Systems and Technology

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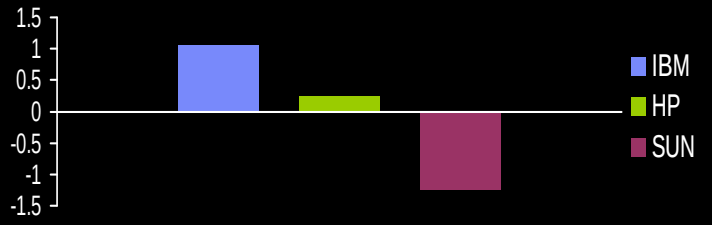
IBM **Investor** Briefing

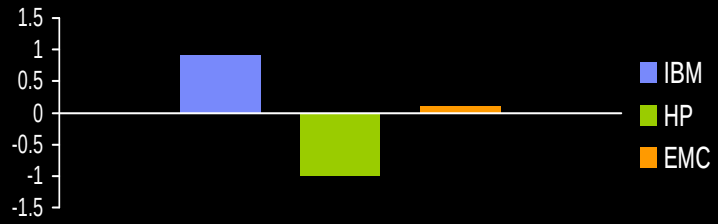
Systems & Technology: 2010 Roadmap Performance

FY2009 Share[1]

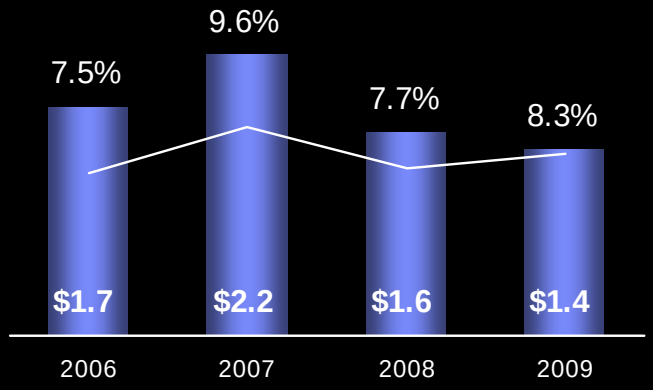
Server share gain/loss *in share points*



External disk share gain/loss *in share points*



Historical PTI performance[2]



- **Segment PTI Growth Model 7% - 9%**
  - 1 point of PTI margin expansion
- **Performance Highlights**
  - Continued systems leadership to gain revenue share and capture profit.
  - IBM revenue share[1]:
    - Servers: +9 pts. since 2000
    - UNIX: +21 pts. since 2000
    - x86: +2 pts. in 2009
    - External disk: +1 pt. in 2009
  - Acquisition success
    - XIV: 480+ new clients since 2008
  - UNIX displacement success
    - 745 competitive displacements since 1Q09, nearly 60% were Sun takeouts
  - Improved competitiveness and enhanced business execution

