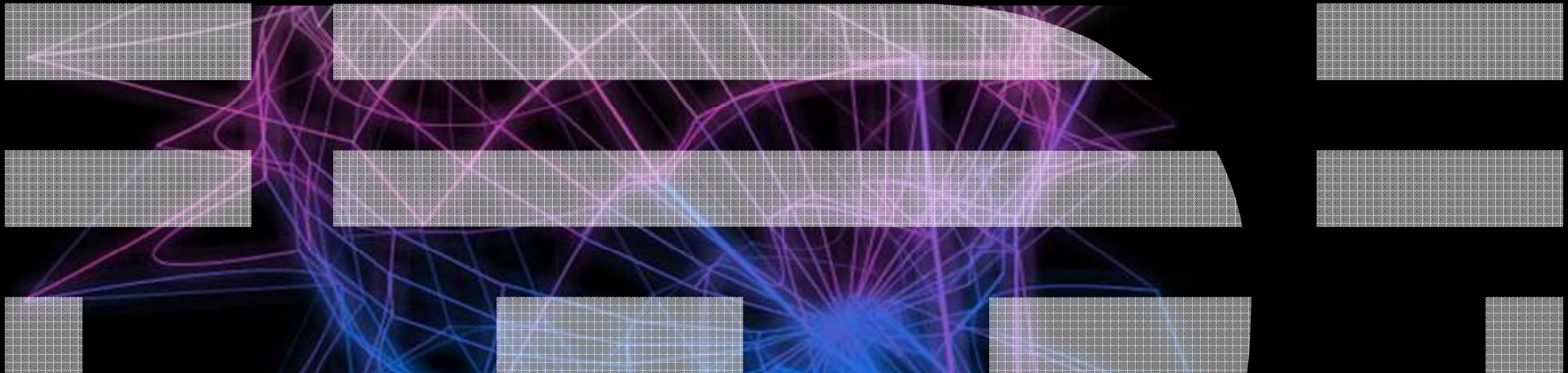


07/15/2010

# Accelerating Business Value with Smarter Systems

*Optimized Software, Hardware and Services*

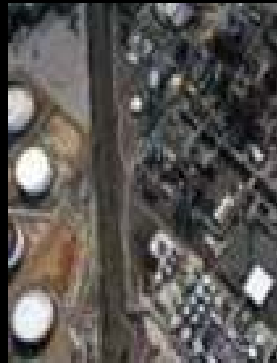


# The world is getting smarter

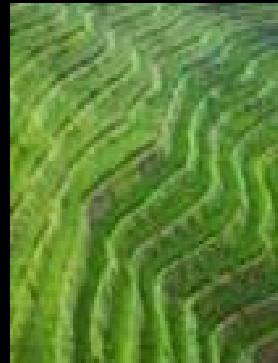
More instrumented, interconnected, intelligent



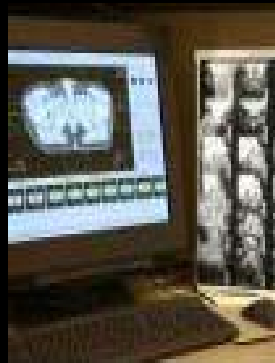
**Smart traffic systems**



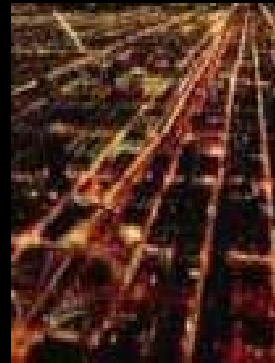
**Intelligent oil field technologies**



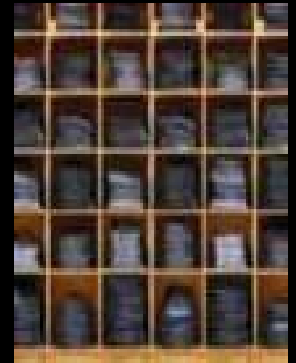
**Smart food systems**



**Smart healthcare**



**Smart energy grids**



**Smart retail**

Think about the workloads that enable intelligent traffic systems ...



