

Performant and Secure Open Systems VTL Alternatives

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What is our Scenario?

Thomas has just learned his virtual tape library (VTL) storage hardware will be go end of life (EOL).

What is worst his hardware vender is no longer going to support the MF.



Decisions!



- System Sizing?
- What Technology?
- Venders?
- Cost?

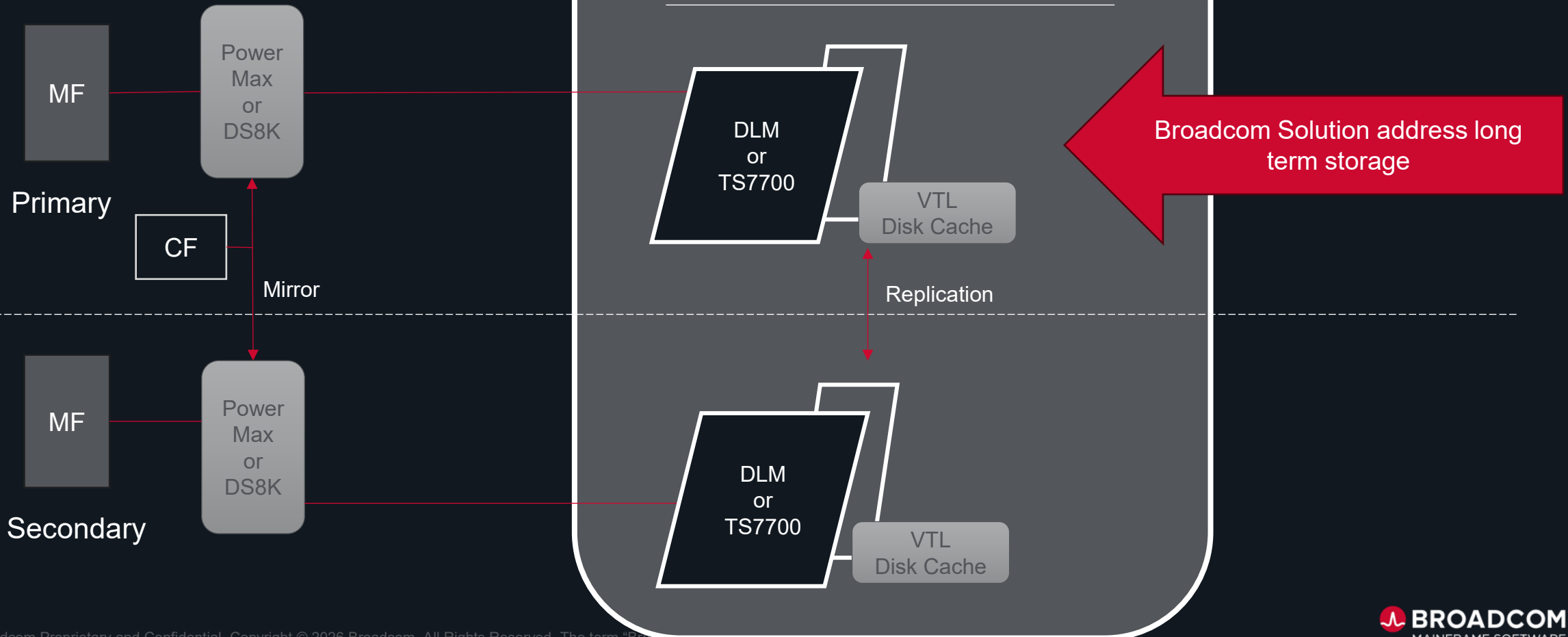
Danger Will Robinson!



Agenda

- Mainframe Storage Level Set
- Storage Options
- Interactive Pricing Activity
- Next Steps

As-is Architecture (simple diagram)



Flexible Storage Suite

Vantage StoragePoint™

- Point and Click GUI for all storage management --
- Storage agnostic reporting, Automation, Monitoring and Management ---

Security

Access Controls
(ACF2, Top Secret, IBM RACF, AAM, Cleanup)

Trusted Access Manager for Z

Compliance Event Manager

CA 1™ Flexible Storage™

Disk™ Backup and Restore

- Full System Backups / Image Copies --
- Supports Incremental and USS file-level Backups ---

CA 1™ Flexible Storage™

- Archive Management, Application Backups --
- Compression, Encryption, Zero Trust Security and immutable backups ---

Allocate™ DASD Space and Placement

- Storage space and allocation automation --

Storage



Security

Access Controls

(ACF2, Top Secret, IBM RACF, AAM, Cleanup)

