



CA 1TM Flexible StorageTM

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| Storage Administrators Are Challenged Today

How can I **reduce hardware costs**?

How can I **leverage existing investments**?

How can I **use the cloud for backups and cold storage** (company mandate)?

How can I **maintain security**?

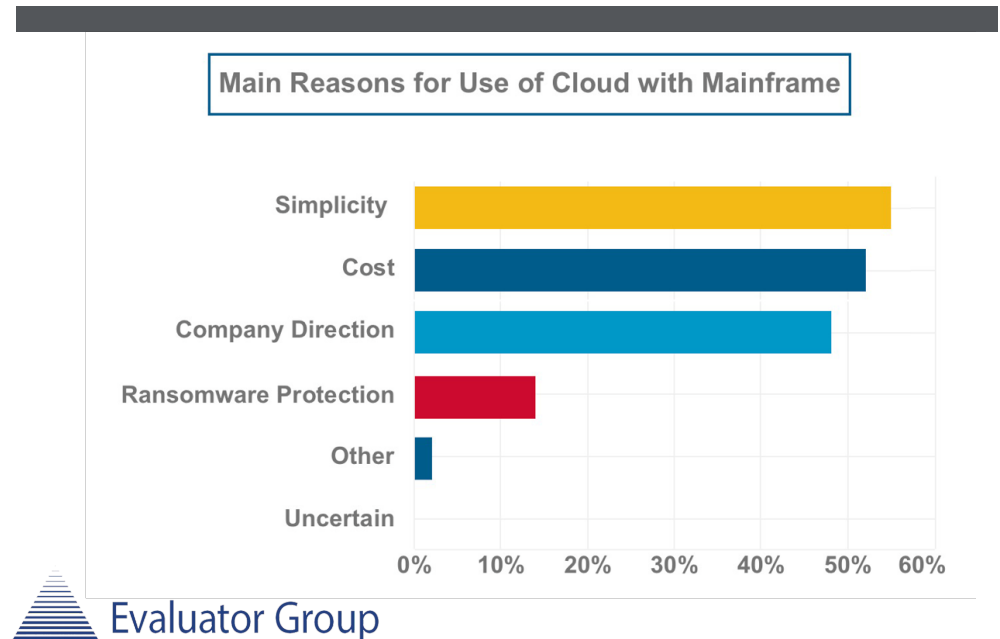
How can I **move off devices that are no longer supported**?



Findings from Evaluator Group Research Study

Top Reasons for Using Cloud Storage:

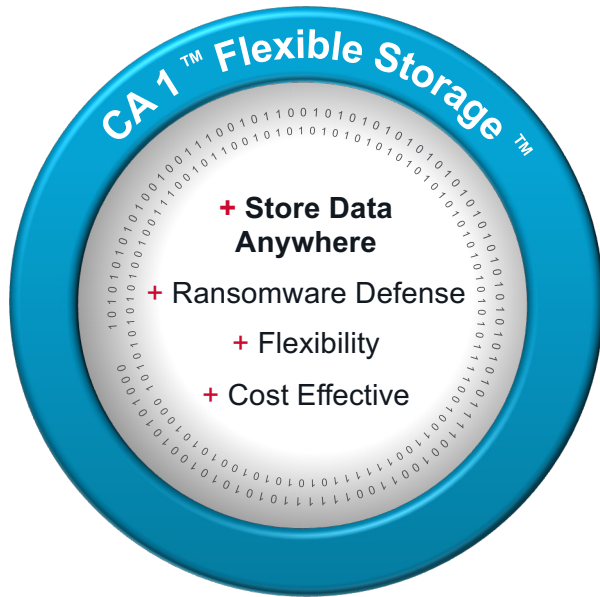
1. Infrastructure simplification
2. Lower cost than on-premise storage
3. Company mandate to use Cloud



[DOWNLOAD THE FULL REPORT](#)

<https://mainframe.broadcom.com/download-mainframe-shifts-in-cloud-storage-usage-technical-report>

Changing the Mainframe Storage Landscape



CA 1™ Flexible Storage™ *

- **Flexible:** Store data anywhere
 - Physical Tape
 - Virtual Tape
 - Cloud – On-Premise or Off-Premise
 - Commodity storage already in the data center
- **Easy:** Simply point CA 1™ Flexible Storage™ to any new storage targets
- **No changes required** to your operations or applications