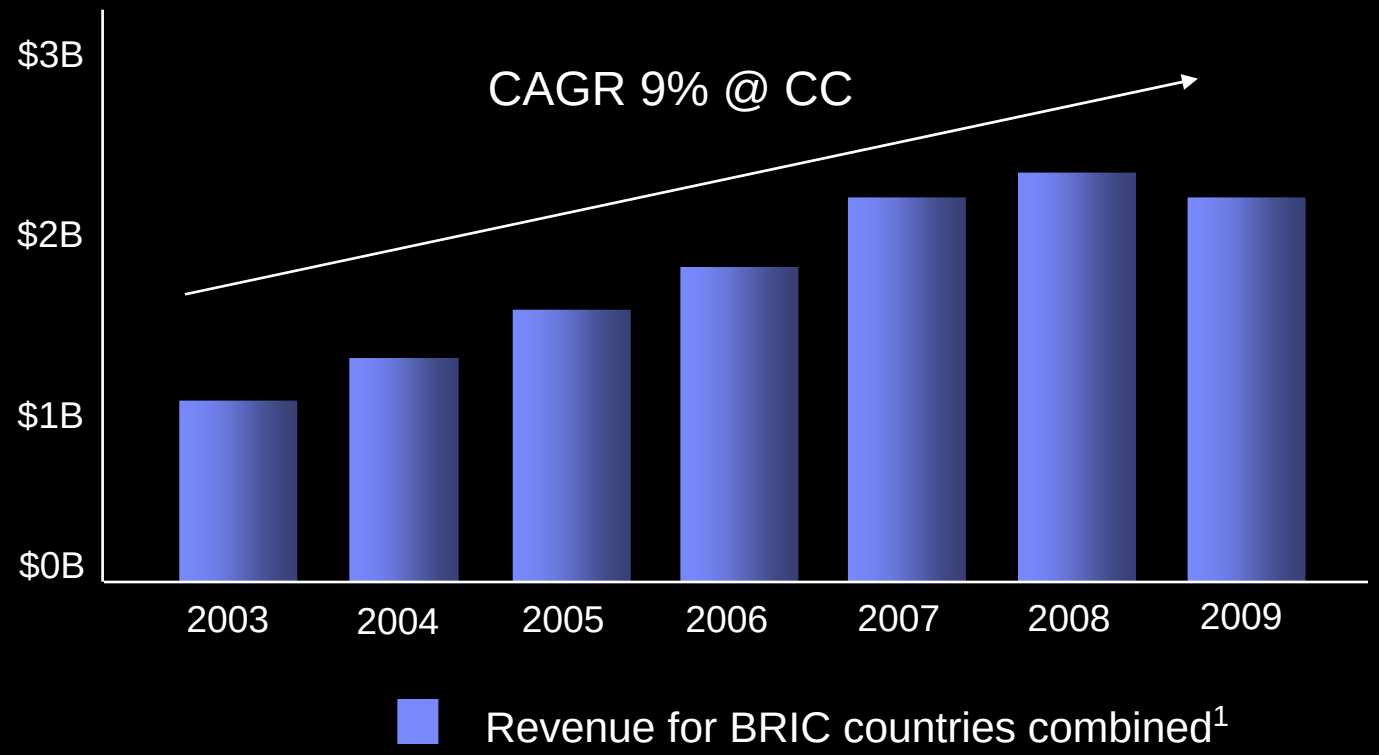
Sources: [1]IDC quarterly share trackers 2009; [2]GAAP view

Momentum in IBM Growth Markets

- Growth markets contributed 28% of hardware revenue in 2009
  - Revenue expected to grow high single digits through 2015

Strength in BRIC Countries

- BRIC countries represented 14% of 2009 hardware revenue



[1] Excludes PC and Printer Systems Divisions

Sustain Leadership with New Systems Portfolio

First Half 2010

POWER7
(midrange & blades)

System x eX5
(racks & blades)

Systems Storage
(Scale out Network Attached Storage, flash, data de-duplication)

Systems Software
(management of heterogeneous virtualized environments)

Second Half 2010

New System z

POWER7
(high-end, entry)

System x eX5
(high-end)

