

HOW TO FUND FLASH STORAGE

PRESENTED BY
DAN KING

Director of Information Service and Support



AGENDA

Why Am I Here

How Wellmark Chose Flash Vendor

Advantages of Flash Storage

Total Cost of Ownership

First Hand Experience



WHY AM I HERE

I run enterprise services / support and infrastructure is a large part of that.

One year ago I was looking at an all Flash Storage solution which many vendors thought was unusual.

Where many companies focus on OPEX and reducing CAPEX I sometimes find it better to use CAPEX to reduce OPEX.

Different thought process always focus on the 80% of Total Cost of Ownership (TOC). (OPEX)

I requested an all Flash Storage solution because I was looking to save money on administrative overhead (OPEX) and to speed up business.

Looked at going with several smaller units but went with larger unit to maximize value.
(Dedupe, less units to manage, can scale very easily)



HOW WELLMARK CHOSE FLASH VENDOR

Challenges that Flash Storage help

- Lower costs (OPEX) – on going costs
- Speed up business
- Update current systems

Selection Process

- Extensive research of major vendors
- Request for Proposal (RFP) to major vendors
- Costs
- Supportability
- Strength of company



FLASH SOLUTION DEPLOYED

Solution Deployed

- 2 – Hitachi VSP G1000's





ADVANTAGES OF FLASH STORAGE

With Flash Storage

- Extremely fast
- Creates very little heat
- Consumes very little energy
- Speeds up databases which speeds up applications
- All Flash lowers administration

It works incredibly fast with IO (Input/Output) Applications.

Examples:

- Databases (What application doesn't have a database)
- Virtual Servers (What's not virtual)



TIERED STORAGE DRIVES – DETAIL 1

Flash Storage

- Most expensive to purchase (CAPEX)
- Less expensive to manage

Fiber Fast

- Moderately expensive to purchase

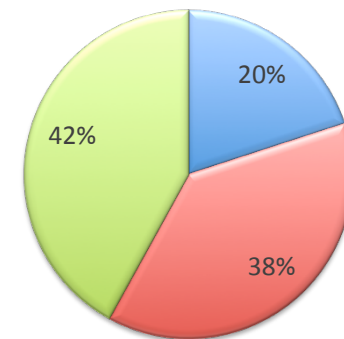
SATA

- Least expensive to purchase (Slow)

Why use Flash Storage when this does not allow for tiering?

- Haggling with business units is removed by using Flash Storage
- Hagggle Factor = \$\$\$ / Value
- Administration overhead much lower

Total Cost of Ownership (TCO)



■ CAPEX ■ On Going Costs ■ Staff

Focus on 80% (OPEX) of cost which allows for ease of management and ease of business.



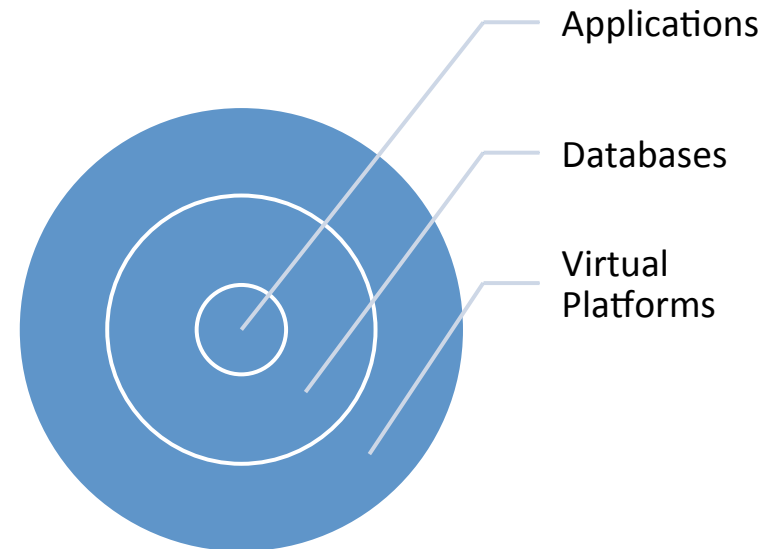


TOTAL COST OF OWNERSHIP– DETAIL 2

Performance increases realized

- Databases are generally the #1 item that increases in speed. (Most applications run on databases.)
- Anything under virtual platform also increases speed. (What's not virtual)

Our organization has around 1,500 databases and on avg those have increased in speed by 50%.

