Integrated Systems

Steve Mills
Senior Vice President and Group Executive, Software and Systems
Software and Systems

Software Operating Pre-tax Income

- **Delivering** solutions for evolving IT environments through Smarter Computing
- **Leveraging** “Open” technologies for Software-defined Environment implementation
- **Investing** in Middleware high-growth areas, while increasing focus in industry-integrated Software solutions
- **Driving** client value through expert integrated systems with built-in expertise

A dollar of high end systems revenue brings ~ $3 of IBM total revenue

**Software**

- Model 12-15% CGR
- 2010: $8.9B*, 2012: $10.8B, 2015e: ~ $16B

**Systems**

- Model 6-8% CGR
- 2010: $1.5B, 2012: $1.2B, 2015e: ~ $2B

*Normalized to exclude $591M PLM Gain
What Is Driving IT Demand

- Explosion of Mobile Devices
- Growth of Social Media
- Real-time Sensor Data
- Cyber Security
- Infrastructure Optimization – Cloud Computing
- Advanced Predictive Analytics

Business Optimization + Big Data
Systems

Workload Optimized Systems

System design and configuration matched to workload

Software-defined Environment

Hardware configuration where infrastructure is virtualized and delivered as a service

IBM Smart Cloud

Self Service Portal
Virtual Application
Service Catalog
Virtual Systems
Image Tooling
Virtual Appliances
IaaS Federation

Open Stack
IAAS API

Automation, Management & Security

Compute
Storage
Networking
Software Investment has Shifted to Higher Value Markets

- **Middleware Platforms** that are helping clients manage infrastructure, applications and data

- **Integrated Industry Solutions** that are applying technology to transform front- and back-office processes

Since 2010, nearly 80% of acquisition & development spending has been in growth plays
Integrated Systems: Systems and Technology

Rod Adkins
Senior Vice President, Systems and Technology Group
Smarter Computing innovation delivered through the combination of organic, acquisitive and partnership investments

Innovation and IT value will be derived from the exploitation of data

IT must be simple, adaptable and optimized

Open collaboration will enable integration, accelerate innovation

### Designed for Big Data

Instantaneous access and management of an exponential volume of data of all types

- **Texas Memory Systems** for flash optimization
- **Power technology** for analytics and cognitive systems
- **Easy Tier** and **EasyOptimize** for smart data and workload placement

### Software-defined Environment

Unlimited flexibility and scalability through abstraction of resources

- **Platform Computing** for cluster and grid management
- **SmartCloud** for enterprise-class clouds
- **FlexSystem Manager** for provisioning and orchestration

### Open & Collaborative

Long-term investment protection enabled by choice through an open ecosystem

- **OpenStack** for open source cloud
- **OpenFlow** for open source networking
- **OpenPower** for innovation leveraging POWER
Smarter Computing solutions optimized for the evolving IT landscape

2013 enhancements to:

- **zEC12 Business Class** expanded for highly secure, real-time operational analytics
- **POWER7+** extension to Midrange and Entry for improved data insights, IT efficiency, and security
- **PureSystems** with POWER7+ and integrated MSP solutions for deployment flexibility
- **Designed for Big Data**: TMS integration with DS8000, V7000 and XIV for faster access to data and real-time analytics
- **Software-defined Environment**: SmartCloud integration of OpenStack with open APIs for broad ecosystem and client customization of workloads
- **Open & Collaborative**: OpenPower for broad industry participation in innovative solutions leveraging POWER architecture

Extend the portfolio

Deliver on IBM’s point of view
Smarter Computing stack designed for data-centric workloads and optimized for Software-defined Environments

IBM investments

Differentiated client value

Deep integration and optimization

Higher margins: $1 of high end systems revenue brings ~$3 of IBM total revenue
Smarter Computing stack designed for data-centric workloads and optimized for Software-defined Environments

- **Easy Tier** for up to 2X improvement of application performance
- **EasyOptimize** for up to 40% automated performance boost of various workloads
- **SmartCloud** for up to 90% faster new application deployment
- **OpenStack** for IaaS services innovation from ecosystem of 190+ companies
- **Easy Tier** for up to 2X improvement of application performance
- **EasyOptimize** for up to 40% automated performance boost of various workloads
- **SmartCloud** for up to 90% faster new application deployment
- **OpenStack** for IaaS services innovation from ecosystem of 190+ companies
- **OpenPower** to leverage POWER’s scaling and up to 4X application performance
- **FlexSystem Manager** for up to 98% faster storage provisioning
- **Platform Computing** to accelerate Big Data workloads by up to 6X
- **GPFS** scalability for nearly 20PB of data and up to 4,500 nodes
- **Texas Memory Systems** for up to 6X reduction in file backup time
- **OpenFlow** for improved networking recovery times of up to 60X

