Flash Storage Drives a Better Bottom Line
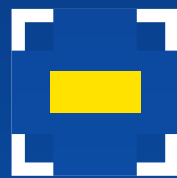
Ivan Iannaccone
Director of Product Management HPE 3PAR

Greater Capacity + Greater Performance + Decreased TCO = BIGGER IDEAS

Bigger Workloads

Time & Productivity

Funds for Innovation

Competitive Advantage

How can flash transform your datacenter and business?

Inside the datacenter

Complex storage performance problems typically disappear
- This frees up time which can be put to better more rewarding use

Reduced investment in server CPU upgrades and server scaling
- Reducing application based licensing fees – the gift that keeps on giving!
- *"It's not just the cheques you write!"* [Sony]

Decreased storage rack space requirements
- Freeing up valuable space on the datacenter floor

Reduced power and cooling costs
- Typically by up to 70%

How can flash transform your datacenter and business?

Outside the datacenter

Permanently freed up OPEX funds

- Fund that can be diverted into project investments instead

Improved workforce productivity

- Employees wait less for systems, making them more efficient

Improved customer satisfaction

- Customers using systems based upon flash storage will typically enjoy a better experience – with less wait time and less frustrating "spinning wheels" – and they will be more likely to return to that business or portal in the future

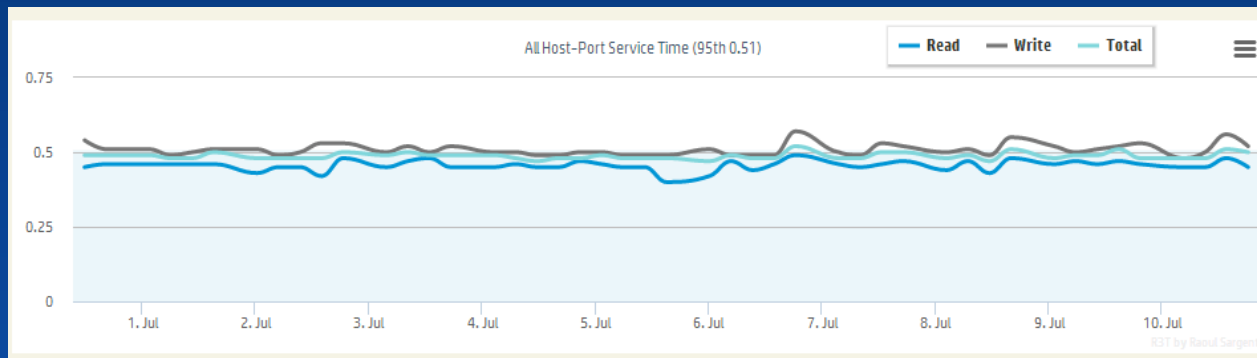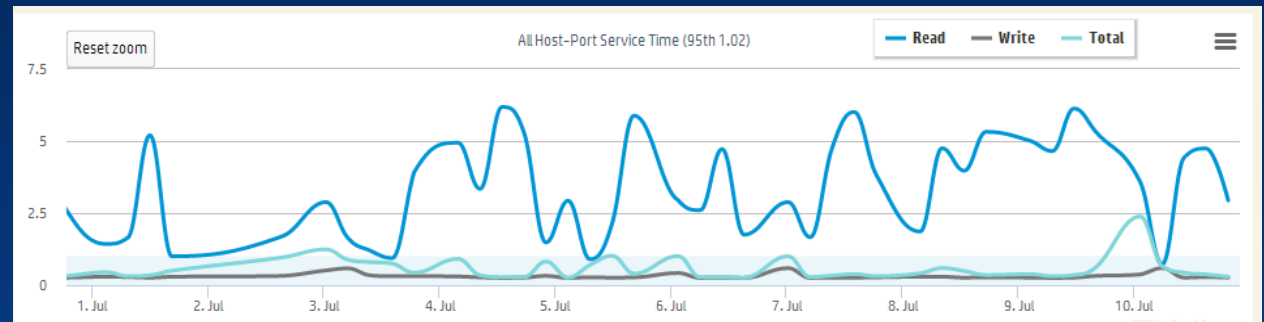## Reduced *time-to-decision* in analytics apps

- Time is money! access to data analytics results faster could prove invaluable and be that differentiator between a winner and a loser!