Trusted Access Manager for Z

Compliance Event Manager

CA 1™ Flexible Storage™

Storage



Open Systems Storage Support Options

1

Network Files Storage (NFS)

- Network attached under Unix System Services (USS)
- DASD Cache
- Consideration network latency



2

Virtual Cloud Adapter (VCA)

- S3 / S3 Object Lock
- Public / Private Cloud
- DASD Cache
- USS back store
- Egress charges
- Latency considerations



3

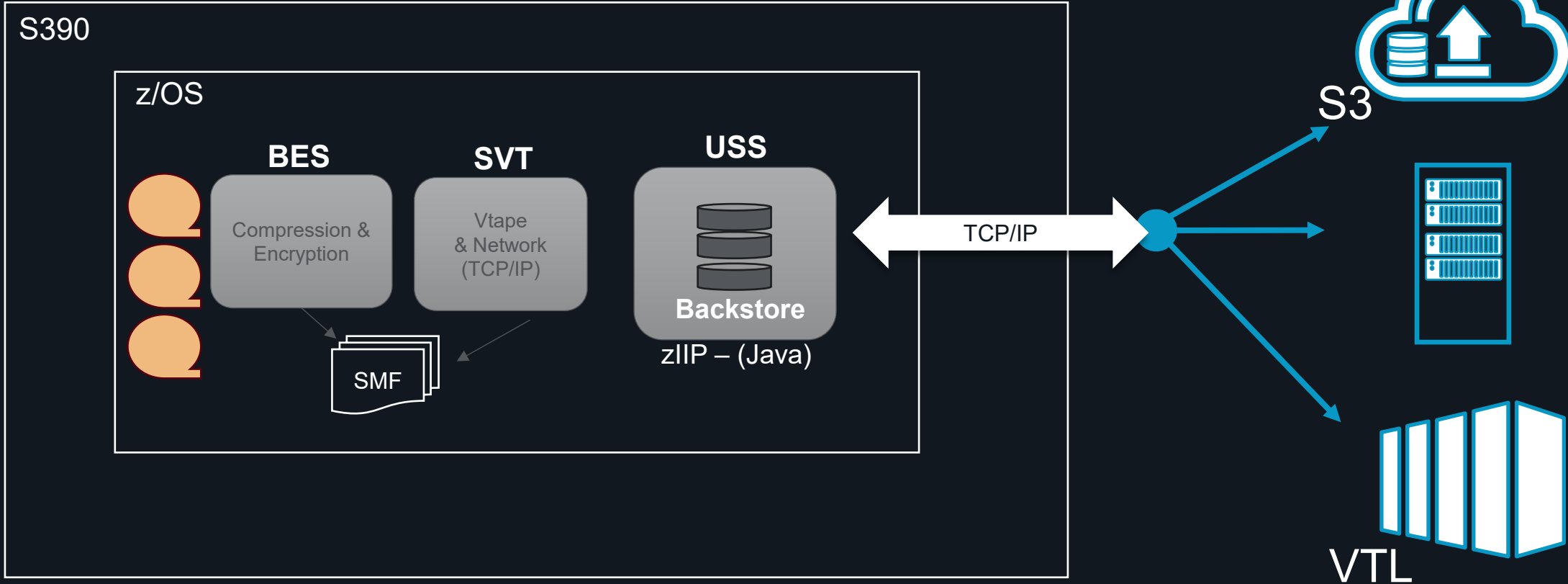
Virtual Storage Adapter (VSA)

