



Layers of Depth: Data as a Vector

Joseph George, HP Director of Big Data Solutions

It all started with an innocent CrowdChat...



It all started with an innocent CrowdChat...



s i l i c o n ^ n g l e
where computer science meets social science

ABOUT THE SILICONANGLE NEWS

{SILICON ANGLE}

- CLOUD
- MOBILE
- SOCIAL SERVICES
- DEVOPS
- RESEARCH

TOPICS:

- ALL
- BIG DATA
- SLI

EVENT ANGLE:

- theCUBE LIVE
- theCUBE ON-DEMAND

SiliconANGLE » Recognizing The Layers Of Critical Insight Data Offers

Recognizing the layers of critical insight data offers

JOHN FURRIER | MARCH 11TH

READ MORE

Tweet 67 +1 5 Like 8 Share 32

Data is an interesting concept. At a recent [CrowdChat #RealDataStories](#), a crowdsourced conversation which inspired this awesome blog post by [Joseph George and Leo Leung](#), instantly created a dialog about the changing server based storage, big data, emerging technology and customer needs. Then the topic developed into a forum on data and its inherent qualities. This notion of Data Vector emerged. Of course I started with Data Lake vs Data Ocean argument meaning that Data is not as simple

DATA GRAVITY

DATA WITH CONTEXT GAINS MASS AND GRAVITY

$$\text{Data Gravity} = \frac{(\text{Data} \times \text{Velocity}) \times \text{Retention}}{(\text{Cost} + (\text{Access} / \text{Transfer}))^2}$$

DATA LOCATION

DATA IS MORE MEANINGFUL WHEN LOCATED AROUND OTHER DATA

"The guy with the most data wins."
Tim O'Reilly

DATA FOREVER

COST OF STORAGE GOES TO ZERO



The Many Angles to Data...

DATA GRAVITY

DATA HAS GRAVITY.

Data Gravity

$$\frac{\left(\begin{array}{c} \text{Data} \\ \text{Mass} \end{array} \times \begin{array}{c} \text{Application} \\ \text{Mass} \end{array} \right) \times \begin{array}{c} \text{Number of} \\ \text{Requests per} \\ \text{second} \end{array}}{\left(\begin{array}{c} \text{Latency} \\ \text{in} \\ \text{seconds} \end{array} + \left(\begin{array}{c} \text{Average} \\ \text{Request} \\ \text{Size in MBs} \end{array} / \begin{array}{c} \text{Bandwidth} \\ \text{in MBs per} \\ \text{second} \end{array} \right) \right)^2}$$



The Many Angles to Data...

DATA GRAVITY

DATA HAS GRAVITY.

Data Gravity

$$\frac{\left(\text{Data Mass} \times \text{Application Mass} \right) \times \text{Number of Requests per second}}{\left(\text{Latency in seconds} + \left(\frac{\text{Average Request Size in MBs}}{\text{Bandwidth in MBs per second}} \right) \right)^2}$$

DATA LOCATION

DATA IS MORE MEANINGFUL WHEN LOCATED AROUND OTHER DATA

“The guy with the most data wins.”

Tim O'Reilly



The Many Angles to Data...

DATA GRAVITY

DATA HAS GRAVITY.

Data Gravity

$$\left(\text{Data Mass} \times \text{Application Mass} \right) \times \text{Number of Requests per second}$$

$$\left(\text{Latency in seconds} + \left(\frac{\text{Average Request Size in MBs}}{\text{Bandwidth in MBs per second}} \right) \right)^2$$

DATA LOCATION

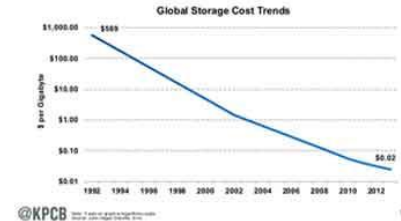
DATA IS MORE MEANINGFUL WHEN LOCATED AROUND OTHER DATA

“The guy with the most data wins.”

Tim O'Reilly

DATA FOREVER

WHY DELETE IF COST OF STORAGE IS VIRTUALLY ZERO?



HP ProLiant SL4540 is built for the data explosion

- **Unprecedented drive capacity** with 3.24 PB in a single rack ¹
- Delivers **scalable performance** across multiple drive technologies (SSD, SAS or SATA)
- **Energy savings** with shared cooling and power and **reduced complexity** with fewer cables
- **Flexible compute**, up to 3 compute nodes

<http://techcomm.cca.hp.com/whitepapers/2013/TC1302960.pdf>



UP TO 27 Compute nodes per rack	UP TO 540 Drives per rack	UP TO 500K IOPS per server	UP TO 3.2PB per rack
---	-------------------------------------	--------------------------------------	--------------------------------

HP and Scality: A Winning Combination

- **HP's energy efficient SL4500 for cost savings coupled with the Scality Ring for improved economics**
- **Focus on innovation**
 - HP SL4500 – the worlds first purpose-built server for big data
 - Scality Ring – **utilize new storage technologies**
- **HP/Scality engineering co-development for continued joint focus on innovation**





BigDataEcosystem@HP.com

www.hp.com/go/ProLiant/BigDataServer