A periodic newsletter with links to blogs and industry news for subscribers to the Architecting IT blog.

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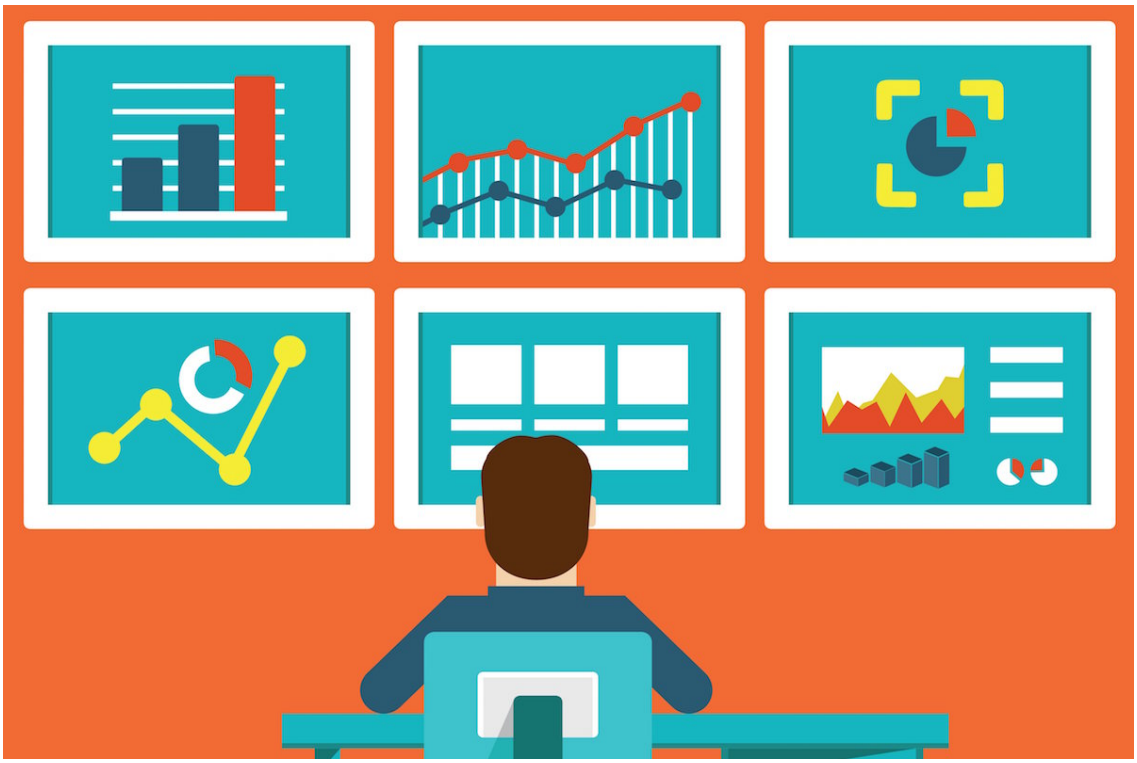

Reviewing the Value of Benchmarks

I recently wrote a blog post talking about DataCore's achievement of reaching 5.1 million SPC-1 IOPS and whether it was unfair that the configuration was highly cache biased. Certain people in the industry (especially those at failing competitors) decided it was unfair and that the results should be discounted. Within 24 hours of submission, the entry had been withdrawn by SPC as it wasn't compliant with the "rules" due to the lack of UPS capabilities. (see this article from the Register). The following day the spec was amended and duly resubmitted with UPS details.

This process highlights a number of interesting issues. First, SPC testing results, accurate or not, still matter to vendors. I expect it's likely a competitor pointed out the discrepancy to SPC, as the results of these tests were so high profile in the first place. Putting a storage device in for SPC performance

testing is an expensive business and vendors want to get it right first time. Whether the lack of UPS was an oversight or not, will remain conjecture, but its relevance can be debated (more on that in a moment).

The second point is that SPC represents the storage industry at a distant point back in time. Traditional array storage (the monolithic and dual-controller kind) is on the decline, with the adoption of flash rapidly changing the industry. Distributed scale-out storage solutions like SolidFire mean we don't need UPS backup at the array level, but can fall back to the protection offered by the data centre and distributing writes across multiple nodes. This idea is extended by the use of erasure coding, where data can be recovered from partial fragments of encoded data, even across geographically dispersed environments.

Third, there's an assumption that all storage has to be based on an external shared array model. This is simply no longer the case. Software combined with commodity hardware means we can build our own hardware solutions (or use products like Virtual SAN), customised to the environment we need. This has given rise to the hyper-converged market, incorporating storage with servers for cost savings and operational efficiency.

