



IBM BusinessConnect 2014

A New Era of Smart

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IBM BusinessConnect 2014

A New Era of Smart



Is your IT Hardware Infrastructure ready for this new era of data-centric computing for Cloud, Analytics, Mobile and Social Business?

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Session Abstract

This session provides Business and IT leaders five questions to ask to assess the readiness of their IT Infrastructure to successfully support these new business solutions and will highlight some of IBM's latest offerings developed specifically to address these requirements. Particularly highlighted will be IBM's new Power 8 Systems, announced last week, and described by one analyst as the first systems truly designed for Big Data. Also highlighted will be the answer to many performance challenges - IBM's Flash technology.

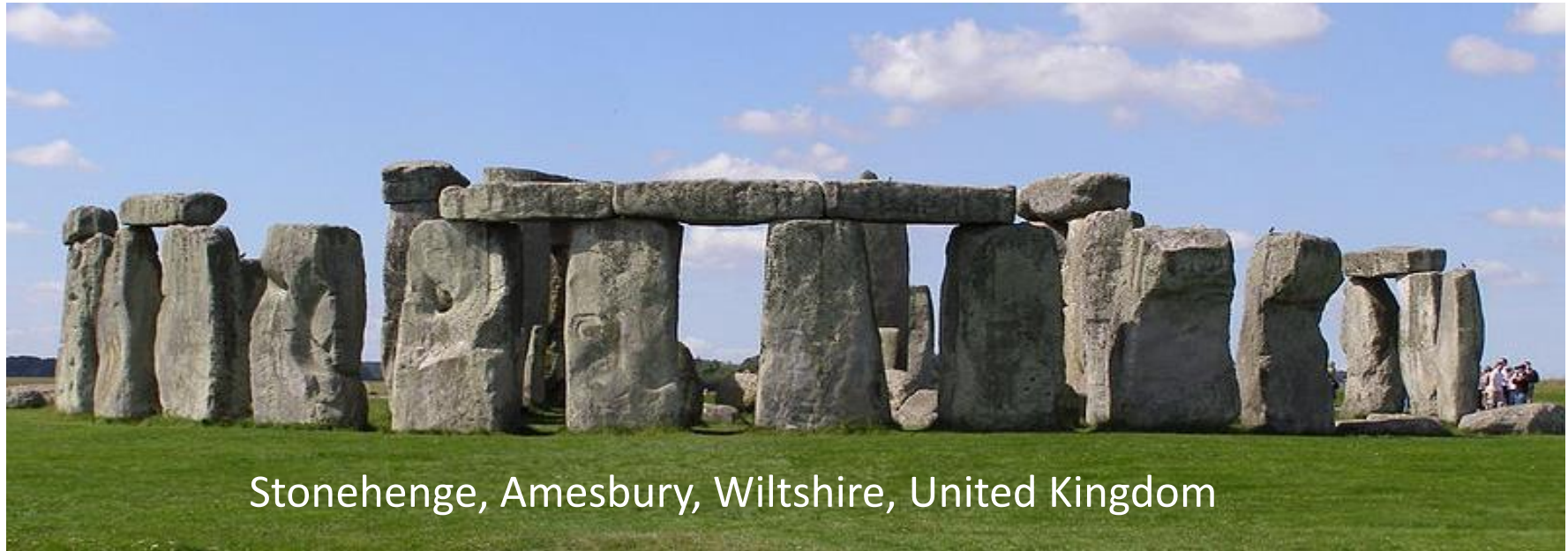




Setting the Scene

“The stone age came to an end,
not because we had a lack of stones”

Sheikh Yamani, ex Saudi Oil minister, 2000



Stonehenge, Amesbury, Wiltshire, United Kingdom



“Perhaps the first commercial processor truly designed for really big data”
Microprocessor Report 2nd September 2013



+ \$2Bn =

POWER8



“..[the] point of this new IBM system is its potential to provide unusually significant *business value* to organizations running mission-critical, transaction-intensive applications.”
Enterprise Strategy Group (ESG) Paper October 2013