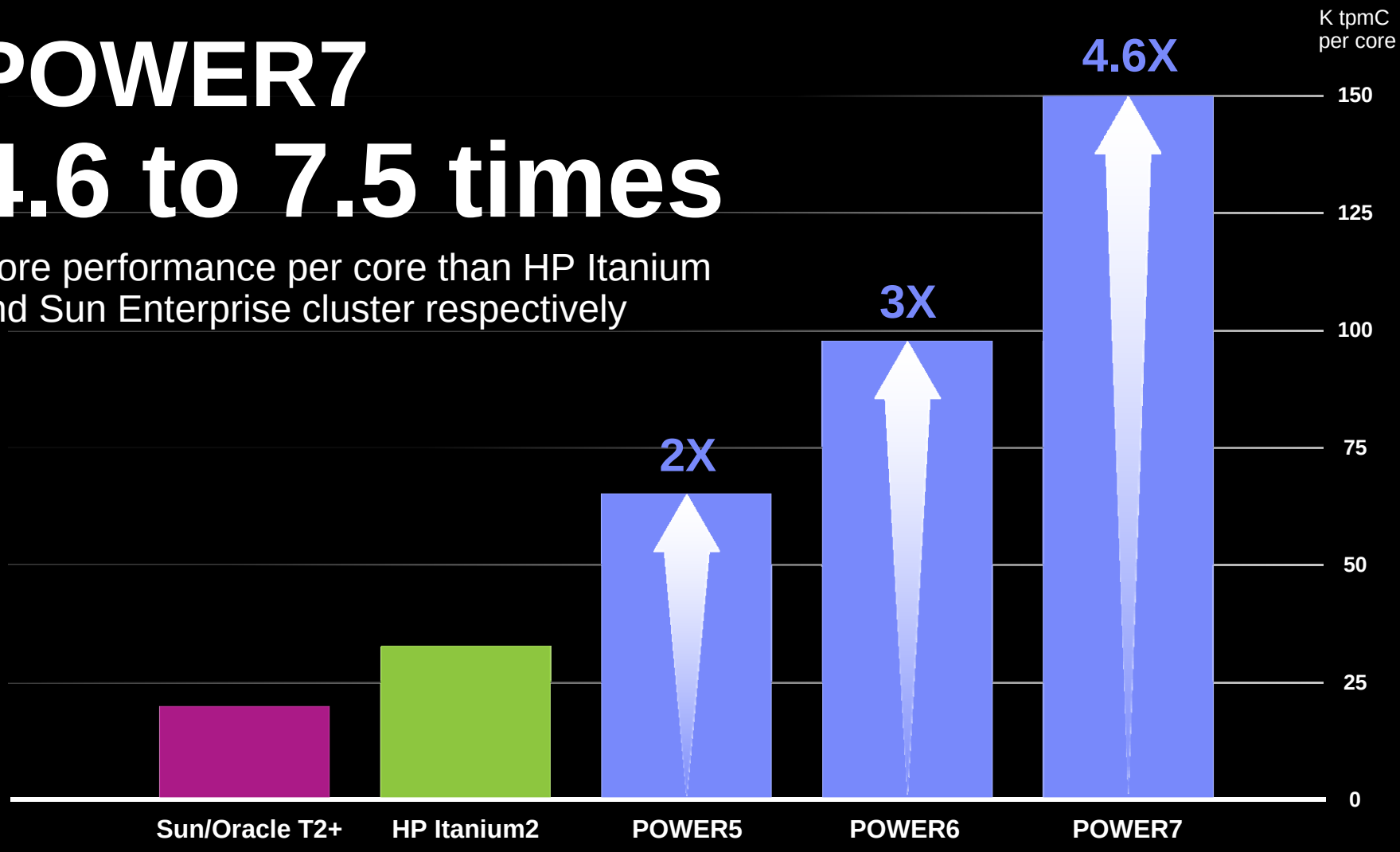
Systems Storage
(XIV, DS8000 & midrange)

Systems Software
(integrated management across server, storage & network)

More Performance Per Core Than Any UNIX System

POWER7
4.6 to 7.5 times

more performance per core than HP Itanium and Sun Enterprise cluster respectively



POWER7: Superior Economic Value Over Nehalem

15 to 2
$244,860 less

Power 750 with PowerVM has $244,860 lower Oracle support and subscription cost over three years than consolidating to 15 new HP Nehalem-EP systems.

SAP on Oracle DB

HP Nehalem-EP

Power 750 Express

Next System z Introduction: Second Half of 2010

- New ultra-fast and massively-scalable System z server
- Industry's first integrated "System-of-Systems"
  - Highly virtualized, workload optimized, multi-architecture environment
  - Integrated IBM POWER7 blades
  - Integrated IBM x86 blades
  - Special-purpose IBM Analytic Optimizers
  - Unified Resource Management – advanced platform management firmware
- Extending industry-leading mainframe governance and qualities of service for workloads that go beyond boundaries of System z to multiple platform environment

Systems & Technology Will Help Deliver IBM's 2015 Roadmap

IBM Roadmap to 2015

Base Revenue Growth

Growth Initiatives

Future Acquisitions

Operating Leverage

Portfolio Mix

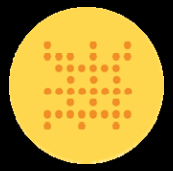
- Leverage IBM integration to capture new opportunities by industry and workload
- Drive additional growth and share opportunities:
  - Workload optimized systems
  - Storage grow high single digits annually
  - Growth Markets grow high single digits
  - Products enabled for new delivery models
- Expect to gain 4 points of revenue share in Servers and 6 points in Storage

- Continued leadership in innovation to capture profit
  - Stack integration and optimization
- Leverage improved competitiveness and business execution
  - Cost/expense structure

Operating pre-tax income long-term growth model: 6% to 8%

Systems & Technology Will Address Clients' Emerging Needs

A smarter planet requires real-time data analytics and security for unprecedented scale and complexity that IBM is uniquely positioned to help them solve.



