Websphere - Smarter Software For A Smarter Planet

Introduction

Welcome And Introductions

Thanks for coming today !!

Your IBM technical team welcomes you.

Introductions……..

Copies of this presentation are available:

http://www-01.ibm.com/software/hu/events/CPOevent20100614/index.html

We Are Living In A New Landscape
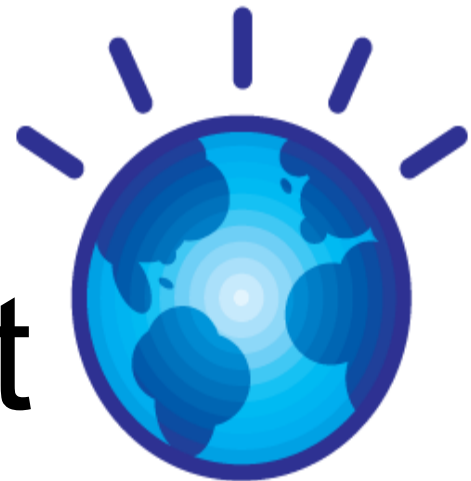
Instrumented
Interconnected
Intelligent

There are one billion transistors per human, each costing one ten-millionth of a cent
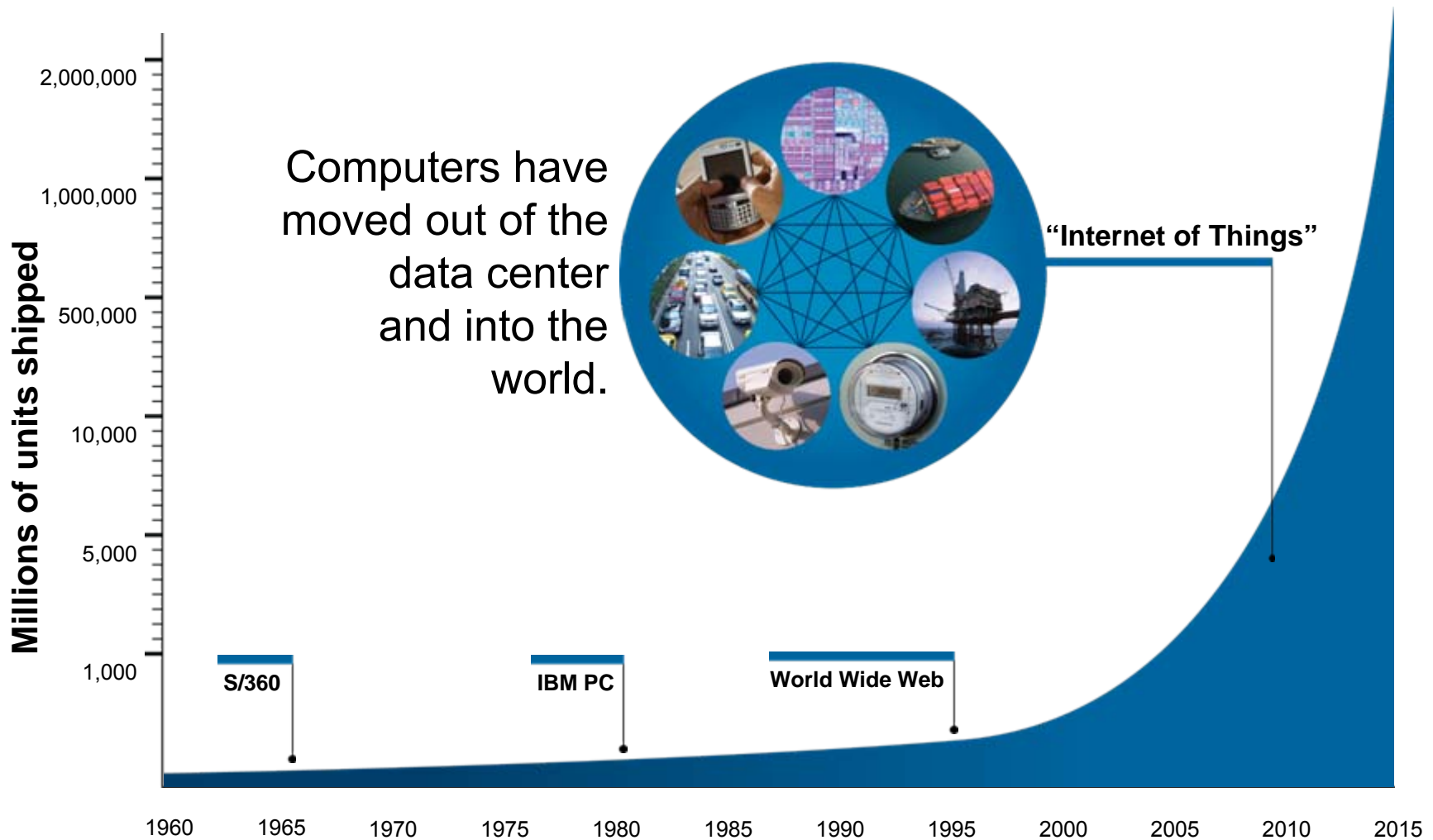
The information created by a trillion networked things grows exponentially