If costs dictate we can efficiently put 90-95% of the data we need to access, in cache or flash, then that's a reasonable and acceptable configuration. Media prices continue to decline and using more DRAM and flash (then even 3D-XPoint) will mean all active data will sit in some form of directly addressable memory. Is that still cheating?

As the storage industry moves forward, testing regimes need to adapt. We can't assume the single monolithic storage array will be the platform of choice for any business, large or small. That part of the storage business will shrink and become as niche as the mainframe. Instead we will be installing distributed systems, open-source platforms, software defined solutions and using the cloud. Most if not all of these use-cases can be run on custom hardware. where the customer chooses the platform for deployment. The process of testing will therefore become much more difficult, unless of course all of these vendors agree to test their storage on a single consistent hardware configuration.

What DataCore's SPC test highlighted more than anything is that there are still significant performance improvements to be made by rewriting storage software. I wonder how many of today's solutions could ameliorated by reviewing the code and rewriting core components? Possibly the majority. Don't beat DataCore up for showing the issues that still exist in storage.

What do you think?

Chris Evans

New Architecting IT Blog Posts...

- RIP XtremIO? (15 July 2016)
- Windows Containers - Making Windows Server Relevant Again (19 July 2016)

News Worth Reading...

Click on the links to read the full story.

The Register: Google and Microsoft are playing catchup with AWS's cloudy power

AWS continues to dominate the cloud infrastructure market but Microsoft and Google are growing faster than the book-punting behemoth, research from Canalys shows...

The New Stack: DigitalOcean Launches Block Storage Service for Storage-Hungry Cloud Users

Responding from strong customer demand, DigitalOcean is expanding its range of cloud infrastructure services by adding a new block storage offering.

The service will use solid state drives (SSD), and will cost $0.10/GB per month....

TechCrunch: Google launches a more scalable and robust Kubernetes

Google today announced the next version of Kubernetes, its open source orchestration service for deploying, scaling and managing software containers.

The focus of version 1.3 is on providing Kubernetes users with a more scalable and robust system for managing their containers in production....

BBC News: Major win for Microsoft in 'free for all' data case

The US government cannot force Microsoft to give authorities access to the firm's servers located in other countries, a court has ruled.

The decision is being seen as a precedent for protecting the privacy of cloud

computing services....

The Register: IaaS revenue to triple by 2020, to $43.6bn

Infrastructure as a service sold by public clouds will become a US$43.6 billion market by 2020, according to abacus-rattling firm IDC's new Worldwide Public Cloud Infrastructure as a Service Forecast, 2016-2020....

VentureBeat: SoftBank buys mobile chip kingpin ARM Holdings for $32 billion

Japan's SoftBank Group is near a deal to purchase ARM Holdings for $32.4 billion in cash, according to a reports in the New York Times, Bloomberg and the Wall Street Journal. Both media outlets cited sources familiar with the matter....

Tech Trader Daily: Amazon AWS, Microsoft Azure 'Destroying' Cisco, NetApp, Etc., Says Global Equities

Global Equities Research's Trip Chowdhry today warns in a note that ***Amazon.com****'s (AMZN)* ***AWS*** *cloud computing service, and* ***Microsoft****'s (MSFT)* ***Azure*** *cloud service, are "destroying" traditional enterprise technology companies, including* ***NetApp*** *(NTAP),* ***Cisco Systems****(CSCO),* ***Juniper Networks*** *(JNPR), and* ***Pure Storage*** *(PSTG)....*

Ars Technica: Windows surprisingly strong in Microsoft's $20.6B fourth quarter

Microsoft posted revenue of $20.6 billion in the fourth quarter of its 2016 financial year, a decline of 7 percent year on year. Operating income was $3.1 billion, compared to a $2.1 billion loss in the same quarter last year. Net income was also $3.1 billion, as compared to a $3.2 billion loss, and earnings per share were $0.39.

Startup Spotlight...

StorageOS is a new UK-based startup looking to deliver persistent storage for containers, deployed using containers. The company was founded by Alex Chircop, Chris Brandon and Simon Croome. The StorageOS solution is both storage for container-based applications and deployed as containers, in a deployment method similar to the way hyper-converged solutions offered virtual machines and storage deployed from VMs on the same infrastructure.

StorageOS will offer a free Developer edition as well as a paid-for Professional

subscription, based on capacity - currently $29.95 per month per TB of capacity used. The Developer and Professional editions differ in features supported (for example, Developer edition doesn't include snapshots).

More Information:

- Corporate Website
- Pricing Details
- Twitter account