- zLinux
- LinuxOne
- Hypersockets
- OSA Support



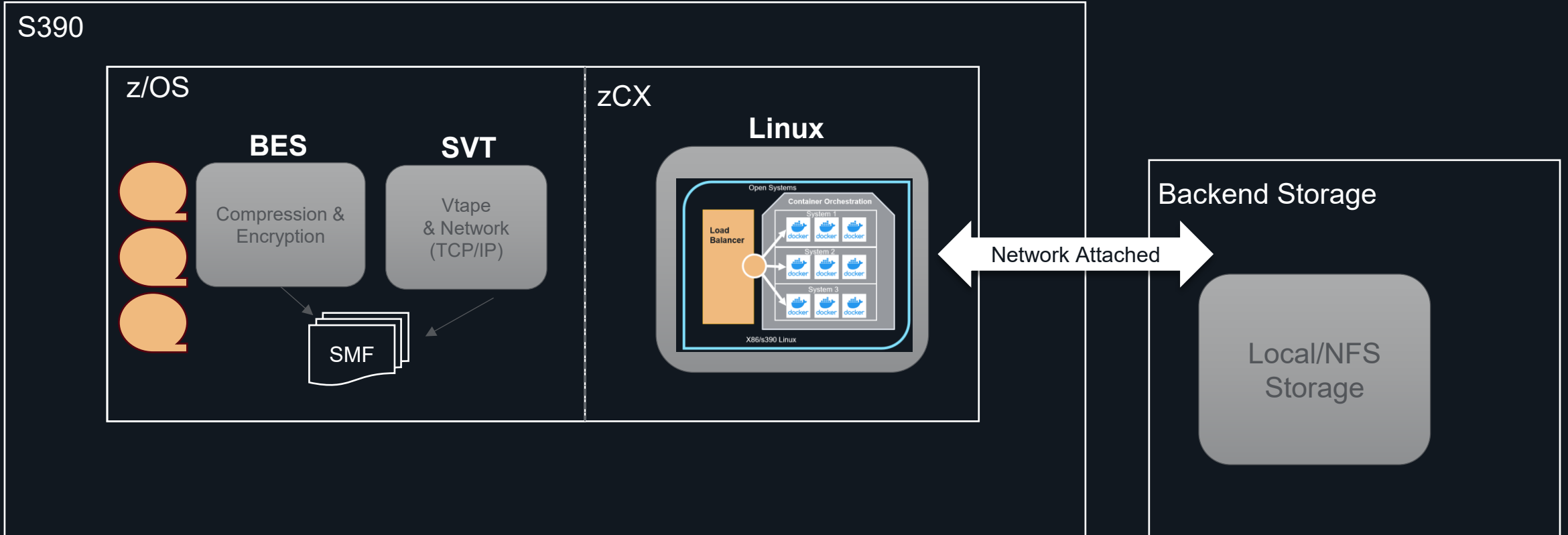
CA 1 Flexible Storage

Virtual Storage Adapter (VCA)



CA 1 Flexible Storage

Virtual Storage Adapter (VSA)



Interactive Pricing Activity

1. Get out your Smart Phone
2. Open Calculator app
3. Open Web Browser (optional)



Annual Storage Cost 2026

Deployment Scale	Estimated Annual Cost (per TB)	Key Factors
Small (10–50 TB)	\$1,800 – \$3,000	High licensing minimums & management overhead.
Medium (50–250 TB)	\$1,000 – \$1,800	Better balance of hardware and software costs.
Large (250–1000 TB)	\$600 – \$1,200	Heavy use of deduplication and tiered storage.
Enterprise Scale (1 PB+)	\$400 – \$800	Deep volume discounts & highly optimized infrastructure.

Category	% of Annual Budget	What's Included
Hardware	35% – 45%	Storage arrays (All-Flash/NVMe), controllers, replacement parts, and high-speed networking (InfiniBand/Fibre Channel).
People (Labor)	25% – 30%	Storage admins, architects, and security specialists. This has risen ~5% since 2024 due to AI-integration skills demand.
Software & Licensing	15% – 20%	Management software, data deduplication licenses, ransomware protection, and backup/orchestration tools.
External Services	10% – 15%	Vendor support contracts (Silver/Gold/Platinum), specialized consulting, and off-site "Cloud Tiering" subscriptions.

45% Hardware Costs

Hardware Cost – Industry Average

\$1,200 – Annual Spend Per Raw Terabyte

45% is Hardware

\$540 – Hardware Annual Spend Per Raw Terabyte

Hardware Cost of 500TB?

\$270,000 = 500TB * \$540

\$540,000 = \$270,000 x 2 – Second HW for DR

Choose Your Own Adventure



- Cohesity = ?
- Netapp = ?
- Public Cloud = ?
- IBM = ?
- VMWare = ?

Cohesity



- NAS server
- 198.4 TB
- rack-mountable
- HDD 192 TB + SSD 6.4 TB
- RAM 128 GB
- 40 Gigabit Ethernet / 10 Gigabit Ethernet

\$33,839.00

Backorder

Stock: 0  
Updated 7+ days ago

☐ Compare

Mfr Part #: C6055-40G-10G-RJ45-1 SHI Part #: 42510292

1




Add to Cart

Cohesity

198.4 x 3 = 595TB
\$101,517 = \$33,839 x 3

91% cost savings Vs. IBM
62% cost savings Vs. Industry Average

Cohesity Cost of 500TB?

shi.com (<https://www.shi.com/shop/search/hardware/data-storage?d=6d66673a27436f686573697479273b6d7372703a5b333030302c27312e373937363933313334383632333245333038277d&s=pricehightolow>)