**Electronic Toll Collection**

Transaction processing systems linked to bank accounts and credit cards

**Traffic Flow Prediction**

Analytic workload system looking for patterns real-time and historical data

**Weather, Local News, Major Events and etc**

Integrate processes and people

***Smarter Planet solutions have diverse workloads***

# Different workloads have different requirements

## TRANSACTION PROCESSING AND DATABASE



- High scalability
- High availability
- Moderate to high I/O bandwidth

## BUSINESS INTELLIGENCE AND ANALYTICS



- Faster query performance
- High I/O bandwidth
- Deep compression for warehouse databases

## BUSINESS PROCESS MANAGEMENT



- Moderate to high volume processing
- Low to moderate I/O bandwidth
- Tools for diverse business users

# Introducing Smarter Systems for a Smarter Planet



***Smarter Systems for a Smarter Planet***

## ***Benefits:***

- *Faster Time to Value*
- *Greater Agility & Management*
- *Embodies Deep Client Experience*
- *Better Performance, Lower Cost*



# IBM offers smarter systems for specific workloads



**Smarter systems for  
Transaction Processing  
and Database workloads**

*Flexibility  
Performance  
Integrity*



**Smarter systems for  
Business Intelligence  
and Analytics workloads**

*Discover insights  
Predict outcomes  
Act faster*



**Smarter systems for  
Business Process Management  
workloads**

*High performance  
Process integrity  
Ensure compliance*

# Smarter systems for transaction processing and database workloads

## *Examples of optimization:*

- **DB2 and Websphere Application Server automatically leverage POWER7 processing threads**
- **Unique DB2 pureScale clustering design**



**IBM pureScale  
Application System**

# WebSphere Application Server optimizations for POWER7

## Better performance

### IBM WebSphere Application Server 7

1 JVM  
AIX TL4  
64 bit  
16 threads



IBM Power 750  
8 cores



**3920**

Transactions/sec

**6.8x**

More work

### Competitive application server

1 JVM  
Solaris  
64 bit  
16 threads



Sun T5140  
8 cores




**570**

Transactions/sec



# DB2 optimizations reduce infrastructure requirements

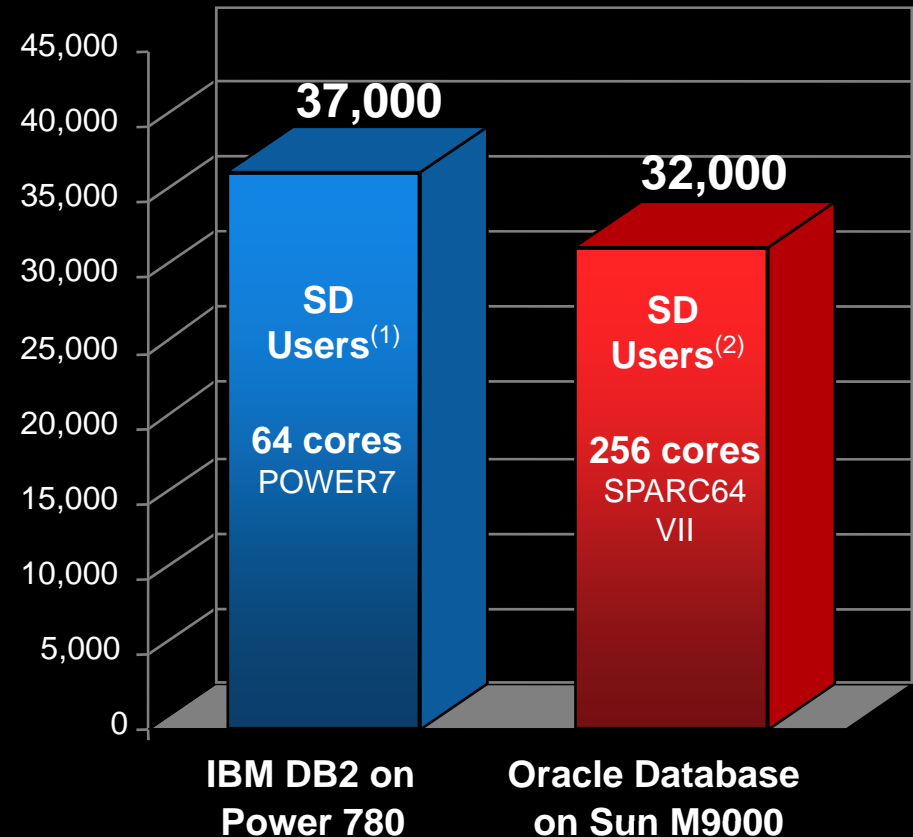
**SAP and DB2 on Power 780**



**1/4<sup>th</sup>**

The number cores required for IBM DB2 and Power 780 than Oracle Database on Sun M9000