Data

Terabytes of structured online data → Petabytes of unstructured data including real-time streams

Transactions

Simple online transactions with back end processing → Complex transactions integrated with real time analytics

Security

Online data security and intrusion detection → Security analytics for intrusion prediction and prevention

Traditional Workloads are Changing

- Largest credit card processing company in Korea
  40M card holders, 3B transactions a year
- Migrated to mainframe in 2009 for secured transaction integrity and to handle future demands of workload
  IBM beat Sun / Oracle and incumbent HP
- Add demands for real-time fraud detection analytics and billions of mobile devices acting as credit cards
  Scale and complexity will increase exponentially
- Clients need to extract more value from data and lower cost per transaction by an order of magnitude
  Predict / prevent fraud and improve customer loyalty

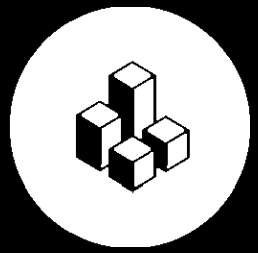
New Workloads are Emerging

- Delivers electricity in Houston area to more than
  2M customers
- Improve consumption insight by preparing for
  15-minute interval reads on 2.4M smart meters
- Using Tivoli and WebSphere on BladeCenter. To handle scale and operational analytics for 85B meter reads and 8 terabytes of data annually
  Migrating to Power Systems
- Use near real-time information – immediately detect outages and help customers adjust usage for rate benefits
  Improve customer satisfaction and operational costs

IBM Provides Unique Value in the Data Center

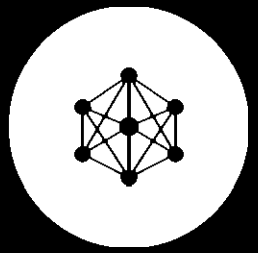
Servers

Applications	
IBM Middleware	
IBM Tivoli and Systems Director VM Control	Energy Manager
Operating Systems zOS, zLinux, AIX, i	Linux, Windows
Hypervisors zVM, PowerVM	VMWare, KVM, Xen, Hyper-V
IBM Server Architectures z, PowerPC, eX5	
Processors IBMz, Power	x86



Storage

Applications		
IBM Middleware Database	Content	Files
Tivoli Storage Manager and Systems Director Recovery	HSM	Archive
Operating Systems		
IBM Storage Virtualization		
IBM Systems Storage Disk Systems	Tape Systems	
Processors Disk Drive	Tape	



Networking

Applications	
IBM Middleware	
IBM Tivoli and Systems Director Network Control	VMControl
Operating Systems zOS, zLinux, AIX, i	Linux, Windows
Hypervisors zVM, PowerVM with Virtual Switch	VMWare, KVM, Xen, Hyper-V with Virtual Switch
IBM Server Network Infrastructure IBM Adapters and Integrated Switches	Industry Adapters and Integrated Switches
IBM Cluster Switches	Industry Network Core Switches and Routers
Network Processors	Industry Network ASICs and Processors

IBM Provides End to End Data Center Optimization

Servers

- **Applications**
- **IBM Middleware**
- **IBM Tivoli and Systems Director**
  - VM Control
  - Energy Manager
- **Operating Systems**
  - zOS, zLinux, AIX, i
  - Linux, Windows
- **Hypervisors**
  - zVM, PowerVM
  - VMWare, KVM, Xen, Hyper-V
- **IBM Server Architectures**
  - z, PowerPC, eX5
- **Processors**
  - IBMz, Power
  - x86

Storage

- **Applications**
- **IBM Middleware**
  - Database
  - Content
  - Files
- **Tivoli Storage Manager and Systems Director**
  - Recovery
  - HSM
  - Archive
- **Operating Systems**
- **IBM Storage Virtualization**
- **IBM Systems Storage**
  - Disk Systems
  - Tape Systems
- **Processors**
  - Disk Drive
  - Tape