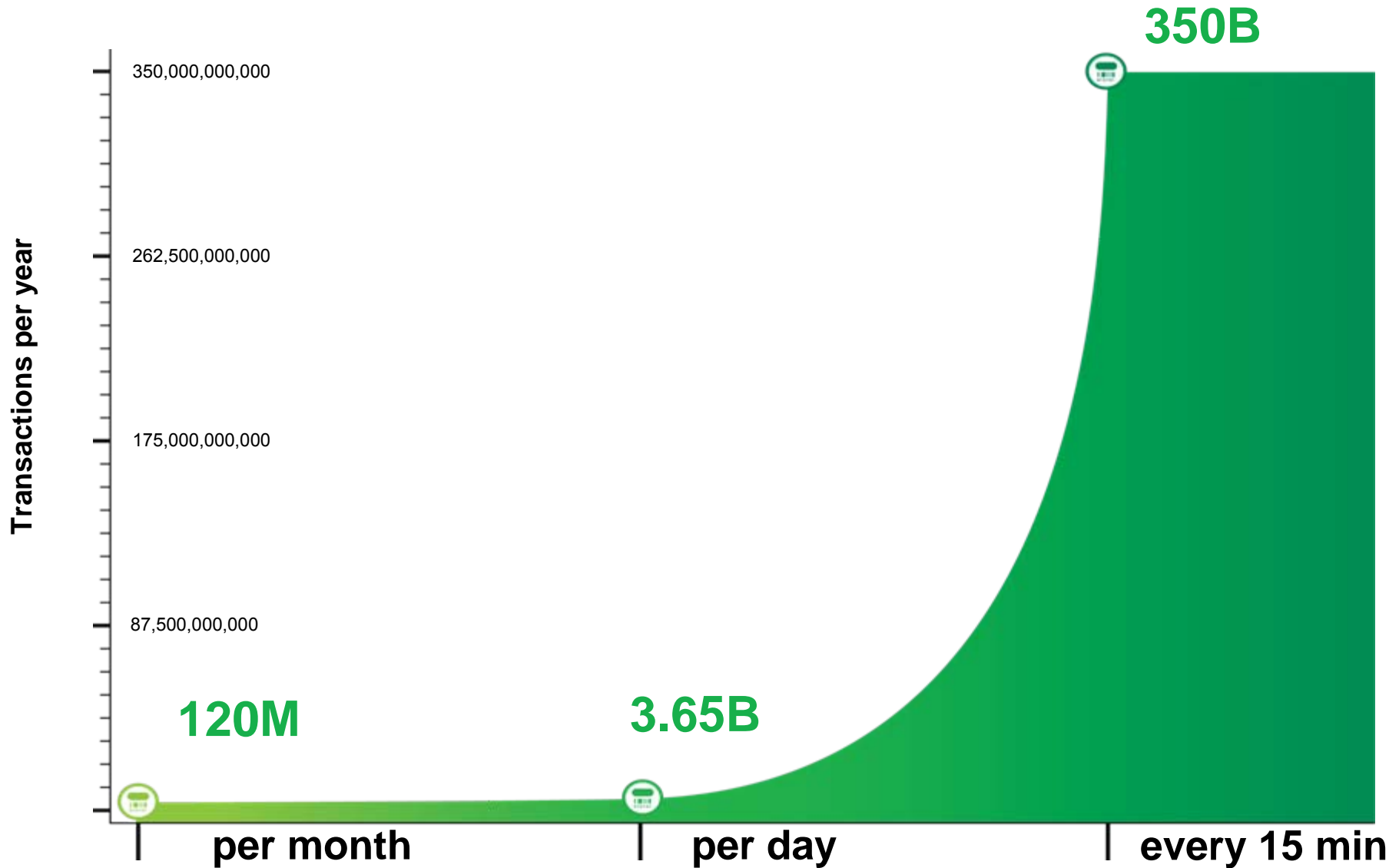Algorithms and systems turn mountains of data into actions that make the world Smarter

