Strategic Imperatives—Data

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Data is the new basis of competitive advantage

By 2017 there will be more than **1 trillion** connected objects and devices on the planet generating data.

There are **2.5 billion** gigabytes of data generated every day…

of which **80%** is unstructured.

By 2017, WW data spend will be **$266B**.

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**Big Data & Analytics Market Opportunity**

- **Services**: 6% CAGR through 2017
- **Software**: 6% CAGR
- **Hardware**: 3% CAGR

$266B

*Source: IBM Market Insights 1H2014*
IBM has built differentiated, industry-leading capabilities…

Our Expertise and Technology

- Industry's only Strategy and Analytics practice with 15K experts
- World’s largest digital agency, IBM Interactive Experience
- More than 100,000 people trained on analytics
- Consult, implement and run end-to-end analytics
- 15 Big Data & Analytics solutions and services available on Cloud Marketplace; 9 more to launch this quarter
- Most diverse portfolio of advanced analytics, including cognitive
- Streaming for real-time analytics
- Context computing for more accurate, quicker decision-making
- Most comprehensive enterprise-ready Hadoop distribution
- IBM Power Systems analyzes data 50x faster than the latest x86
...and we continue to invest in our clients’ success

- $24B: Investment in both organic development and 30+ acquisitions
- $1B: To bring cognitive services and applications to market
- $100M: Announced investment in IBM Interactive Experience, creating 10 new labs worldwide
- 9: Analytics Solution Centers
- 1,000: Developing curriculum and training for analytics with 1,000 universities
We are on track to be a $20B IBM business in 2015

- **40,000** engagements
- **4,800+** patents
- **70+** industry use cases
- **2,500+** Business Partners

**A leader in Business Analytics Services, IDC Marketscape**

**Ranked #1** in big data revenue by Wikibon for second consecutive year

**Big Data & Analytics revenue growing at nearly **2x** the market rate**
Data is driving demand for both greater business insight and the foundation to deliver it.
Anytime anywhere analytics redefines our clients’ business models and industries

As clients converge around these core capabilities...

... 60% of the opportunity resides in three domains

Customer
Reinvent customer experience to enable innovation and growth

Finance, Fraud & Risk
Address new risks and drive enterprise-wide performance

Operations
Develop models for optimized efficiency and maximized productivity
... Over 60% of the opportunity resides in three domains

$37B
Reinvent the customer experience
Interactive Experience practice and labs
Analytics for next best action and advisory services

$70B
Transform finance, prevent fraud and manage risk
Counter Fraud solutions built on 20 years of experience
Integrated solutions to mitigate operational, IT and financial risk

$62B
Drive operational efficiency
Real-time actionable insight with stream computing
Predictive asset optimization

*Market Opportunity Source: IBM Market Insights 1H2014
Data is driving demand for both greater business insight and the foundation to deliver it

**New/Enhanced Applications**
- Customer experience
- New business models
- Financial performance
- Risk, fraud
- Operations,
- Improve IT economics

**All Data**
- Transaction and application data
- Machine, sensor data
- Enterprise content
- Image, geospatial, video
- Social data
- Third-party data

**Real-time Data Processing & Analytics**
- Operational data
- Landing, Exploration and Archive data
- Deep Analytics data
- EDW and data mart

**Information Integration & Governance**

**On premise, in the cloud, as a service**
From big data to fast data: Real-time actionable insight

- Sense what is happening
- Build your context
- Act quickly & consistently
- Decide what to do

- Context-aware
- Predictive and rules-driven
- Continuous real-time at massive scale
Real-time actionable insight demonstration
We are building on our momentum - innovating and expanding capabilities to serve new client needs

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<th>2014</th>
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<th>POWER8 Optimized for Big Data and Analytics</th>
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Acquisitions

- aspera
- Cloudant
- THE NOW FACTORY
- StoredIQ
- DAEJA
- STAR ANALYTICS
- xtify

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Helping clients to go further faster

**IBM expertise** extends over 40,000 engagements, with 15,000 consultants working to address client needs.

**Innovative technology** drives real-time actionable insight with streaming, context and cognitive computing.

**Cloud leadership** enables clients to leverage all data and analytics securely for competitive advantage.

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Transforming industries and professions with data