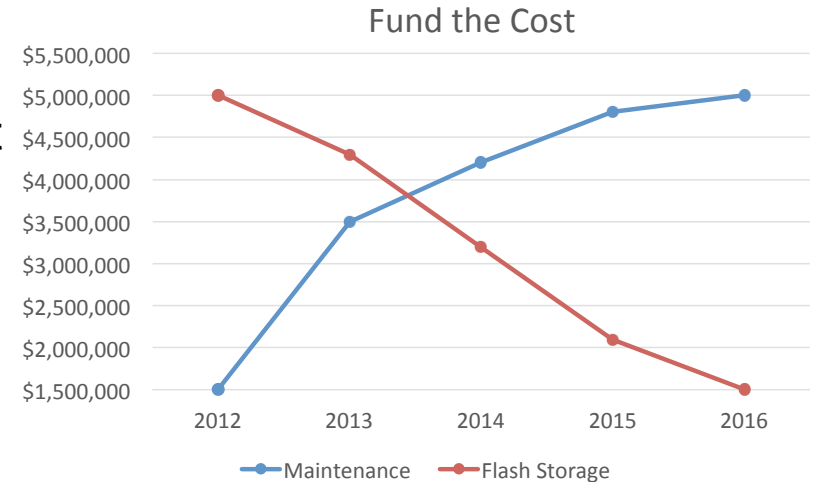


Does everybody working faster save money / have value?



HOW DO YOU FUND THE FLASH STORAGE AND WHY NOW

- Forecast over years not yearly
Example:
\$75,000 yr. If you look over 5 yrs you get
\$375,000
- Add maintenance cost
- Aggressive RFP
- Maintenance costs are rising
- Flash Storage costs have come down significantly



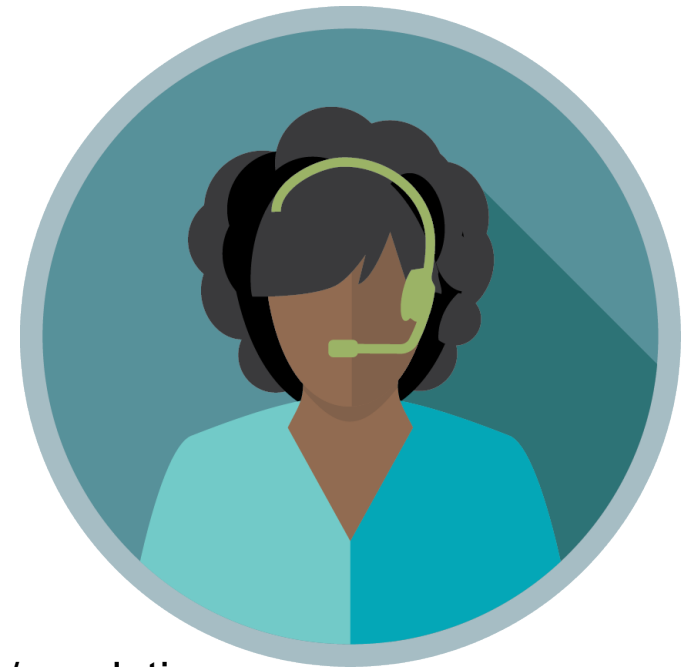
Which do you think will get you more leveraging \$75,000 or \$375,000?



EXAMPLE OF HOW YOU COULD SAVE MONEY

200 employees answering calls
For every extra 30 secs on a call 5 employees would have to be added to provide the same service levels.

5 employees at \$50,000 = \$250,000 soft cost or hard cost?



Just imagine if you sped up all applications / services / analytics



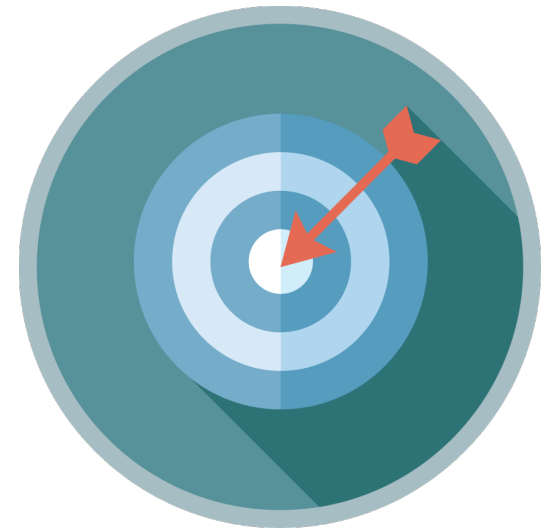
FIRSTHAND EXPERIENCE

Security ran on a database

- Processes took several hours to run on a day to day production side which is very slow and processes were dying
- Moved to Flash Storage and the processes increased performance by 1000%