Smarter Planet

Welcome To The Decade Of Smart

Millions of units shipped (y-axis)

y-axis values: 2,000,000 / 1,000,000 / 500,000 / 10,000 / 5,000 / 1,000

Computers have moved out of the data center and into the world.

"Internet of Things"

S/360

IBM PC

World Wide Web

x-axis: 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015

Source: IDC, SSR and IBM Market Insights

Smarter Planet Workloads Are Here!

350B

350,000,000,000

262,500,000,000

175,000,000,000

87,500,000,000

Transactions per year

120M

3.65B

per month   **per day**   **every 15 min**

In 2010 IBM's Power Systems Bring Massive Parallelism Mainstream

Threads

POWER7
4 threads/core
8 cores/chip
32* sockets/server
1024* threads

POWER4
1 thread/core
2 cores/chip
16 sockets/server
32 threads

POWER5
2 threads/core
2 cores/chip
32 sockets/server
128 threads

POWER6
2 threads/core
2 cores/chip
32 sockets/server
128 threads

2001	2004	2007	2010
180 nm	130 nm	65 nm	45 nm
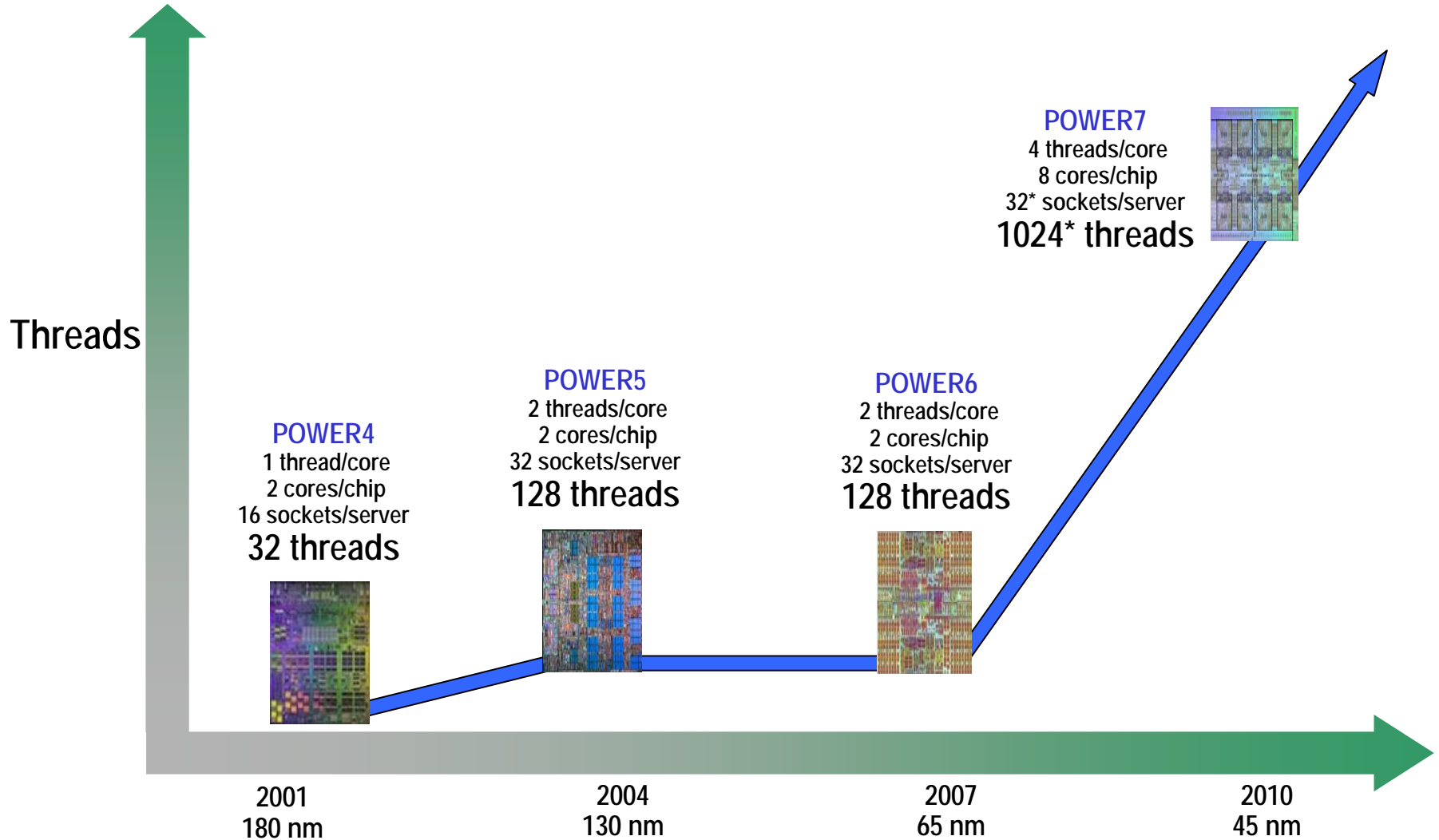
*Statement of Direction, currently max 256 threads and 64 cores.