NetApp

itprice				English ▾	Categories ▾	Top
5	FAS500F-100-C	FAS500F,12X15.3TB,Capacity Flash,-C.	\$157,534.38			
6	PS-RDSP-MIG-NAS-L-BASE-ZA	MIGRATION NAS LG,500TB,1KExp,1Sy,10Ct.	\$149,000.00			
7	PS-RDSP-MIG-SAN-L-BASE-ZA	MIGRATION SAN LG,500TB,200LUN,100Host,1Sy,6Ct.	\$119,500.00			

NetApp

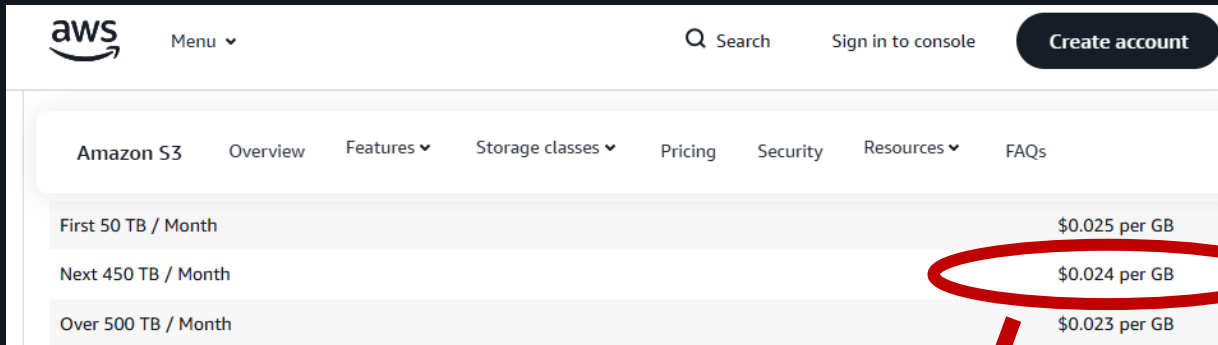
Itprice.com (<https://itprice.com/netapp-price-list/500%20tb.html>)

\$157,534 - FAS500F,12X15.3TB,Capacity Flash,-C.

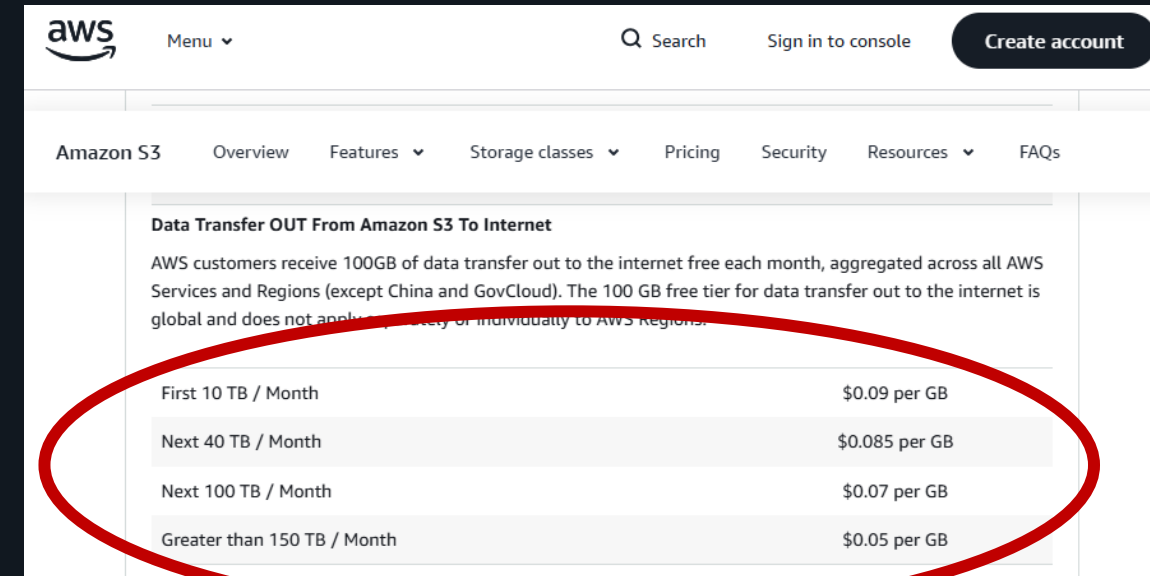
86% cost savings Vs. IBM

42% cost savings Vs. Industry Average

NetApp Cost of 500TB?



