

Turn Insight into Action in Big Data Era

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An Explosion of Data



1.3 Billion RFID tags in 2005
30 Billion RFID tags in 2010



4.6 Billion mobile phones worldwide



2 Billion Internet users in 2011
By 2013, annual internet traffic will reach **667 Exabytes**



Google processes **> 24 Petabytes** of data in a single day



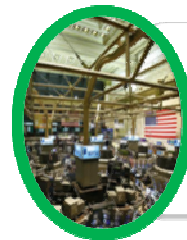
Facebook processes **10 Terabytes** of data every day



Twitter processes **7 Terabytes** of data every day



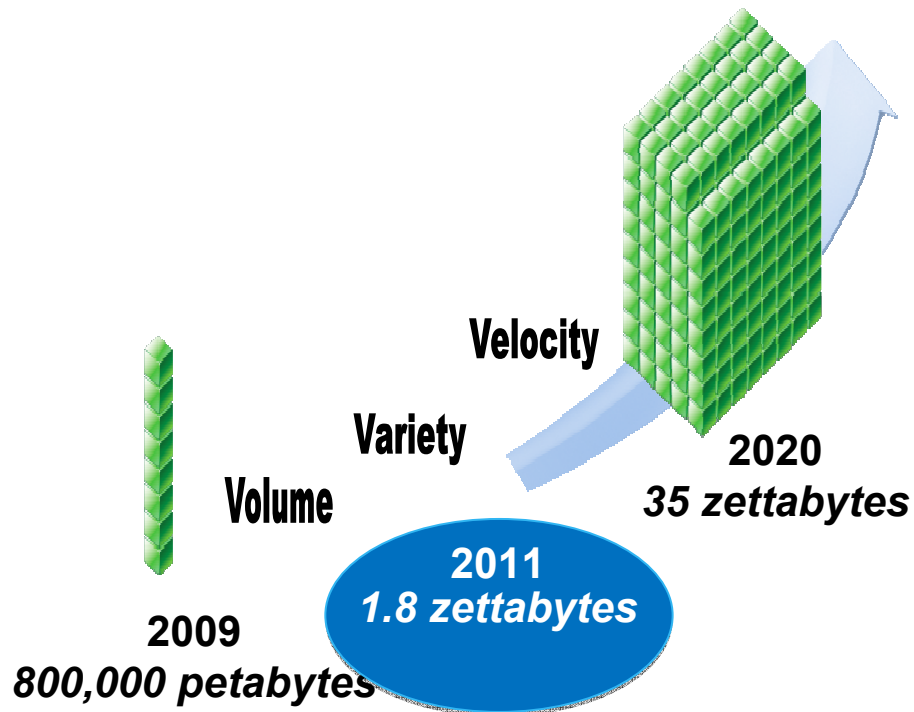
Hadron Collider at CERN generates **40 Terabytes** of data / sec



For every session, NY Stock Exchange captures **1 Terabyte** of trade information

Information Overload... But Lacking Insight

44x as much Data and Content
Over Coming Decade



1 in 3

Business leaders make decisions based on information they don't trust, or don't have

56%

say they feel overwhelmed by the amount of data their company manages

60%

say they need to do a better job capturing and understanding information rapidly

83%

cited "BI & Analytics" as part of their visionary plans to enhance competitiveness

Big Data represents a huge opportunity for new insight
Delivering the previously unattainable as new outcomes and possibilities