Networking

- **Applications**
- **IBM Middleware**
- **IBM Tivoli and Systems Director**
  - Network Control
  - VMControl
- **Operating Systems**
  - zOS, zLinux, AIX, i
  - Linux, Windows
- **Hypervisors**
  - zVM, PowerVM with Virtual Switch
  - VMWare, KVM, Xen, Hyper-V with Virtual Switch
- **IBM Server Network Infrastructure**
  - IBM Adapters and Integrated Switches
  - Industry Adapters and Integrated Switches
  - IBM Cluster Switches
  - Industry Network Core Switches and Routers
  - Network Processors
  - Industry Network ASICs and Processors

IBM's Differentiation: Systems Stack Integration and Optimization

Servers	Storage	Networking
Applications	**Applications**	**Applications**
IBM Middleware	**IBM Middleware** Database Content Files	**IBM Middleware**
IBM Tivoli and Systems Director VM Control Energy Manager	**Tivoli Storage Manager and Systems Director** Recovery HSM Archive	**IBM Tivoli and Systems Director** Network Control VMControl
Operating Systems zOS, zLinux, AIX, i / Linux, Windows	**Operating Systems**	**Operating Systems** zOS, zLinux, AIX, i / Linux, Windows
Hypervisors zVM, PowerVM / VMWare, KVM, Xen, Hyper-V	**IBM Storage Virtualization**	**Hypervisors** zVM, PowerVM with Virtual Switch / VMWare, KVM, Xen, Hyper-V with Virtual Switch
IBM Server Architectures z, PowerPC, eX5	**IBM Systems Storage** Disk Systems Tape Systems	**IBM Server Network Infrastructure** IBM Adapters and Integrated Switches / Industry Adapters and Integrated Switches IBM Cluster Switches / Industry Network Core Switches and Routers Network Processors / Industry Network ASICs and Processors
Processors IBMz, Power / x86	**Processors** Disk Drive / Tape	

IBM Aligned to Capture Data Center Opportunity

Optimize Workloads

Performance
- Integration and optimization
- System accelerators
- In memory and flash

Scaling
- Dynamically adjust capacity at sustained performance

Data Conditioning
- Analytics
- Encryption
- Compression
- De-duplication
- Archive

Manage the Data Center

Efficiency
- Asset utilization and energy management

Management
- Intelligent workload placement and mobility

Resiliency
- Availability across data center

Make the right Delivery Choices

Managed Services
- Managed Resiliency
- Server Managed

Outsourcing
- Data Center
- End User Support

Cloud
- Storage
- Development and Test

Pre-integrated
- Smart Analytics System
- PureScale Application System

Optimize Workloads for Lowest Operating Cost

Transaction Processing and Data Base

- Application Database
- Data Warehousing
- Online Transaction Processing
- Batch

Analytics

- Data Mining Applications
- Numerical
- Enterprise Search

Business Applications

- Enterprise Resource Planning
- Customer Relationship Management
- Application Development

Web, Collaboration and Infrastructure

- Systems Management
- Web Serving/Hosting
- Networking
- File and Print

IBM Workload Optimized Systems

System z

Low capital and operating expense: energy, floor space, licensing and management

Power Systems

Highly scalable system delivering 5X performance and 7X power efficiency at a lower cost[1]

System x

The 5th generation of Enterprise X-Architecture with unparalleled memory capacity[2]

Systems Storage

Extensive block, file and tape capabilities for smart movement and management of data

Shared Leadership

Integrated Service Management

- Consolidate resources, manage workloads and automate processes
- VMControl for cloud providing virtualization and heterogeneous platform management

Systems Networking

- Strong relationships to offer choice of core network switching products
- Differentiate with network access products, network management and services

Technology Innovation

- Technology Alliance for industry collaboration
- Advanced performance and efficiency with eDRAM, computational lithography and 3D integration

[1] In comparison to previous IBM systems. [2] IBM eX5 systems offer the most amount of memory compared to previous generation System x servers and the competition's current generation x86 servers, thanks to IBM innovation. Decoupling the memory from processors allows unique memory expansion with the external IBM MAX5 memory chassis.