Consistent performance creates trust and builds loyalty

Inconsistent read latency typical of a spinning media based array
→ **Promotes dissatisfaction**
→ **SLA almost impossible**

Predictable consistent sub-millisecond latency of an AFA
→ **Improves productivity**
→ **Builds trust and loyalty**
→ **SLA very easy to enforce**

Overall Savings (250TB usable)

Traditional Tier 1

98U rack space

Power: 5,800 Watts

Heat: 30,000 BTU/hr

Cost > $1.5M

HP 3PAR 8450

4U rack space

Power: 1,252 Watts

Heat: 3,000 BTU/hr

Cost < $0.5M

95% Lower footprint

90% Less heat

75% Less power

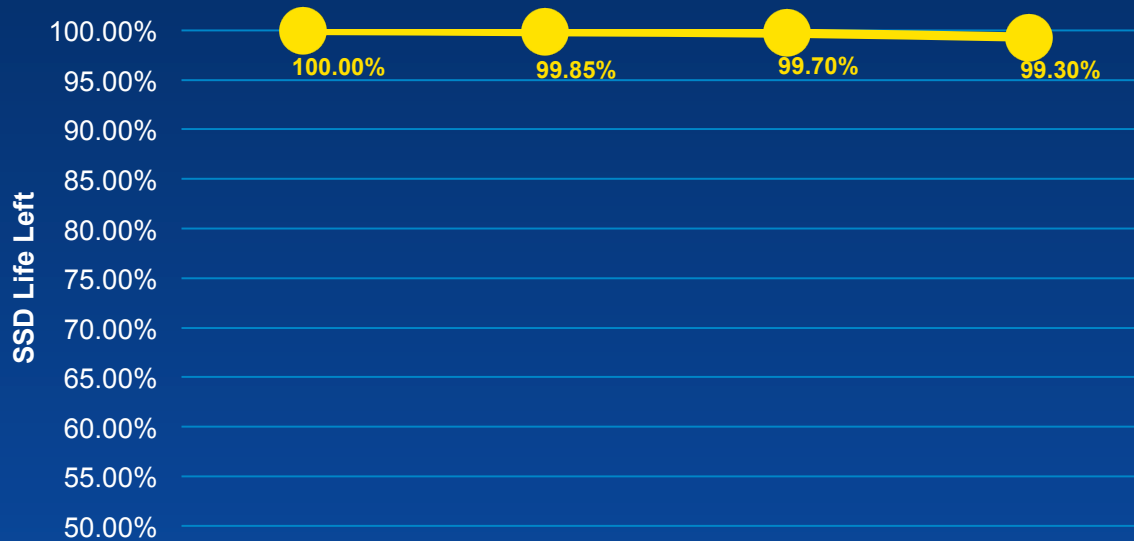**55%** Lower CAPEX

3x Lower OPEX

Data Reduction

Here are some data points from HP 3PAR telemetry data against All-Flash Arrays:

- Up to **75% reduction** in storage foot print when migrating from **fat storage** to 3PAR thin volumes

- 43% percentage average thin volume utilization across the install base. This translates to about **57% savings** for customers that use thin volumes.

- As per July 2016 the average **deduplication** ratios across all production system is **2.1:1**
  - This is calculated as data written to the volumes by the hosts' vs what the storage array is allocating.
  - Does not include zeroes.
  - Includes production systems (no POC or internal systems) and ratios between and including 1 and 20.

- Over **1 Exabyte** of savings from using 3PAR StoreServ efficient snapshot technology.

A picture is worth a thousand words …

SSD life left over 12 months

SSD Life Left

100.00% · 99.85% · 99.70% · 99.30%

Based on measured Field Telemetry Data of the 3PAR SSD installed base

HPE 3PAR All-Flash customers…in their own words

"What has deploying 3PAR All-Flash meant to you?"

"Revolutionized the way we look at things. All-flash has given us the opportunity to look at the things that we've never looked at before."

Frederic Van Haren
CTO
Nuance Communications

"Savings, and I don't just mean dollars. Datacenter floor space we've saved. Power and cooling savings. Just saving developers' time, too."

Curtis Letch
Manager
Server & Cloud Services

"Given us the ability to meet the needs' of our business and members and also allowed us to compete."

Trevor Jackson
Director
SOCAN

"Providing our doctors and nurses what they need, which in turn delivers better patient care. That's what it's all about for us…better patient care."

Troy Cailteux
System Administrator
Riverside Healthcare

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Music

SOCAN
music. people. connected.

YES, FINE, YOU CAN STILL CALL YOURSELF "D.J. GREG" EVEN IF THE DISKS ARE NO LONGER SPINNING.

Society of Composers, Authors and Music Publishers of Canada (SOCAN), a non-profit group that tracks and distributes royalty payments to their members when songs are played on the radio, TV or, increasingly, through streaming services.