IBM FlashSystem



+ \$1Bn =





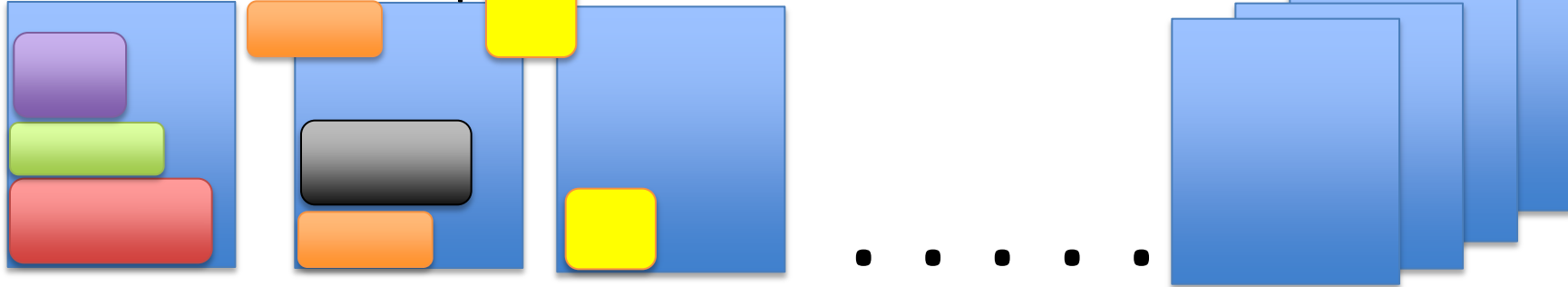
Five Questions

1. How flexible is our infrastructure?
 - If our workload profile changes how quickly can we respond?
2. How responsive are our systems?
 - Can they cope with real time responses to big data?
3. How secure is our infrastructure?
 - Are we using components with low risk of vulnerabilities?
4. Are we getting a good return on our investment?
 - What utilization levels are we getting on our servers and storage?
5. Have we asked IBM for their view?

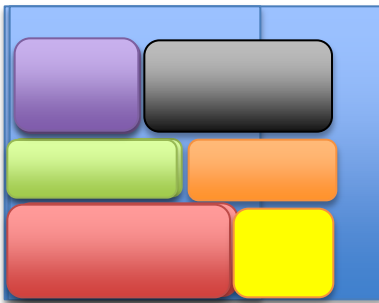


1. How flexible is our infrastructure?

Traditional Virtualised Approach



IBM Approach with Power Systems




Achieved in real time with no outage

Enabled by some pretty cool capabilities:

- IBM PowerVM Hypervisor
- IBM Capacity on Demand licencing
- IBM Power Enterprise Pools
- IBM Power VC
- IBM Smart Cloud Entry built on OpenStack



2. How responsive are our systems?

Chip specs	Intel Feb 2014 Ivy Bridge Ex	IBM Oct 2012 Power 7+	IBM POWER8 	Implication
Clock Rate	2.8 - 3.4GHz	3.1-4.4GHz	3.02 -4.15GHz	Faster = better performance
Cores / Socket	6-12	8	6-12	More = more workloads
Max Threads	2	4	8	More = more throughput
Memory bandwidth	68-85GB/s	100-180GB/s	230-410GB/sec	More = more responsiveness
Peak i/o	32 GB/s	40 GB/s	96 GB/s	More = more big data