**SAP Sales and Distribution ERP 6.0 EHP4 2-Tier performance**



Results as of 4/02/2010

Transparently scalable and continuously available

## IBM pureScale Application System

*Scale Up, Scale Out, Scale Within*

### IBM Power 770

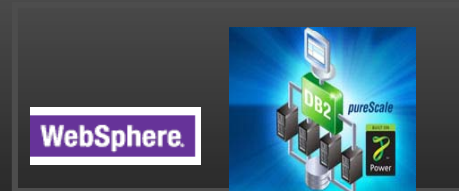
drives up to 90% server utilization with virtualization,  
lowers energy consumption 70-90%

### DB2 pureScale

offers superior performance and scale-out efficiency

### WebSphere Application Server

on Power provides 6.8x better performance than a  
competitive application server on Sun T5140



# SBI Sumishin Net Bank



## Business Challenges:

- New entrant into internet banking market
- Provide full range of services
- Get ahead of their competition

## Benefits:

- New banking platform, optimized for web-based transaction processing
- Shorter development time
- Solution architecture reduced implementation risks substantially

## Smarter systems for business intelligence and analytics

### *Examples of optimization:*

- **DB2, IBM Information Server and Cognos leverage underlying platform capabilities**
  - Better query performance
- **DB2 advanced compression**
  - Optimized storage



**IBM Smart  
Analytics System**

# IBM Smart Analytics System

What smart organizations want and need for faster results

EVERYTHING you need for Business Analytics – not  
*just* a data warehouse appliance...

- ✓ **Analytics Software**
- ✓ **Powerful Data Warehouse**
- ✓ **Hardware & Services**



*Transforming  
information into  
business insight*

**3x** *Faster - Workload optimized analytics*

**50%** *less floor space*

*World record performance*



## German travel and leisure organization



### Business Challenges:

- Staying ahead of fast changing market
- Maintaining profitable offerings
- Deliver consolidated, near real-time insight

### Benefits:

- Better alignment of capacity and demand
- Shorter product cycles
- Increased flexibility and lower costs using one-stop decision support

# Smarter systems for business process management workloads

## *Examples of optimization:*

- Tools optimized for business users
- BPM leverages POWER7 hardware capabilities for better performance and scale



## BPM tools optimized for business users

Less effort, time and risk compared to Oracle's developer-only tools

1. **Model Driven, code-free BPMS platform**
2. **Extend rule authoring to business users**
3. **Define event patterns and correlations**
4. **Unite content, process and people with Advanced Case Management**



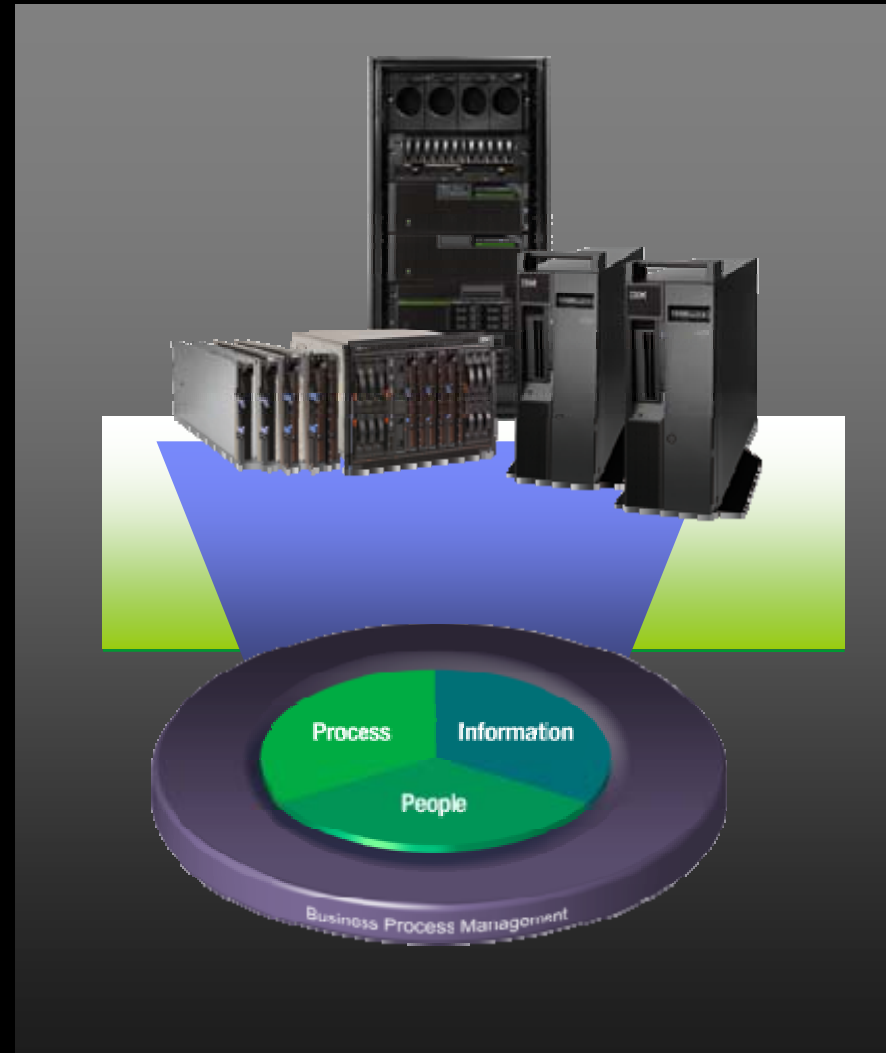
*Also, free cloud-based tools for business users  
Get started quickly with an easy on-ramp to BPM Oracle doesn't offer!*