First 50 TB / Month	\$0.025 per GB
Next 450 TB / Month	\$0.024 per GB
Over 500 TB / Month	\$0.023 per GB



Data Transfer OUT From Amazon S3 To Internet	
AWS customers receive 100GB of data transfer out to the internet free each month, aggregated across all AWS Services and Regions (except China and GovCloud). The 100 GB free tier for data transfer out to the internet is global and does not apply separately or individually to AWS Regions.	
First 10 TB / Month	\$0.09 per GB
Next 40 TB / Month	\$0.085 per GB
Next 100 TB / Month	\$0.07 per GB
Greater than 150 TB / Month	\$0.05 per GB

AWS

<https://aws.amazon.com/s3/pricing/>

\$144,000 = (\$0.024 x 1,000GB) x 500TB x 12 month

87% cost savings Vs. IBM

47% cost savings Vs. Industry average

AWS Cost of 500TB?

IBM Virtual Tape Library (TS7780)

840 TB's	4 Million Virtual Volumes
2200 MB/s Performance	IBM TS7780 includes a 5 Year
320 Virtual Tape Drives	

Approximately \$3,750,000 List price

Numbers (500TB)

$$\$4,441 = \$3,750,000 / 840\text{TB}$$

$$\$2,205,882 = \$4,441 \times 500\text{TB}$$

$$\mathbf{\$1,102,941} = \$2,205,882 \times 50\% \text{ (Discount)}$$

308% cost premium Vs. Industry Average

VTL Cost of 500TB?

VMWare / VSAN 500TB Hardware Cost

X86 – Compute nodes \$?
Disk Storage \$?

- **Flexible Storage Suite - \$0.00 ?**
- **VCF / VSAN Max – \$0.00 ?**
- **Existing (VCF / VSAN Max) Cluster hardware – \$0.00 ?**

Numbers (500TB)

VMWare Cost of
500TB?

500TB of Storage Acquisition Summary

Industry	IBM 7780	Cohesity	NetApp	AWS	VMWare
\$270,000	\$1,102,941	\$101,517	\$158,000	\$144,000	\$0.00
-----	308% - Premium	91% - Savings	86% - Savings	87% - Savings	100% - Savings

Cohesity:

\$101,517 = Cohesity C6000 Series

AWS:

\$144,000 – east Public Cloud



NetApp:

\$157,534 - FAS500F, 12X15.3TB, Capacity Flash, -C.

IBM TS7780 VTL:

\$1,102,941 = \$2,205,882 x 50% (Discount)

Proactive Support Tickets

Case (Creation By : Perry Jones)

Case Type
Broadcom Standard

Business Impact

Operating System

Service Pack

Add Files or Drop Here

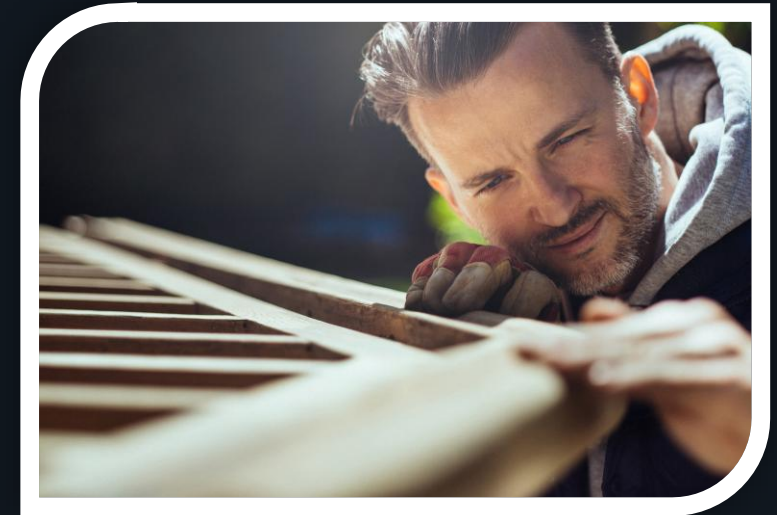
Watchers 63

- Support
- POC
- Proactive Support**
- RMA Support
- Request for Enhancement
- MF Only - ECP

responsible user
Support

Powered by **wolken**

Expert Change Planning



<http://support.broadcom.com>

Join a Mainframe Technical Exchange

Apr. 21-23, 2026

European MTE
Prague, Czech Republic

June 23-25, 2026

Virtual MTE
Held Virtually

Oct. 20-22, 2026

North American MTE
Plano, TX



- Network with peers and Mainframe technical experts
- Participate in technical how-to sessions and hands-on workshops
- No registration fee!



Contact Info and Office Hours



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www.share.org/evaluation



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