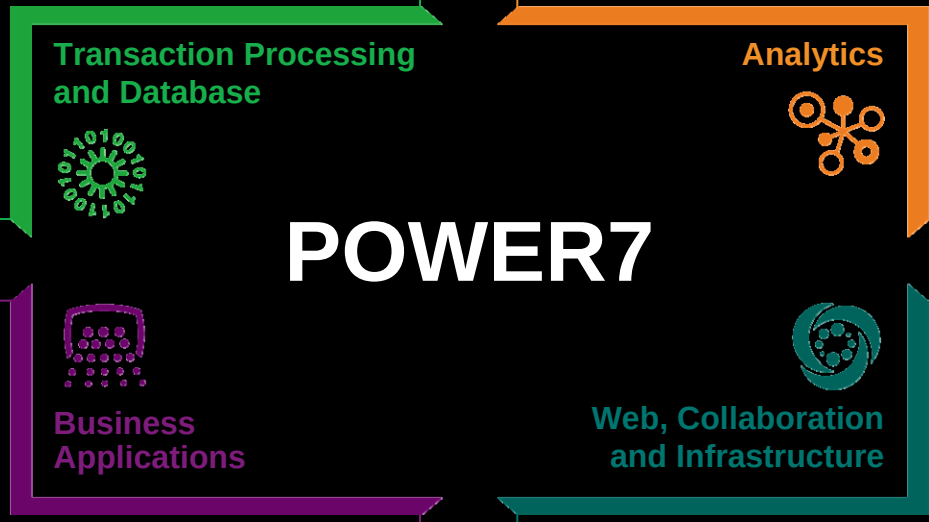
POWER7 Expands Power Systems Opportunity

70% lower cost

For DB2 on IBM Power 780 than an Oracle/Sun cluster running TPC-C[1]

100% better performance

Business analytic queries run up to 100% faster on Power 7 than on Nehalem[4]



73% better performance

Using single JVM of WebSphere on POWER7 versus competitive application server on Nehalem[2]

40% lower cost

Lotus Domino on POWER7 supporting 40,000 users versus Microsoft Exchange on Nehalem[3]

1) See chart "Supplemental Information about benchmark data" for detail. 2) Source: IBM internal study 3) Exchange on Nehalem configuration from HP's sizing tool. HP sizer for Microsoft Exchange Server 2010 at http://h20338.www2.hp.com/ActiveAnswers/us/en/sizers/microsoft-exchange-server-2010.html. 4) Based on IBM internal study using similar configurations

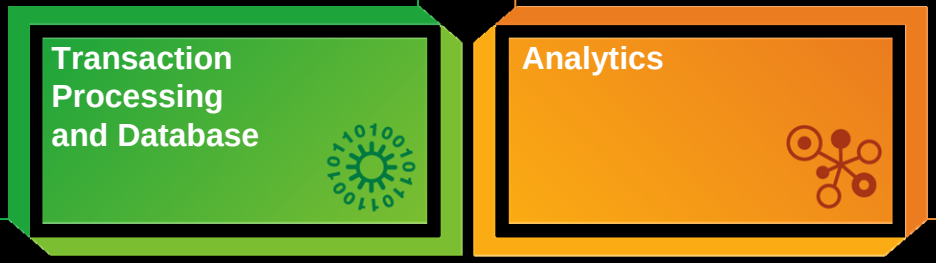
Improve Time to Value with Integrated Solutions

IBM pureScale Application System

Database plus web application serving

IBM Smart Analytics System

Data warehouse plus analytics and business intelligence



SAP on IBM DB2 and Power Systems

Database plus SAP applications

IBM LotusLive

Cloud-based collaboration suite for file sharing, social networking, instant messaging