Traditionally, radio and television stations would send SOCAN their playlists (each in a different format) and it would be up to SOCAN to aggregate that data and determine who should be paid and how much

Their legacy storage could not keep up so they turned to 3PAR All-Flash. Immediately their batch process times increased by 93% and their time to calculate and disperse royalties went from weeks to days. That was huge for them since they were having difficulty meeting their SLAs with their members. And its huge for the rest of us because it means artists get paid and paid on time and put more music on streaming services.
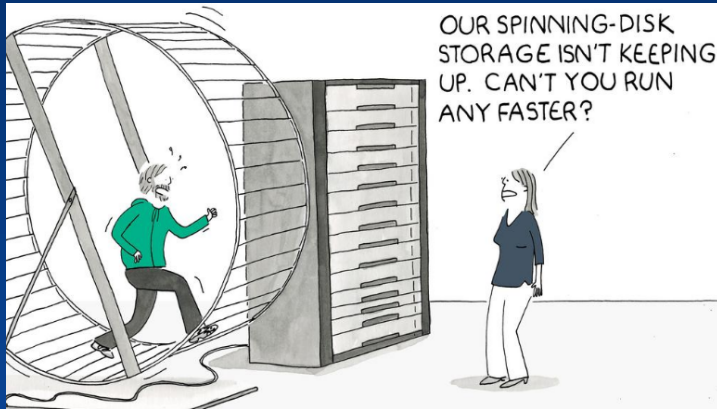
Gaming

Sony Entertainment Network (SEN) provides access to services, including PlayStation Network for games.

Sony's legacy, three-tiered storage environment was running out of capacity and compute and was ill equipped to address projected growth.

"We literally did a side-by-side bake-off in our data center, utilizing real workloads to evaluate **performance, scalability, resiliency**, and **TCO**… when we looked at the detail level in the four categories mentioned, 3PAR hit the ball out of the park."
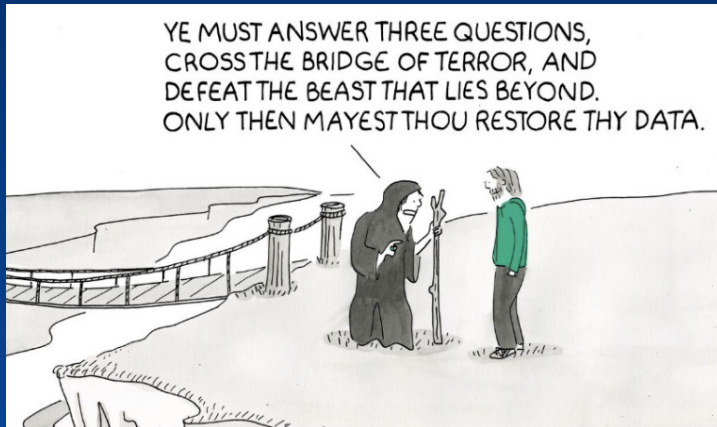
They were able to:

- Deploy flash for spinning media prices
- Achieve a 5-to-10 fold performance improvement
- Consolidate 7 racks of legacy storage to just a quarter of a single rack of 3PAR All-Flash Storage

Education

YE MUST ANSWER THREE QUESTIONS, CROSS THE BRIDGE OF TERROR, AND DEFEAT THE BEAST THAT LIES BEYOND. ONLY THEN MAYEST THOU RESTORE THY DATA.

Looking at colleges? The digital age has completely revolutionized the process. Classes have transformed, too.

University of Auckland, the largest university in New Zealand, with about 42,000 students and about 5,000 staff.

In the past, the University of Auckland ran a data center that was uni-directional. This caused problems because losing power to their data center would take down some of their applications and servers.

That's why the University chose 3PAR All-flash storage with 3PAR Remote Copy and Peer Persistence in support of a stretched VMware Metro Storage Cluster between two data centers.

The right architecture

All-flash is rapidly becoming mainstream for all businesses	Cost and reliability are key drivers in fueling this change	Invest by moving to newer and more cost effective media	An architecture that can take advantage of this is critical

"There can be economy only where there is efficiency"
- Benjamin Disraeli

Architecture. Matters

HPE 3PAR StoreServ's greatest competitive advantage

Architecture Whitepaper : http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA3-3516ENW.pdf
Flash Optimized Whitepaper : http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA4-7264ENW.pdf
Thin Technologies Whitepaper: http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA3-8987ENW.pdf
Priority Optimization (Storage QoS)Whitepaper: http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA4-7604ENW.pdf