Core systems integrated

- The integrated data had a maximum amount of time to load from the old system into the new system and was running at capacity
- Moved the process to Flash Storage and the process increased performance by 450%

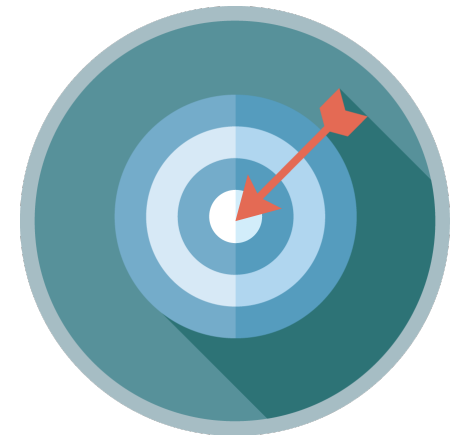




FIRSTHAND EXPERIENCE

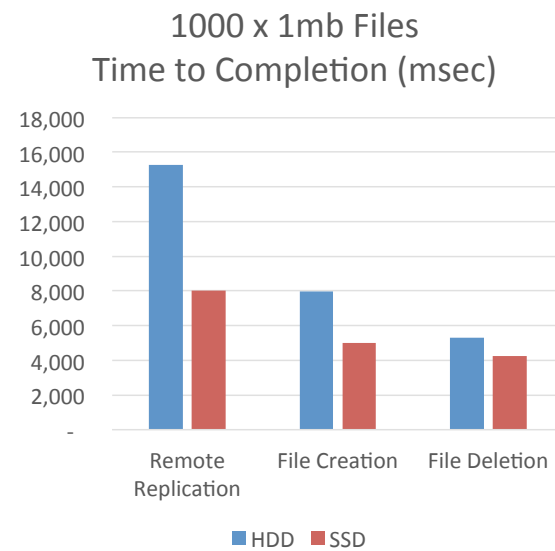
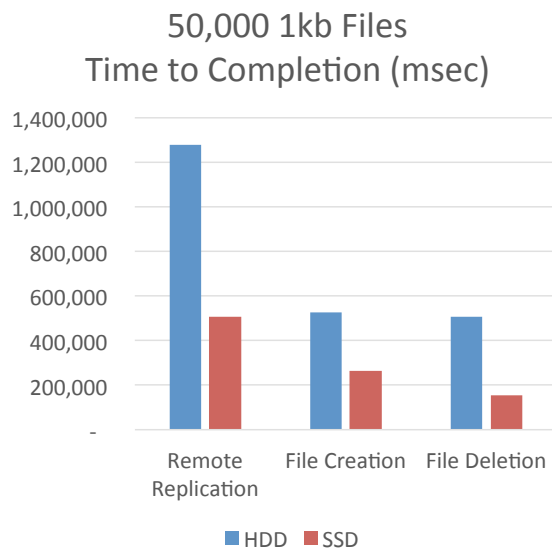
Timeout issues observed on processes that were disk read/write intensive causing several applications to not function properly

- Multiple database backups took several hours to run weekly
 - Moved to Flash Storage and the backups increased performance by 440%
- An import job took several minutes to run on a day to day production side
 - Moved to Flash Storage and the import job increased performance by 352%
- Reports took several minutes to run on a day to day production side
 - Moved to Flash Storage and the reports increased performance by 2200%





FIRSTHAND EXPERIENCE





PHILOSOPHY- GOING AGAINST THE GRAIN

Standard Philosophy

Most people like to focus on reducing CAPEX
generally this increases OPEX

Multiple analysis provided by several companies overall Total Cost of Ownership (TOC) shows my area has a much lower cost overall than companies of the same/similar size by going against the grain of traditional philosophies.

Going against the Grain

I like to use CAPEX to reduce OPEX