IBM Leadership Position in Systems

2009 Opportunity Workload Size for Server / Storage and CAGR for 2009 - 2015

Transaction Processing and Data Base

Revenue/Profit Opportunity		IBM Position:
Revenue	$24B	#1
CAGR	1%	
Profit	$2.3B	

Analytics

Revenue/Profit Opportunity		IBM Position:
Revenue	$8B	#1
CAGR	2%	
Profit	$0.6B	

Business Applications

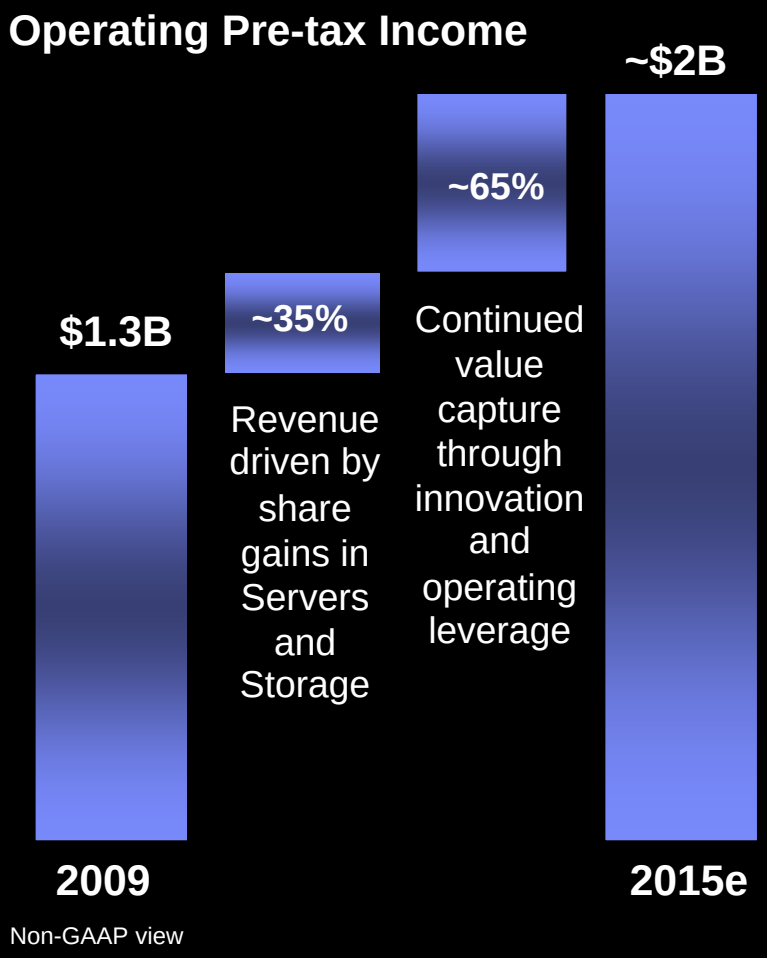
Revenue/Profit Opportunity		IBM Position:
Revenue	$12B	#1
CAGR	1%	
Profit	$1.0B	

Web, Collaboration and Infrastructure

Revenue/Profit Opportunity		IBM Position:
Revenue	$36B	#2
CAGR	3%	
Profit	$2.2B	

Source: IBM's ordinal positions from IDC's 2009 Server Workload Multiclient Study and IDC's 2009 Storage Workload Multiclient study. IBM achieved those rankings in both the server MCS and the storage MCS separately. Source of share revenue, CAGR and Profit: IBM Analysis. Share position based on 2008 IDC Workload Share %'s against 2009 IBM Global Market View (GMV) opportunity by workload.

Systems and Technology Summary



Non-GAAP view

- The data center opportunity is being transformed
  - Explosion of data
  - Number of transaction
  - Concerns about security
- IBM is leading IT transformation
  - Workload optimized systems
  - Integrated service management
  - New delivery models
- IBM's aligned and integrated approach provide the data center infrastructure for a smarter planet

Operating pre-tax income long-term growth model: 6% to 8%

Certain comments made in the presentation may be characterized as forward looking under the Private Securities Litigation Reform Act of 1995. Those statements involve a number of factors that could cause actual results to differ materially. Additional information concerning these factors is contained in the Company's filings with the SEC. Copies are available from the SEC, from the IBM web site, or from IBM Investor Relations. Any forward-looking statement made during this event or in these presentation materials speaks only as of the date on which it is made. The Company assumes no obligation to update or revise any forward-looking statements.

These charts and the associated remarks and comments are integrally related, and are intended to be presented and understood together.