Volume

12

terabytes of Tweets
create daily

Analyze product sentiment

350

billion meter readings
per annum

Predict power consumption

Velocity

5

million trade events
per second

Identify potential fraud

500

million call detail records
per day

Prevent customer churn

Variety

100's

video feeds from
surveillance cameras

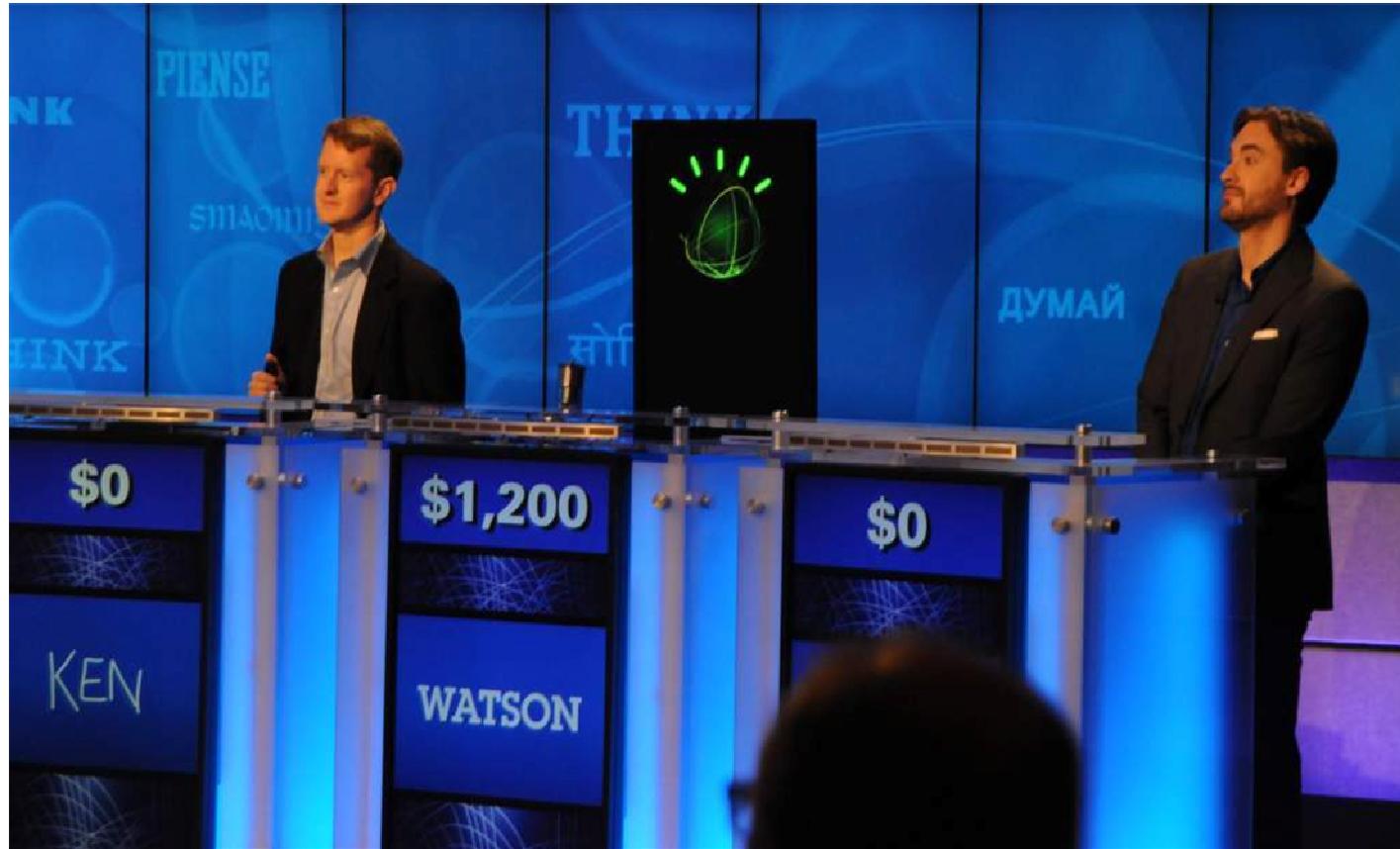
Monitor events of interest

80%

data growth are images,
video, documents...