Certain results (SmartCloud, GPFS and Texas Memory Systems) are based on customer experience. Up to 98% faster storage provisioning based on an IBM internal estimate based on a specific environment. Acceleration of Big Data workloads is based on use of Platform Computing with Hadoop workloads. Up to 4x application performance based on 256 cores Power 795 running AIX versus x86. For details on performance boost of various workloads, see http://public.dhe.ibm.com/common/ssi/ecm/en/pow03093usen/POW03093USEN.PDF. Customer experience will vary depending on customer environment.
Delivering client value through continuous investment in innovation

- 2,555 Systems & Technology **patents** in 2012; more than HP and Oracle combined
- #1 in annual worldwide server **revenue share**
- 181 new accounts since **zEnterprise** launch, with 72 in growth markets
- Nearly 1,200 **Power competitive displacements** for over $1B in 2012
- Over 2,300 **PureSystems** sold in more than 70 countries
- 8 **acquisitions** over last 5 years, including BNT, Platform Computing, TMS
- 30 **supply chain** analytics projects for operational efficiency
Summary

- Sustained investments driving technology innovation for systems leadership
- Smarter Computing portfolio delivers solutions for evolving IT environments
- Leading in open solutions designed for Big Data and Software-defined Environments for clients’ most important workloads
### IBM Middleware Platforms for the New Era of Computing

#### Capabilities
- Turn information into insights
- Deepen engagement with customers, partners and employees
- Enable the agile business
- Accelerate product and service innovation
- Deliver enterprise mobility
- Optimize IT and business infrastructure
- Manage risk, security and compliance

#### Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Data Analytics</td>
<td>$18B\textsuperscript{1}</td>
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<td>Mobile Enterprise</td>
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<td>Cloud and Optimized Workloads</td>
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\textsuperscript{1} IDC 2015 Market Opportunity  
\textsuperscript{2} IDC & Other External Sources 2015 Opportunity  
\textsuperscript{3} IDC 2015 Market Opportunity, excluding services  
\textsuperscript{4} IBM internal analysis based on IDC data
IBM’s Big Data Portfolio

Smarter Analytics / Business Analytics & Optimization

Industry Solutions
- Financial Analytics
- Risk Analytics
- Threat & Fraud
- Workplace Analytics
- Customer Analytics

Business Intelligence
Performance Management
Content Management
Information Management Foundation
Client Services

Big Data Platform
- Systems Management
- Application Development
- Discovery

Accelerators
- Hadoop System
- Stream Computing
- Data Warehouse

Information Integration and Governance

Predictive Analytics
Content Analytics
Decision Management
Visualization

Volume
Variety
Velocity
Veracity

SPSS
Cognos
InfoSphere
BigInsights
Vivisimo
Optim
Guardium
IBM Big Data Momentum

**Big Data Performance Highlights**

- **300+ client engagements** resulting in **5 repeatable use cases**
- **50% of prospect pilots converted** into transactions
- Placed in **28 of 30 Gartner Big Data categories**¹
- Named a **Leader in Forrester Wave** report for Predictive Analytics Solutions²
- Working with **100+ schools globally** on big data skills education

**Milestones**

- **Feb 2012**
  Named a Leader in Hadoop (Forrester)
- **April**
  Big Data Exploration
- **July**
  Big Data Analytics
- **Feb 2013**
  Big Data Discovery
- **Oct**
  Workload Optimized Solutions for Analytics and Big Data [PureData System]

¹ Hype Cycle for Big Data, July 2012 by Gartner
² Forrester Wave: Big Data Predictive Analytics - Jan 2012
5 Key Big Data Use Cases