Workload Optimized Systems Can Best Meet The Demands For Smarter Planet Solutions

- **Hardware optimized for software workloads**
  - ▶ Larger cache per core for data-intensive workloads
  - ▶ Maximum cores for processor-intensive workloads

- **Software optimized to exploit hardware capabilities**
  - ▶ Transparently leverage massive parallelism
    - − Multi thread exploitation
    - − Near linear clustering
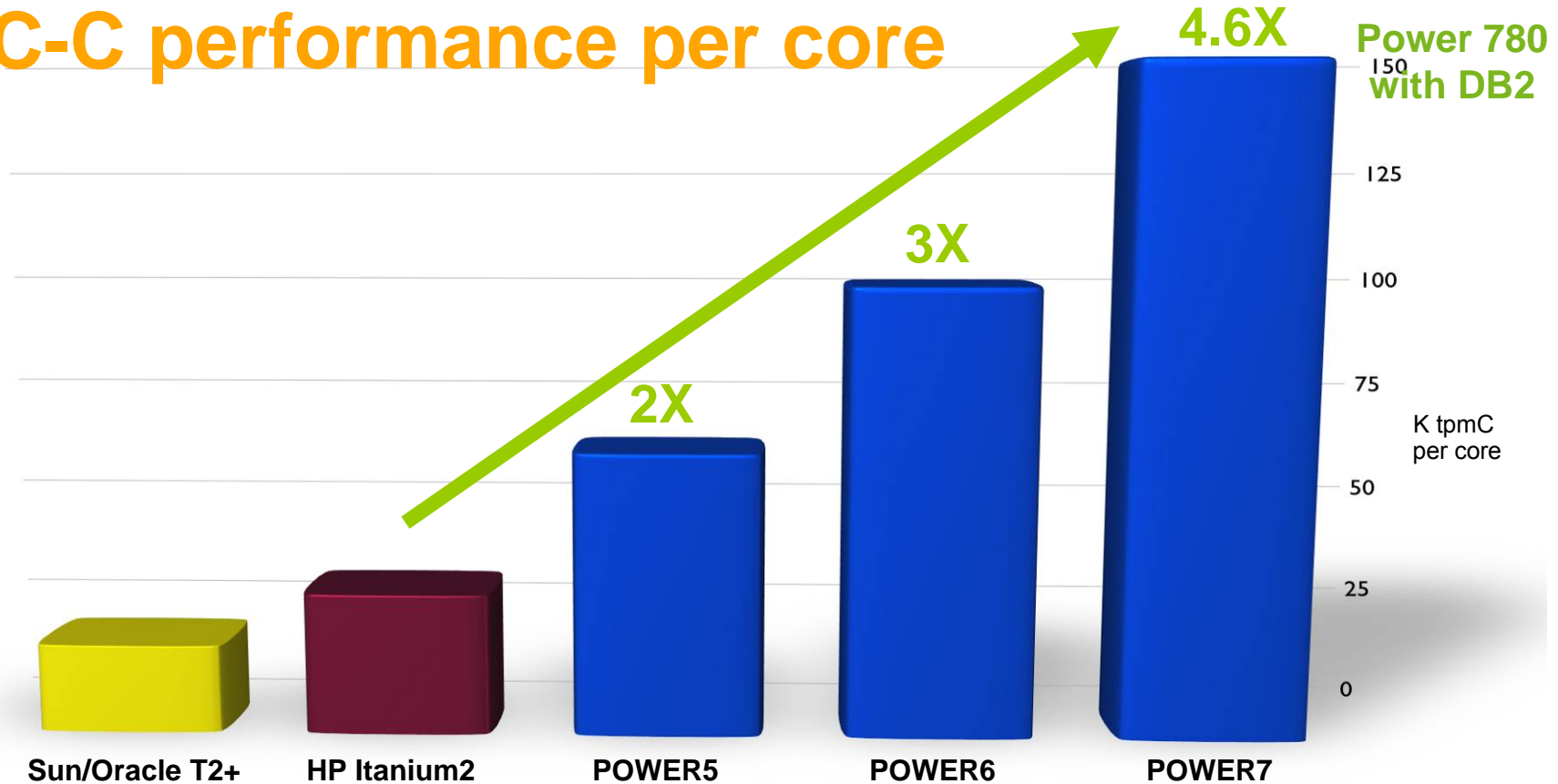   - − Virtualization and consolidation

- **Integrated solution packages**
  - ▶ Hardware and software ready to go

- Benefits: Best scale and price/performance, faster time to solution

Massive Parallel Technology Is Driving The Fastest IBM Systems In The Industry By Order Of Magnitudes

4.6 to 7.5 times more
TPC-C performance per core

4.6X

Power 780 with DB2

3X

2X

150

125

100

75

K tpmC per core

50

25

0

Sun/Oracle T2+   HP Itanium2   POWER5   POWER6   POWER7

Best results listed for IBM POWER, HP, and Sun/Oracle systems over 1M tpmC.
**Source: http://www.tpc.org. See Power 780 benchmark details for specific results.**

WebSphere Runs On Many Platforms, But Is Optimized For Power Systems

IBM Software on IBM POWER7-based servers.

IBM Software automatically exploits the threads available on POWER7 to optimize performance and deliver best value