Improve customer satisfaction

IBM Watson



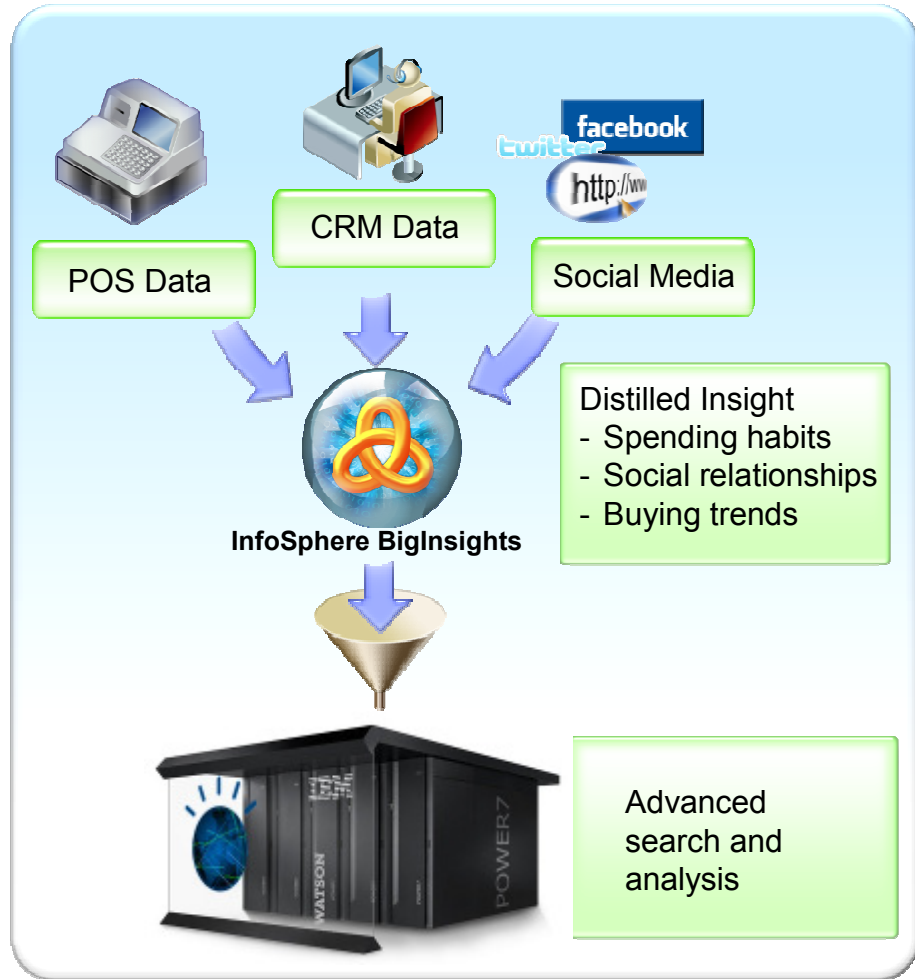
Big Data and Watson

Big Data technology is used to build Watson's knowledge base

Watson uses the Apache Hadoop open framework to distribute the workload for loading information into memory.