**Big Data Exploration**
Find, visualize, understand all big data to improve business knowledge

**Enhanced 360° View of the Customer**
Achieve a true unified view, integrating internal and external sources

**Security/Intelligence Extension**
Lower risk, detect fraud and monitor cyber security in real-time

**Operations Analysis**
Analyze a variety of machine data for improved business results

**Data Warehouse Augmentation**
Integrate big data and data warehouse capabilities to increase operational efficiency

- **Data analysis for Multiple sclerosis research**
- **Connecting B2B buyers & sellers in new ways**
- **Capture & analyze 42TB of daily traffic in real-time**
- **Predict demand, improve system reliability & efficiency**
- **40x+ performance improvement, 20%+ increase in campaign effectiveness**
## Mobile is Everywhere

### Five trends with significant implications for the enterprise

1. **Mobile is primary**
   - 91% of mobile users keep their device within arm’s reach 100% of the time

2. **Mobile provides insights unattainable in any other way**
   - 75% of mobile shoppers take action after receiving a location-based message

3. **Mobile is about transacting**
   - 96% year-to-year increase in mobile cyber Monday sales between 2012 and 2011

4. **Mobile must create a continuous brand experience**
   - 90% of users use multiple screens as channels come together to create integrated experiences

5. **Mobile enables the Internet of Things**
   - Global Machine-to-machine connections will increase from 2 billion in 2011 to 18 billion at the end of 2022

### Forward-thinking Customers

- **Air Canada** processes mobile passenger check in 80% more cost effectively than those done at the customer service counter
- **VCC** responds to RFPs in minutes vs. days, leading to a 40% increase in new business
- **Ottawa Hospital** provides seamless interactions among care providers, improving quality of care, patient safety & experience

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IBM Mobile Momentum

Mobile Performance Highlights

- **1200+ enterprise clients** using IBM Mobile products, services & solutions, 50% of Top Ten US Insurance, 20% of the largest US banks
- **125+ patents** for wireless inventions in 2012
- **6,000+ mobile experts** deployed globally
- Named a Leader in Mobile App Design and Managed Services by Forrester and Gartner¹

Milestones

- **Jan 2012**
  - Cross-platform mobile app development without lock-in
  - Worklight

- **March**
  - Secure device management [IBM Endpoint Manager]

- **June**
  - Mobile user experience instrumentation and analytics
  - tealeaf, an IBM® Company

- **Feb 2013**
  - User access protection from mobile devices [IBM Security Access Manager for Cloud and Mobile]

¹ The Forrester Wave™: Enterprise Mobility Services, Q1 2013, Forrester Research, Inc., February 15, 2013.
IBM MobileFirst Portfolio

Industry Solutions
- Banking
- Insurance
- Retail
- Transport
- Telecom
- Government
- Healthcare
- Automotive

IBM and Partner Applications
- Banking
- Insurance
- Retail
- Transport
- Telecom
- Government
- Healthcare
- Automotive

Strategy & Design Services
- IBM Worklight
- IBM Rational Test Workbench
- IBM Endpoint Manager
- IBM Enterprise Managed Services

Implementation Services
- IBM Security Access Manager
- IBM Security AppScan
- Tealeaf
- Partnerships: AT&T
- Nokia Siemens

Application & Data Platform
- Management
- Security
- Analytics

Cloud & Managed Services
- Devices
- Network
- Servers
Designing for mobile is different. IBM brings industry experience, design, infrastructure, and implementation expertise.
Integrated Systems:
Software Solutions

Mike Rhodin
Senior Vice President, Software Solutions,
Software Group
Clients face tough challenges in a new era of computing

“…we need better information and insight, but what we need most is the capability to act on it.”

Unit Head, Government, Hong Kong

“…the time available to capture, interpret and act on information is getting shorter and shorter.”

CEO, Chemicals and Petroleum, United States

“…but how do you unleash the innovative power of the people who deal with customers every day?”