# BPM optimizations on POWER7

## Optimize costs with WebSphere process server on POWER7

- **Up to 50%** improved performance on **POWER7\***
- **Over 5x** increased scaling on **POWER7\***
- **Optimized for virtualized environments** enabling higher hardware utilization

\*Performance based on POWER6 over POWER7



## IBM BPM Suite

Achieve growth and agility through process discovery, interactions and optimization

Take control of your processes to fuel new growth, optimize costs  
and drive ***Greater Business Agility***

- ✓ **WebSphere Lombardi Edition**
- ✓ **WebSphere ILOG Business Rule Management Systems**
- ✓ **WebSphere Business Events**
- ✓ **WebSphere Process Server & FileNet BPM**





## Ball State University



### **Business Challenges:**

- Maintaining single view of a student
- Graduates not receiving diplomas
- Lack of data integrity across the campus

### **Benefits:**

- Improved user satisfaction by reducing registration processing times
- Reduce new application development from months to days
- Higher quality of service to their students

Organizations are challenged to optimize their data center resources and deliver greater system utilization

# 41%

of data center managers claim their data centers will max out their energy capacity within one to two years<sup>1</sup>

# 80%

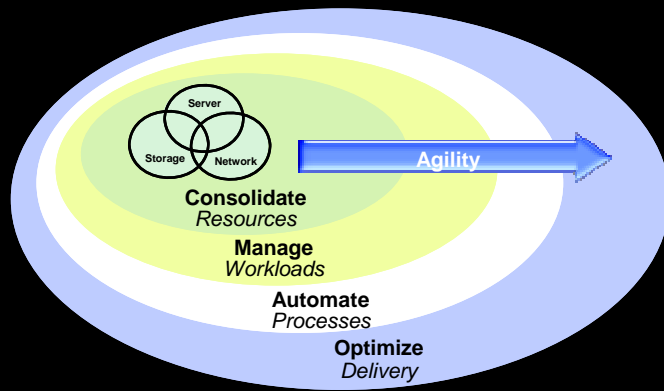
of digital data is now unstructured<sup>2</sup> and requires greater effort to transform it into usable intelligence

# Up to 85%

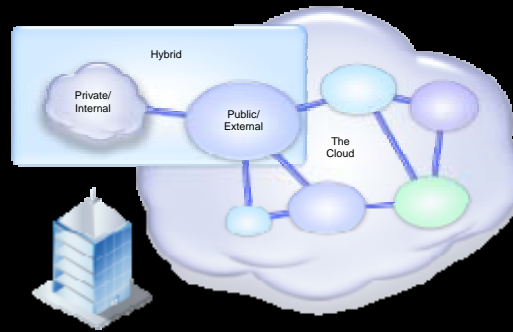
of computing capacity is idle in distributed data centers<sup>3</sup>

- Improve Service
- Reduce Cost
- Manage Risk

Building a *smarter business infrastructure* requires looking at IT delivery from the business perspective, leveraging:



**Virtualization with Integrated Service Management**



**Flexible Delivery Models**



**Workload Optimized Systems**

# Smarter business infrastructure enables smarter planet solutions

## Virtualization with Integrated Service Management

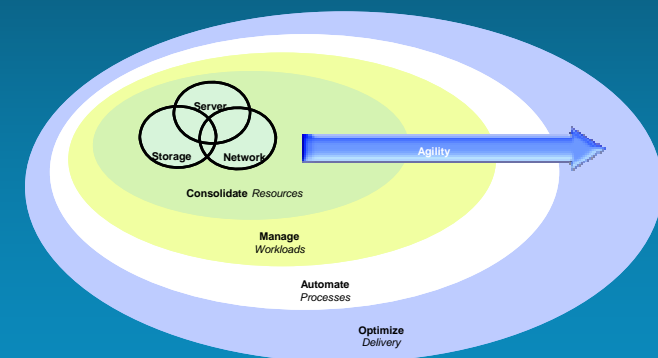
### *Examples of optimization:*

- Consolidation reduces costs
- Integrated management & automated processes improve productivity
- Aligning IT with business imperatives optimizes delivery