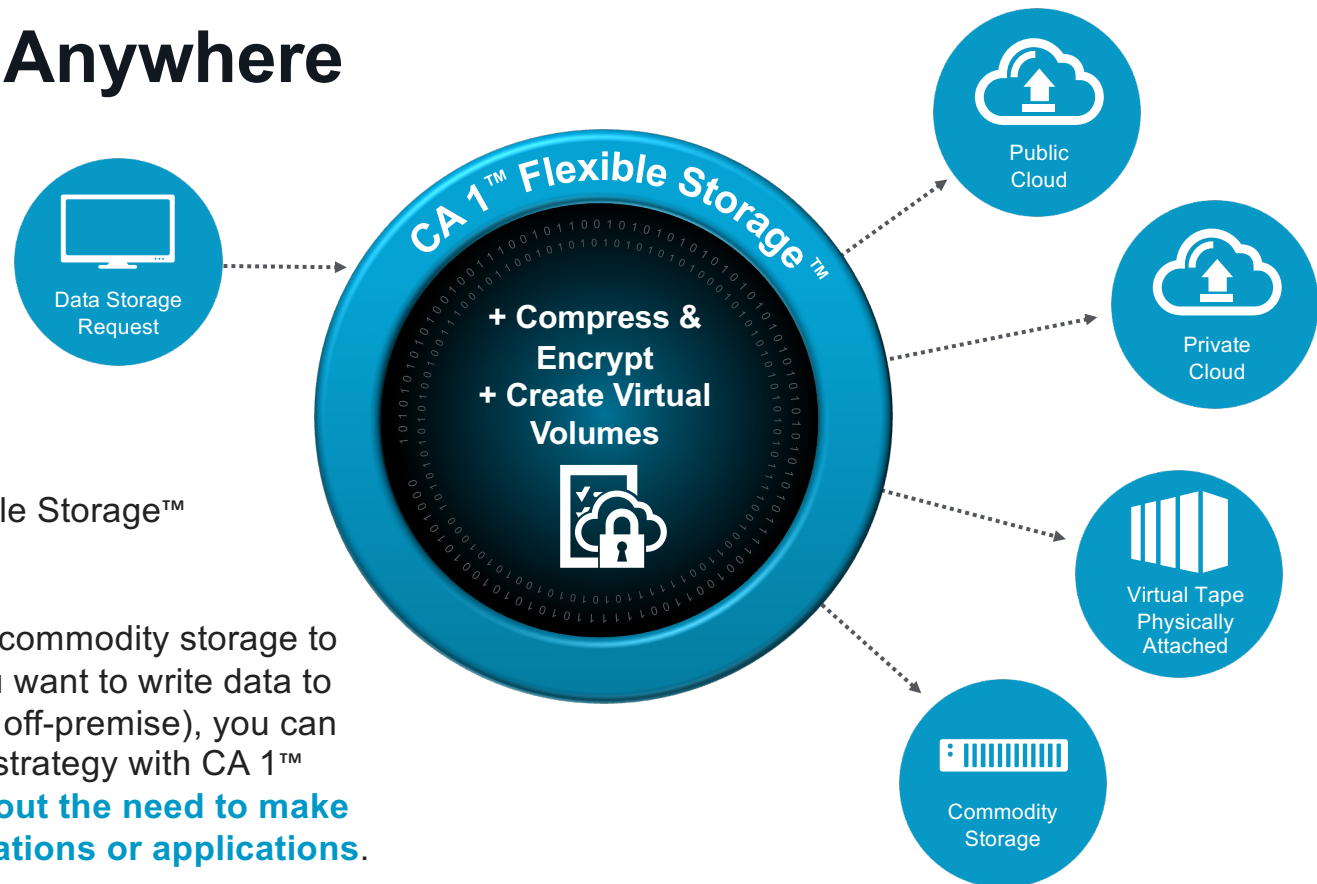
*Current CA 1™ customers are automatically entitled at no additional cost.

Store Data Anywhere

Truly Flexible!

Just point CA 1™ Flexible Storage™ to your new targets!

Whether you're adding commodity storage to your data center, or you want to write data to the cloud (on-premise / off-premise), you can complete your storage strategy with CA 1™ Flexible Storage™ **without the need to make changes to your operations or applications.**



| Security - Leveraging z16 Features

File-level encryption: Each file is assigned an encryption key

- No one can read the data, even with access to the volume

Quantum Encryption Algorithm support NIST (July 2022) first 4 algorithms

- (CRYSTALS-Kyber and CRYSTALS-Dilithium)

Pervasive Encryption using ICSF key database

Immutable Volumes (Fixed, unchangeable and cannot be deleted)

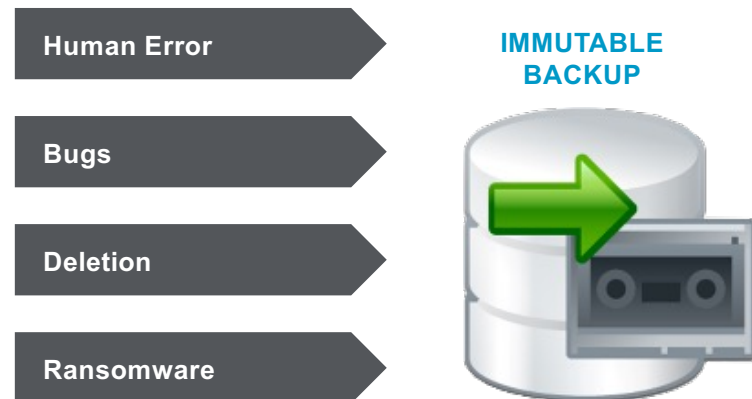


What are Immutable Volumes?