CEO, Insurance, United Kingdom

Source: IBM CEO Study 2012
We’re weaving intelligence into the fabric of organizational processes to help clients build smarter businesses
Making new markets at the intersection of social, commerce and analytics . . . delivered via cloud and mobile

Source: IBM Market Intelligence
Capturing the cross-IBM analytics opportunity

Acquisitions
- Initiate, NISC, Clarity, Coremetrics, Unica Datacap, Open Pages, PSS & Netezza
- Q1 Labs, i2 & Algorithmics
- DemandTec, Tealeaf, Vivisimo, Emptoris & Varicent
- StoredIQ & Star Analytics (announced)

Launches
- Cognos 10 with integrated mobile & social analytics
- IBM introduces 2015 Road Map
- Big data, network intelligence, enterprise analytics systems
- Signature solutions, decision management, PureSystems, PureData
- Security intelligence for big data, Watson commercialization

Performance
- IBM introduces 2015 Road Map
- 15% increase in FY10 revenue
- 16% increase in FY11 revenue
- 13% increase in FY12 revenue
- Grows to a $20B IBM Business (up from $16B previously)

Source: IBM Financial Reporting and Market Intelligence
A smarter approach to the entire commerce cycle

- Maximizes opportunities by targeting new buyers at each stage of the commerce cycle
- Complements organic portfolio with more than $3B invested since 2010 in acquisitions to add new client-focused capabilities
- Doubled GBS practice to 2,000 dedicated consultants across the globe
- New client capabilities added in 2012:
  - Emptoris for procurement
  - DemandTec for pricing & promotion
  - Tealeaf for customer experience
Cloud is the primary vehicle for Smarter Commerce

>60,000 users
of IBM digital marketing tools
send 130M+ emails per month

4.5 million
daily transactions exchanged
via IBM B2B cloud

180+ million
IBM client transaction
events every year

300,000+
global trading entities
connected for IBM clients

50+
SaaS offerings
(100+ total across IBM
software portfolio)

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Re-thinking people-centric processes, inside and out

- IBM Social Business enables clients to fundamentally **transform the front office**

- Integrates capabilities across mobile, big data, analytics, content, security, compliance & more

- Recognized **leader in enterprise social platforms** for third consecutive year (IDC)

- Kenexa unlocks a new client conversation about **building a smarter workforce**

- New client capabilities added in 2012:
  - Kenexa for smarter workforce
  - StoredIQ for safe data disposal
Helping clients build a smarter workforce

**Attract & Recruit**
Attract and recruit top talent, source the best people for the culture and business needs - the first time

**Enable & Empower**
Enable employees to hit the ground running with the right tools, connections and expertise

**Engage & Perform**
Engage teams to collaborate and innovate, cultivate new leaders, build loyalty and perform with precision
The roadmap to deliver IBM Watson at scale
Meeting client demand for next generation cognitive systems

**Establish**

**Watson Healthcare Advisors**
- Transforms patient diagnosis, treatment, engagements and outcomes
- Introduced first commercial offerings:
  - Interactive Care Insights for Oncology
  - WellPoint Interactive Care Guide and Interactive Care Reviewer

**Extend**

**Watson Client Engagement Advisors**
- Deliver superior client experiences across high volume engagements
- Enable each engagement to deliver better informed recommendations
- Initial focus on healthcare, financial services and telecommunications

**Embed**

**Watson Integration Across the Portfolio**
- Leverage synergies across IBM’s entire Smarter Planet portfolio
- Initial focus on key growth areas including Social Business, Smarter Cities, Smarter Commerce, Smarter Care and Smarter Workforce

**Delivering the Platform at Scale**
- Scalable, higher throughput model that’s 2.5x faster and 1/4th the original size
- Improved, easier to use tool set and learning models being delivered in future versions
- Able to run on a single server and be deployed as an appliance or via Cloud

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Integrated Systems Summary
Winning with clients in a new era of computing

- Lead the evolution of Software Defined Environments with Big Data solutions optimized by client workload
- Invest in core capabilities to build the next generation platforms required to succeed in a new era of computing
- Build and lead high-value markets with solutions that help new types of IT buyers drive specific business outcomes
- Deliver exceptional client experiences that distinguish and distance IBM from its competitors
IBM Investor Briefing
These charts and the associated remarks and comments are integrally related, and they are intended to be presented and understood together.

In an effort to provide additional and useful information regarding the company’s financial results and other financial information as determined by generally accepted accounting principles (GAAP), certain materials presented during this event include non-GAAP information. The rationale for management’s use of this non-GAAP information, the reconciliation of that information to GAAP, and other related information is included in supplemental materials entitled “Non-GAAP Supplemental Materials” that are linked to the company’s investor relations web site at http://www.ibm.com/investor/events/investor0213.phtml. The Non-GAAP Supplemental Materials are also included as Attachment II to the company’s Forms 8-K dated January 22, 2013 and February 28, 2013.