2. How responsive are our systems?

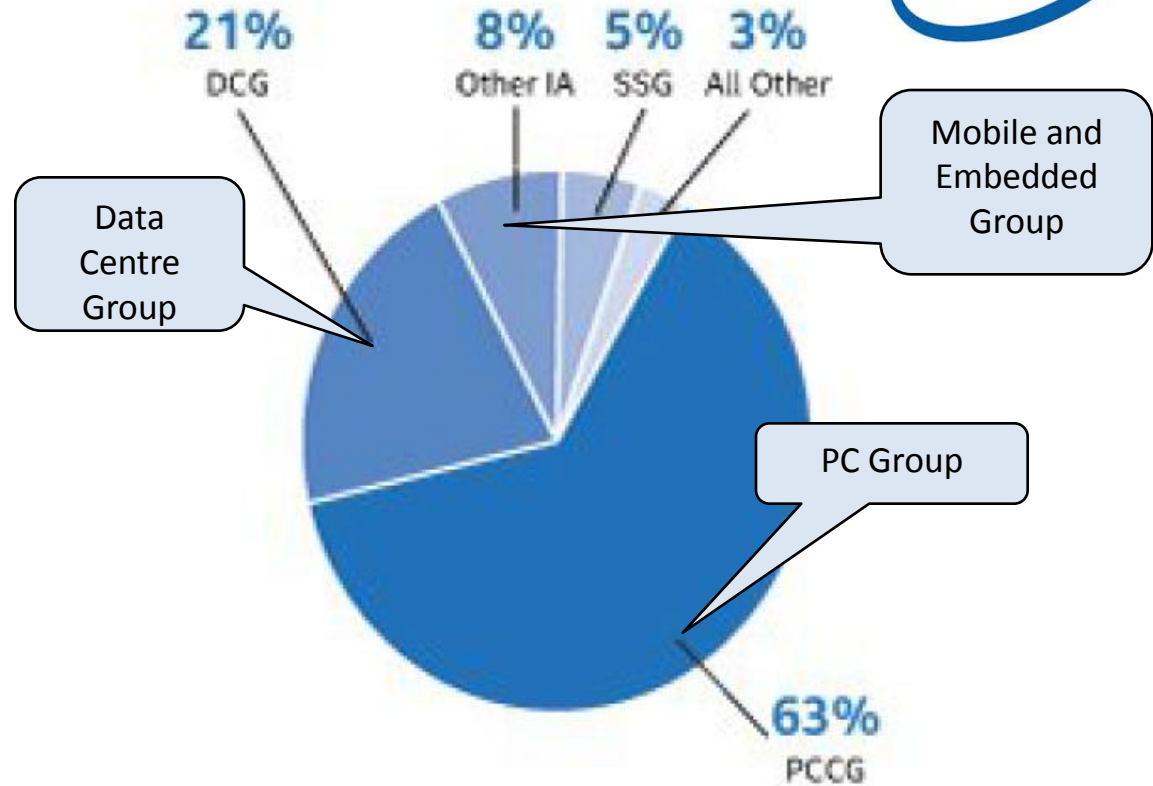


Intel Processor Variants
PC and Mobile

DT – Desktop
MB – Mobile
H – Mini ITX
ULT – Ultrabook
ULX – Ultrabook Extreme

Intel Processor Variants
Server

EP – Server
EX – Server Extreme



Total: \$52,708

Intel: % of Revenue by Major Operating Segment 2013



2. How responsive are our svstems?



“By using IBM FlashSystem to accelerate our insights into customer demand, we’re better placed than ever before to offer unbeatable levels of service”

“Installing the FlashSystem took just an hour or so—it really is plug-and-play.”
Tom DeJuneas, Infrastructure Manager, Coca-Cola Bottling Co. Consolidated

Video available at
<http://www.youtube.com/watch?v=vRBZaARUW9g>

Challenge

Improve forecasting without increasing time-to-insight.