Immutability: The state or condition of being unchangeable

Immutable Volumes:

- Fixed, unchangeable and cannot be deleted
- Ensures a copy of the data is always recoverable
- Immutable backups cannot be altered or changed, and are impervious to ransomware infections



Use Case 1: Ransomware

Protection Against Hackers and Ransomware



Ransomware or a malicious insider corrupting or encrypting critical business data making it impossible for the company to conduct business until the compromised data is restored.

Immutability

- ✓ Immutable backups for data restoration or system Initial Program Load (IPL)
- ✓ Quickly restore critical systems/data and minimize revenue loss
- ✓ Immutable volumes (unchangeable and can never be deleted)

Global Ransomware Impact:

- \$20B+ projected business costs in 2021
- Average downtime of 21 days
- 46% of recovered data is corrupted
- 90% of financial Institutions targeted

Ransomware Examples:

- \$40M Payout – Large Financial Corp.
- \$4.4M Payout – Colonial Pipeline

Use Case 2: Zero Trust

Meet Audit Requirements, Company Policies, or Government Regulations



Verify every user device while enforcing security policies at the data set level. File level encryption allows you to verify all users and devices inside and outside.

- Data Security**
- ✓ Prevent stolen data by bad actors.
 - ✓ File level data encryption enforces need-to-know access.
 - ✓ Quantum safe encryption algorithms (z16).

Global Data Breaches:

- Cost \$4.2M in 2021, up 10% from 2020
- \$180 per record (Customer PII)

Use Case 3: Archive Backup

Ensure that Master Backup Copies Can Be Restored



Ensure master backup copies of critical data are secured in a cloud location in case tape backup procedures fail.

- Backup Vault**
- ✓ Prevent breach in data retention policy that results in regulatory fines
 - ✓ Golden copy is now available if all other recovery procedures fail
 - ✓ No specialized hardware required

Global examples of regulatory fines:

- Up to 50K per violation (HIPAA)
- \$40K per violation (FTC COPPA)
- 4% annual Revenue (GDPR)
 - \$23.4M Large hotel chain
 - \$37.3M Large clothing retailer

Use Case 4: Return on Investment (ROI)

Reduce Storage Costs (administration, hardware infrastructure and software)



Drive down data retention costs. Policies require data to be kept for years costing \$14M over 10 years per petabyte.

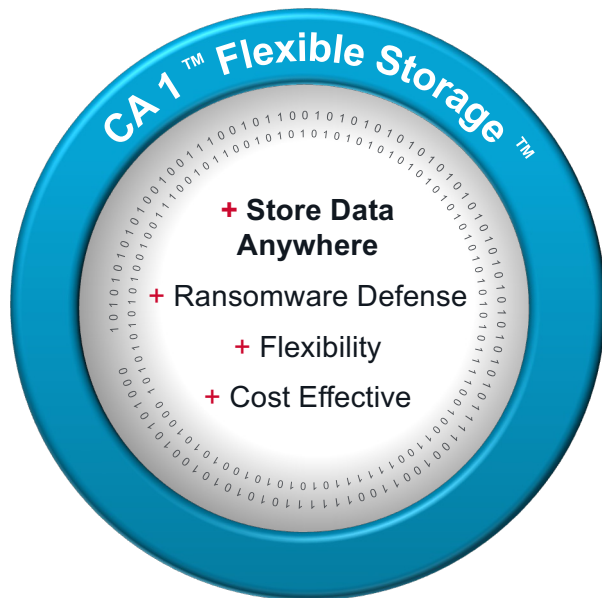
Savings

- ✓ 1PB of data backed up to the cloud saves approximately \$7M over 5 years
- ✓ Solution requires no special hardware
- ✓ Freedom of choice to use low cost commodity storage

On Premise Storage Cost:

1 Petabyte costs \$1.4M annually fully burdened
(administration, hardware infrastructure and software)

Summary: CA 1™ Flexible Storage™



- **Flexible** – Store data anywhere
- **Secure** – Protect against ransomware
- **Efficient** – Reduce batch processing by up to 20%
- **Reduces Costs** – Save millions in storage costs over time (\$1.4M per petabyte)
- **Software-only Solution** – No additional hardware required
- **CA 1™ Customers** – Automatically entitled at no cost



Speak with an expert today.

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