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Supplemental Benchmark Data Information

TPC-C Benchmark Results												
Company	System	tpmC	Price/tpmC	System Availability	Database	Operating System	Chips	Cores	Threads	Cluster	Technology	tpmC per core
Sun/Oracle	T5440	7,646,486	$2.36	3/19/2010	Oracle 11g EE RAC	Solaris 10	48	384	3,072	Yes	UltraSPARC T2+	19,913
HP	Integrity Superdome	4,092,799	$2.93	8/6/2007	Oracle 10g	HP-UX 11i v3	64	128	256	No	Itanium2	31,975
IBM	System p5 570	1,025,169	$4.42	5/31/2006	DB2 8.2	AIX 5.3	8	16	32	No	POWER5+	64,073
IBM	System p 570	1,616,162	$3.54	11/21/2007	DB2 9.1	AIX V5.3	8	16	32	No	POWER6	101,010
IBM	Power 780	1,200,011	$0.69	10/13/2010	DB2 9.1	AIX 6.1	2	8	32	No	POWER7	150,001

SAP SD 2-tier Benchmark Results

System	Benchmark Users	SAPS	OS	DB Version	SAP version	Cores / processor chips / threads	Certificate Number
IBM Power 750 Express	15600	85220	AIX 6.1	DB2 9.7	SAP enhancement package 4 for SAP ERP 6.0	32 /4 /128	2010004
HP ProLinat DL380G6	3300	18030	Windows Server 2008 Enterprise Edition	SQL Server 2008	SAP ERP 6.0, Enhancement Pack 4 (Unicode)	4 / 2 / 16	2009004
HP ProLinat DL380G6	4995	25000	Windows Server 2003 Enterprise Edition	SQL Server 2005	6.0 (2005)	4 / 2 / 16	2008071
HP ProLiant DL380 G5	2518	12600	Windows Server 2003 Enterprise Edition	SQL Server 2005	6.0 (2005)	4 / 2 / 8	2008047

This data is used to calculate relative SAPS. It is not intended to be used to project any possible benchmark results that were not actually executed
(1) Ratio of Power 750 to DL380 G6 = 85222/18030 = 4.7 to 1; (2) Ratio o fDL380 G5 to DL380 G6 = 12600/25000 = .504 to 1; (3) Therefore ratio of Power 750 to DL380 G5 = 4.7/.504 = 9.3 to 1

All results as of 5/10/10. Sources: www.tpc.org, www.sap.com/solutions/benchmark
The virtualized system count and energy savings were derived from several factors: A performance factor of 7.88 was determined by SAP 2-tier SD benchmark results for the Power 750, the and the DL380 G6 and the DL380 G5 for using the DL380 G6 as a bridge since it was has results with both the old and new SAP benchmark kits and reducing the ratio based on rPerf ratio of 32-core Power 750 with 3.0GHz processor to 32-core Power 750 with 3.55GHz processor . The benchmark reviewed were current as of April 8, 2010. The benchmark detail is shown on the chart SAP Detailed Benchmark Performance. A virtualized utilization factor of 80% was assumed for the Power 750 Express and a non-virtualized utilization factor of 15% was assumed for the HP ProLiant DL380 G5. Power consumption figures of 1950 W for the IBM Power 750 Express and 1186 W for the DL380G5 and 1348 W for the DLL380 G6 were based on the maximum rates published by IBM and HP respectively. The data for the HP DL380 G5 came from the HP ProLiant DL380 G5 QuickSpecs available at http://h18004.www1.hp.com/products/quickspecs/12477_na/12477_na.html#Overview as April 8, 2010. The data for the DL380 G6 came from thre HP ProLiant DL380 G6 QuickSpecs available at http://h18004.www1.hp.com/products/quickspecs/13234_na/13234_na.html#Power%20Specifications as of April 8, 2010.
Energy cost based on a Power Usage Effectiveness of 2.0 (representing an efficient datacenter). Energy cost of $.1021per kWh is based on 2009 YTD US Average Retail price to commercial customers per US DOE at http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_b.html as of April 8, 2010. The reduction, if any, in floor space, power, cooling and software costs depends on the specific customer, environment, application requirements, and the consolidation potential. Actual numbers of virtualized systems supported will depend on workload levels for each replaced system. The Oracle DB Software and Subscriptions savings based on .5 licenses per core for the DL380 G5 and 1 license per core for the Power 750. The DL380 G5 & DL380 G6 DB configurations included Oracle RAC and Partitioning since multiple systems were required for the DB portion of the workload. Oracle list prices from the Oracle Store available through www.oracle.com. Prices are current as of April 8, 2010.
TPC-C and TPC-H are trademarks of the Transaction Performance Processing Council (TPPC). The IBM benchmarks results shown herein were derived using particular, well configured, development-level and generally-available computer systems.