Application

IBM Software

AIX, Linux, i

POWER7

Dell

Sun

HP

**Result:
Better performance,
Lower Costs**
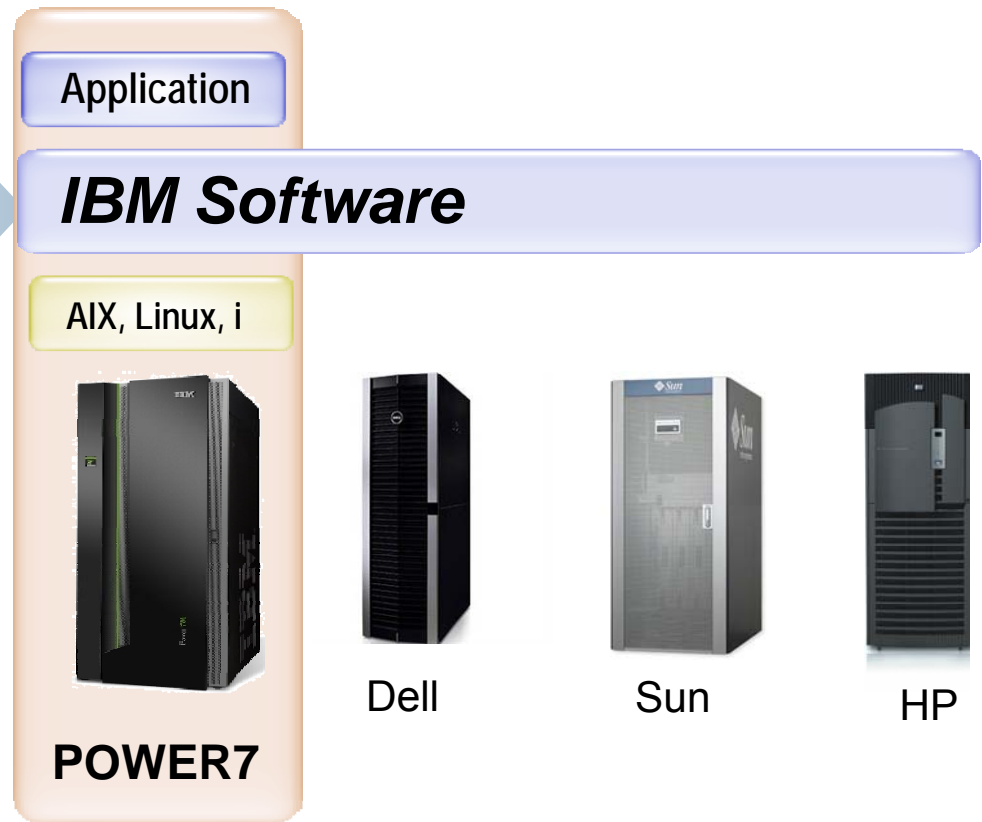
Key IBM Software That Has Been Optimized For POWER7 To Meet Smarter Planet Challenges

- WebSphere (WAS) – 85% Performance Improvements

- DB2 – 19x Performance Improvement

- DB2 PureScale – Near Linear Scaling to 128 Nodes
  - ▶ 64 nodes = 95% of linear
  - ▶ 128 nodes = 84% of linear

- Rational Compilers – 20% Improvements
  - ▶ Application performance
  - ▶ Need to re-compile for POWER7

Additional Optimizations in Progress

Typical Platform Choices For Smarter Solutions That We Will Compare Today

IBM Software on POWER	Oracle Software on SPARC	Microsoft Software on x86
IBM Software	Oracle Software	Microsoft Software
IBM Power Systems	Sun / Fujitsu SPARC based	Third Party Intel / AMD
IBM Service Management	Third Party Service Management	Microsoft Service Management

IBM Software On IBM Power Systems Is An Integrated, Workload Optimized System

Introducing Service Oriented Finance – They Need Smarter Solutions

- Service Oriented Finance (SOF) is a bank with branches located in over 50 countries