- **Server Virtualization:** Up to **30-70% savings**

- **Storage Virtualization:** Up to **\$10M savings per year**

- **Application Virtualization:** Up to **98% reduction in unplanned outages**



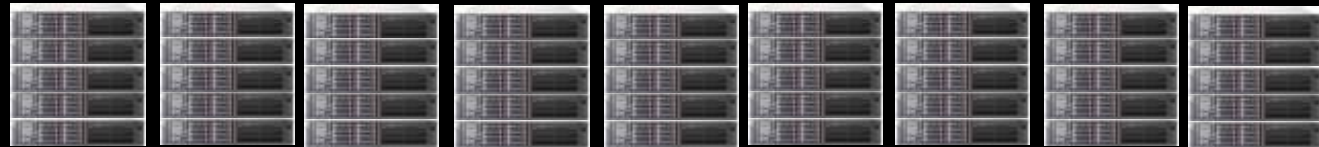
How many servers are needed to run these workloads?  
POWER7 enables large scale virtualization

*Run 45 online banking workloads,  
each driving 745 transactions per second*

1

2

45



Power 770  
server

Power 750  
servers

Sun Fire  
servers

10100100101001

**IBM WebSphere Application Server**

10100100101001

10100100101001

10100100101001

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# Systems to match your consolidation and virtualization needs

## System z



- Extreme consolidation for extreme cost savings of over 70%
- Gold standard reliability, dynamic scalability and extensive virtualization functions for superior service & support

## Power Systems



- More performance per core than any other system in the industry
- Drive over 90% utilization and dynamically scale per demand

## System x



- Pre-loaded with VMware virtualization solution
- 78% more virtual machines for same VMware cost

## System Storage



- Virtualize existing storage and increase utilization by up to 30%
- Reduce TCO up to 66% by deploying automated, virtualized storage

# Simply put, IBM is making systems smarter



**TRANSACTION  
PROCESSING AND  
DATABASE  
WORKLOADS**

*pureScale Application System*



**BUSINESS  
INTELLIGENCE  
AND ANALYTICS  
WORKLOADS**

*Smart Analytics System*



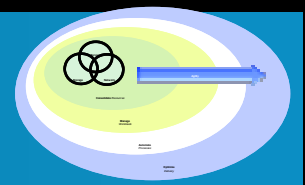
**BUSINESS  
PROCESS  
MANAGEMENT  
WORKLOADS**

*BPM Suite*



**LEVERAGE  
CONSOLIDATION &  
VIRTUALIZATION**

*Virtualization with Integrated  
Service Management*



# IBM has a proven track record of optimizing systems and data centers

## 1950s...1960s

**TPF:** Airline Reservation System

**IMS & s/360:** Transaction & Database System



## 1990s

**IMS, CICS, and DB2 Parallel Sysplex:**  
High-scale Application and Data Serving



## 1970s...1980s

**System 38 and AS/400:**

Integrated Application and Data Serving

**DB2 & S/370:** Online Transaction Processing



## 2000s

**IBM Smart Analytics System**

High-scale Business Intelligence and Relational / XML Data Warehousing

**DB2 pureScale on PowerHA:**

High-Scale Database Management

**WebSphere Edge Server:**

High-scale Web Application Serving

**Datapower:**

XML & Web services appliance

## Take action now!

- Learn more about how the [IBM Migration Factory](#) can help make your move to IBM Systems efficient and successful
- Do your own complimentary consolidation assessment using the [IBM Systems Consolidation Evaluation Tool](#)
- Contact your IBM seller or business partner for a complimentary IBM Systems Makeover Analysis to help you get started
- [The Server Makeover Analysis](#) (including for SAP or Oracle Environments)



**200**

Customers have moved critical workloads to IBM systems from Oracle/Sun, HP and others in 1Q2010 alone

**2,700**

Customers have switched to IBM in the last 4 years

# Thank You!

[ibm.com/smarterystems](http://ibm.com/smarterystems)



Simply put, IBM is making systems smarter.