 71 TB addressable capacity per system
- High throughput to support traditional backup



EMC Cloud Services:
The Enterprise Content Cloud

EMC²
where information lives®

ISV and Developer Partners

EMC Cloud Services
- Atmos Online Storage

Proven Enterprise Infrastructure

RSA Access Control | EMC Storage | VMware Virtualization

Service Provider Partners

Technology Partners

Trusted Enterprise Solutions

Archive your files with **Rainfinity**

Backup to the Cloud with **Networker**

Retire application data with **Informatica**

Track usage across users and apps

EMC Cloud Services:
Designed for Enterprise IT

EMC² where information lives®

- **Off Premise, Tier N storage from EMC**
  - Cloud Services from Information Management leader
  - Another tier for EMC FAST
- **Cloud-connected Trusted Solutions**
  - Backup, File and Database Archive, Sharepoint, ECM
  - Atmos and Celerra can push content to the Cloud
  - On-premise appliances
- **Common API, Easy Integration**
  - Solutions work for Atmos on-premise and in the Cloud
- **"Cloud Easy", Enterprise Features**
  - Policy-based service classes
  - Self-service management console or mgmt API
  - Rapid services provisioning / de-provisioning
  - Pay-as-you-go and subscription, P.O. and credit cards
  - RSA access controls / network and intrusion defenses

Preview available:

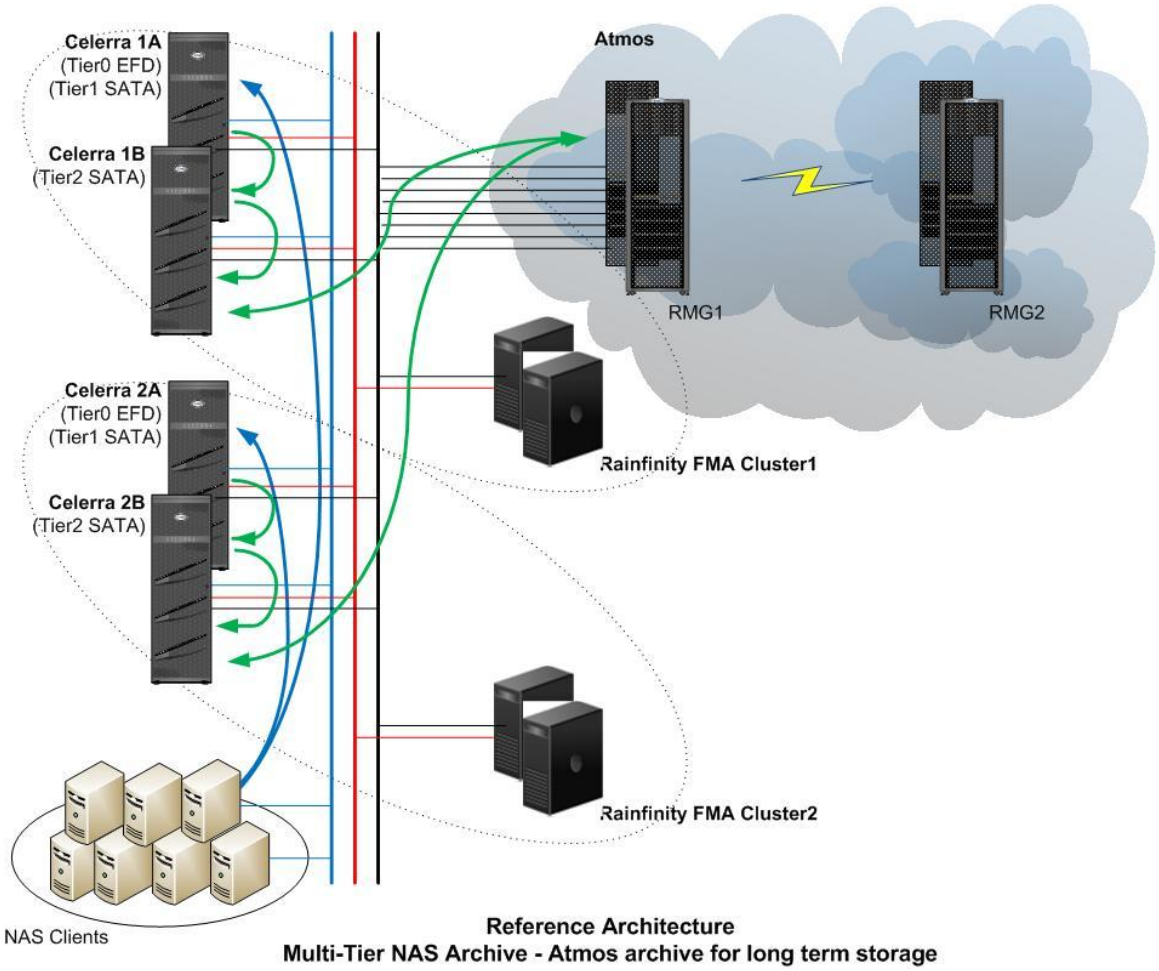
www.emccis.com

Tiering to Atmos Cloud Storage - Use Case

- Archive to Atmos as a secondary or tertiary storage tier using policy, consolidating multiple NAS tiers into a single Atmos

- Configuration
  - 2 Celerra NAS instances
  - 2 FMA (HA) instances
  - Single Atmos instance

- Policy Example:
  - Files >90 days
    - Fibre Channel to SATA
  - Files >180 days
    - SATA to Atmos



EMC Archive Solutions for the Data Center

EMC² where information lives®

Efficient

Affordable

Safe

- When your information volumes dictate the need for:
  - A better TCO
  - A simplified IT infrastructure
  - Much easier information management
- Your backup process becomes time-constrained
- You need to ensure that day-to-day business needs, corporate governance policies and regulatory requirements are met.


EMC²
where information lives®