Delivering the **insight to act**
with speed and conviction with IBM Big Data & Analytics

Introducing **cognitive computing** with IBM Watson
Watson has evolved from a Research Project to an IBM Business Unit

2006 – 2010
Research Project
R&D

2011
Jeopardy! Grand Challenge
Demonstration

2011–2013
Internal Startup Division
Market Validation

2014–present
IBM Watson Group
Commercialization

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IBM Watson is cognitive computing, and began as a system focused on helping humans leverage vast amounts of natural language.

**Natural language:**
Watson can read and understand natural language, important in analyzing unstructured data that make up as much as 80% of data today.

**Hypothesis generation:**
When asked a question, Watson relies on hypothesis generation and evaluation to rapidly parse relevant evidence and evaluate responses from disparate data.

**Dynamic learning:**
Through repeated use, Watson literally gets smarter by tracking feedback from its users and learning from both successes and failures.
Today, the mission of IBM Watson is the same – to scale & augment human expertise – but its capabilities have evolved

**Perceives:**
Watson understands the world as we do: it interprets sensory input beyond traditional data

**Reasons:**
Watson thinks through complex problems: it deepens our analysis and inspires creativity

**Relates:**
Watson understands how we communicate, and personalizes its interactions with each of us

**Learns:**
Watson learns from every interaction, scaling our ability to build experience
Watson today

IBM Watson Solutions

- Healthcare
- Financial Services
- Public Sector
- Other

IBM Watson Products

- Engagement
- Discovery
- Policy
- Other

IBM Watson Platform (built on BlueMix)

- Domain Specialization
- Cognitive Services
- Tooling

**Domain Specialization**

- Models
- Annotators
- Content

**Cognitive Services**

- Perceiving: Gaining a new level of insight into our world
- Reasoning: Drawing inferences to reach new conclusions
- Relating: Adapting/personalizing interactions by individual
- Learning: Continuously improving insight with experience

**Tooling**

- Assemble
  - Ingest
  - Train
  - Deploy
  - Admin

IBM Watson Foundations Methodology

- Requirements
- Inventory
- Prioritization
- Preparation

**Data Lake**

Information Lifecycle Management

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Transforming industries and professions with services-led engagements.

Advancing cognitive computing across the enterprise with repeatable solutions.

Bringing the cognitive experience to market through an ecosystem of partners.
Transforming industries and professions

Healthcare:

- Cleveland Clinic
- Memorial Sloan-Kettering Cancer Center
- Mayo Clinic
- WellPoint
- MD Anderson Cancer Center
Enterprise Solutions

**Watson Engagement Advisor**

**Watson Discovery Advisor**

**Watson Explorer**

**Watson Content Analytics**

- RBC
- DBS
- ANZ
- USAA
- Metropolitan Health
- SANOFI
- ELSEVIER
- life technologies
- verizon
- ONVIA
- MULTIVIEW
- U.S. National Library of Medicine
- kunnskapssenteret
- Henkel
- MEDIQ
- AIRBUS
- Security First
- USA.gov
- Government of Canada
- NC State University
- AMGEN
Watson Ecosystem

- **Startups**: $100M planned equity investments in Ecosystem
- **Enterprise**: 2400+ Ecosystem Partner Applications
- **Universities**: 400 Mobile Developer Challenge applications, 25 semi-finalists
- **Universities partnering to deliver cognitive curriculum in fall 2014**
Data is the new basis of competitive advantage

Leaders will:

Drive business outcomes by applying more sophisticated analytics across more disparate data sources in more parts of their organization.

Capture the time value of data by developing “speed of insight” and “speed of action” as core differentiators.

Change the game in their industry or profession with cognitive capabilities.

IBM’s Big Data & Analytics solutions deliver insight with speed and conviction and Watson leads the way in the new era of cognitive computing
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/investor0514.phtml. The Non-GAAP Supplemental Materials are also included as Attachment II to the company's Forms 8-K dated January 21, 2014 and May 14, 2014.