We need to change and be smarter about the way we do business in 2010 and beyond!

Great, she just cut my budget last week, and now this! I need a **vacation**.

Service Oriented Finance CEO

Service Oriented Finance CIO

Demo: Today's LIVE Environment

IBM Solutions

WebSphere Integration Developer

WebSphere Process Server

WebSphere ESB
WebSphere Message Broker

WebSphere Services Registry & Repository
WebSphere Virtual Enterprise
WebSphere Cloud Appliance
BPM Blueprint (Lombardi Blueprint)
WebSphere Lombardi Edition (Teamworks)

Competitors

Oracle Application Server
JBoss EAP V5.0

Microsoft BizTalk
Oracle Service Bus

20 VMWare Images

IBM ThinkPad
3GB RAM

IBM ThinkPad
3GB RAM

Only IBM Can Deliver Smarter Solutions With WebSphere

	IBM	Oracle	Open Source	Microsoft
Strong Foundation (Application Server)	YES	YES *	NO	YES *
Dynamic Application Infrastructure (WVE and Cloud Computing)	YES	Missing Features	NO	NO
Respond Quickly to Changing Business Process Demands (BPM)	YES	Missing Features	NO	NO
Connect Everything with an Intelligent Bus (ESB)	YES	NO	NO	NO

* = Oracle and Microsoft are missing some Key Foundation Parts