Solution

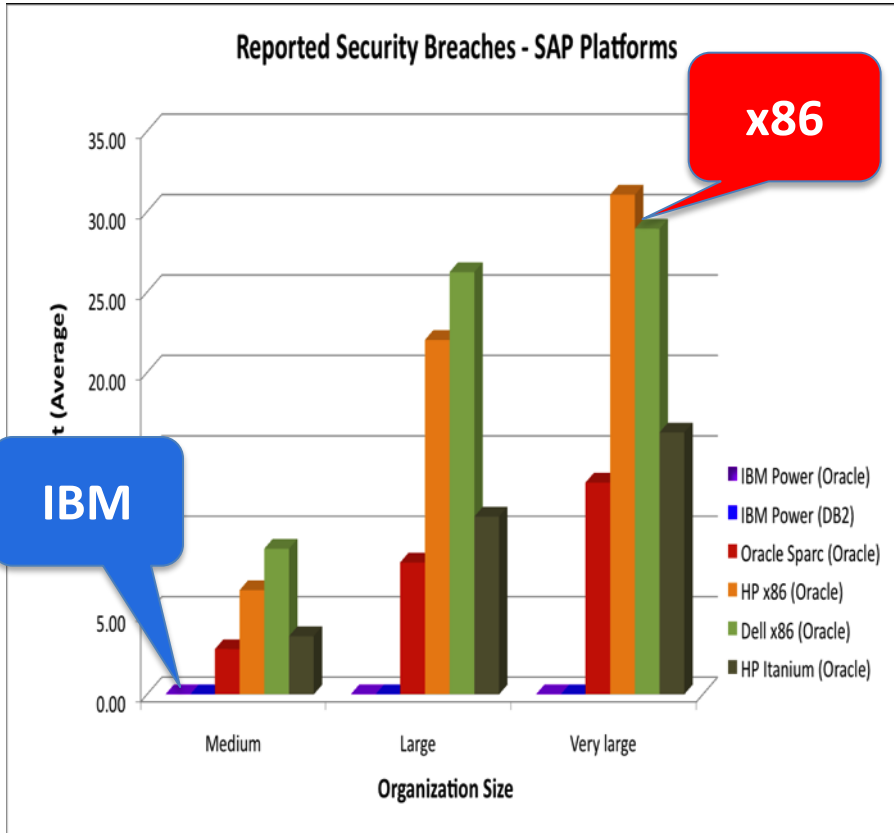
- IBM FlashSystem

Benefit

- Accurate to the store - next day delivery.



3. How secure is our infrastructure?



IBM

x86

Source: Business Impacts on SAP Deployments; Solitaire Interglobal Ltd (All rights reserved); January 2013.

0
reported security breaches with SAP on Power

Search term or Hypervisor (unfiltered)	NIST NVD Results	Processor Architecture
VMware	640	x86
Xen	153	x86
VMware ESX	95	x86
KVM	58	x86
VMware vSphere	48	x86
Windows Server 2012	43	x86
Oracle VM	24	x86
Hyper-V	3	x86
PowerVM	0	POWER

Source: National Vulnerability Database, <http://nvd.nist.gov/home.cfm>, July 2013.

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reported security breaches on the PowerVM hypervisor



4. Are we getting a good return from our investment?

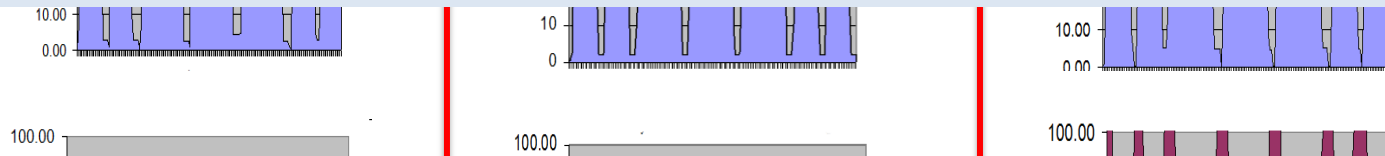
PowerVM on Power

VMWare on x86

Oracle VM on Sparc

Implication:

- ⇒ Power 8 typically delivers around 4 x more workload than equivalent servers.
- ⇒ Fewer servers needed
- ⇒ Fewer cores needed => Lower software licencing costs



65% Utilization Guaranteed vs. industry ave. of 30-40%





■ Low Priority Workload
■ High Priority Workload




4. Are we getting a good return from our investment?


Is the technology “open” is there choice of vendor?



Some of the 26 Members



OpenPower Foundation reference server board



- 1200 Developers produced “icehouse” release in April
- 500 IBMers working on Opensource project
- 2nd largest contributor to latest Openstack release
- Security focus: federated identity and Auditing enabling threat analysis

<http://thoughtsoncloud.com/2014/04/guide-openstack-icehouse-release/>



Have we asked IBM for their view?

- Can we consolidate our infrastructure and increase utilisation to save cost?
- Can we use Flashsystems to increase performance and responsiveness and enable new business services?
- Can we virtualise our servers, storage and networking to increase flexibility?
- Should we using systems optimised for Big Data?

IBM Power8 Announced April 28th

Deliver insights



50x faster¹

Experience IBM Watson™ technology



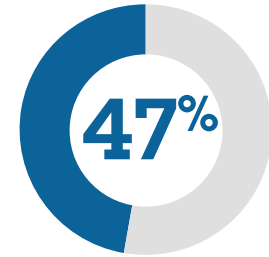
5x faster²

Support mobile big data apps with



1 vs 24

Achieve more than twice the throughput at



lower cost³

Designed for Big Data

Superior Cloud Economics

Open Innovation Platform

2X performance vs x86¹

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Open innovation to put data to work