Watson can consume insights from Big Data for advanced analysis



Extract Intent, Life Events, Micro Segmentation Attributes

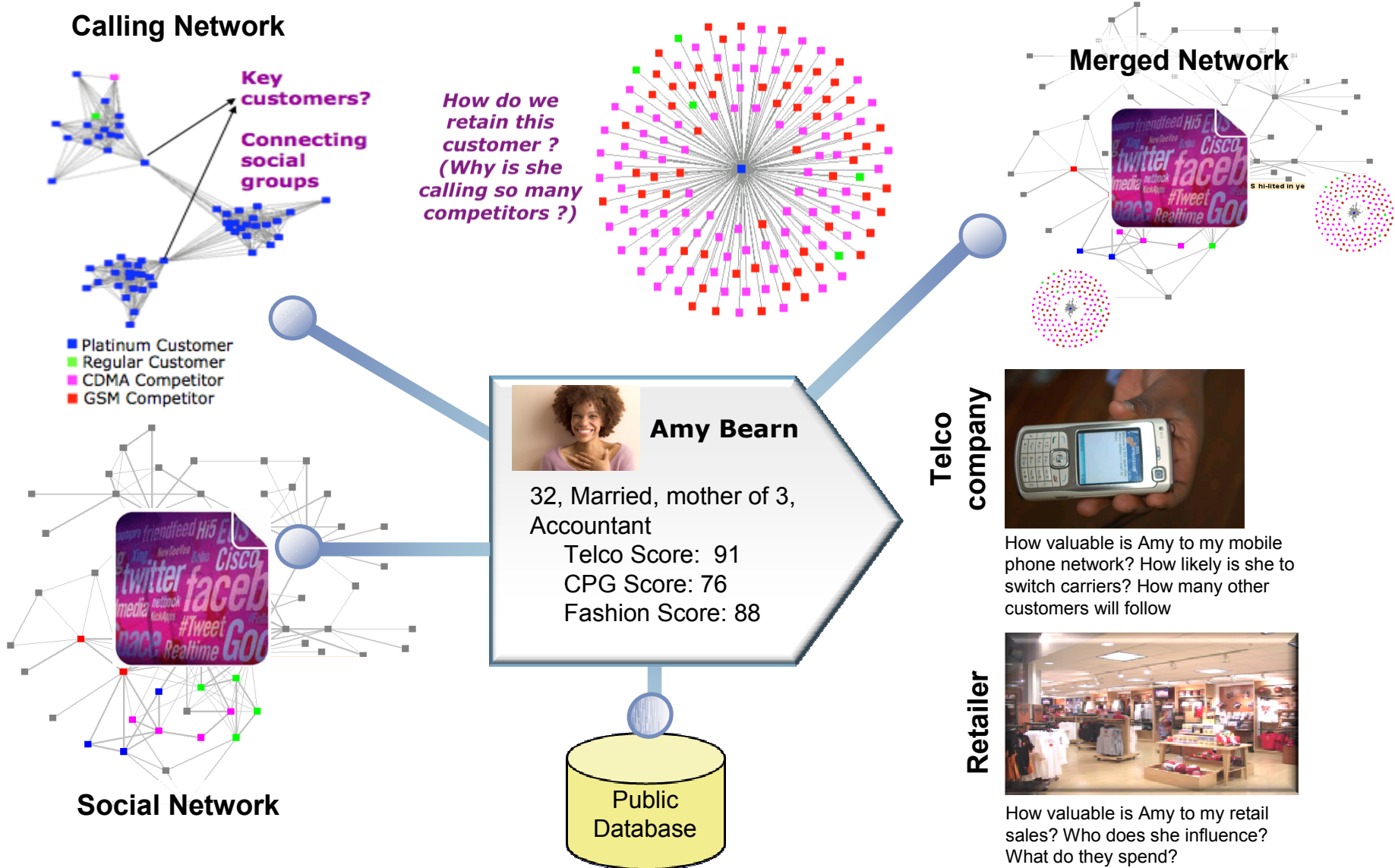
The image shows a screenshot of the Facebook interface. On the left, there are navigation options under 'FAVORITES' (News Feed, Messages, Other, Events) and 'APPS' (Pokes, Photos, Apps and Games). The main content area displays four profile pictures, each with a black label box overlaid on it:

- Profile 1: Name, Birthday, Family
- Profile 2: Not Relevant - Noise
- Profile 3: Monetizable Intent
- Profile 4: Not Relevant - Noise

The image shows a screenshot of the Twitter interface. The top navigation bar includes 'Home', 'Profile', 'Messages', and 'Who To Follow'. The main content area displays four tweets, each with a black label box overlaid on it:

- Tweet 1: Location
- Tweet 2: Wishful Thinking
- Tweet 3: Relocation
- Tweet 4: SPAMbots

Monetizing Relationships, Not Just Transactions



Big Data Analytics in Smarter Hospitals

Big Data enabled doctors from University of Ontario to apply neonatal infant monitoring to predict infection in ICU 24 hours in advance



IBM Data Baby
youtube.com

Applications for Big Data Analytics

Smarter Healthcare



Multi-channel



Finance



Log Analysis



Homeland Security



Traffic Control



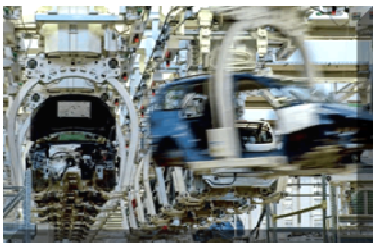
Telecom



Search Quality



Manufacturing



Trading Analytics



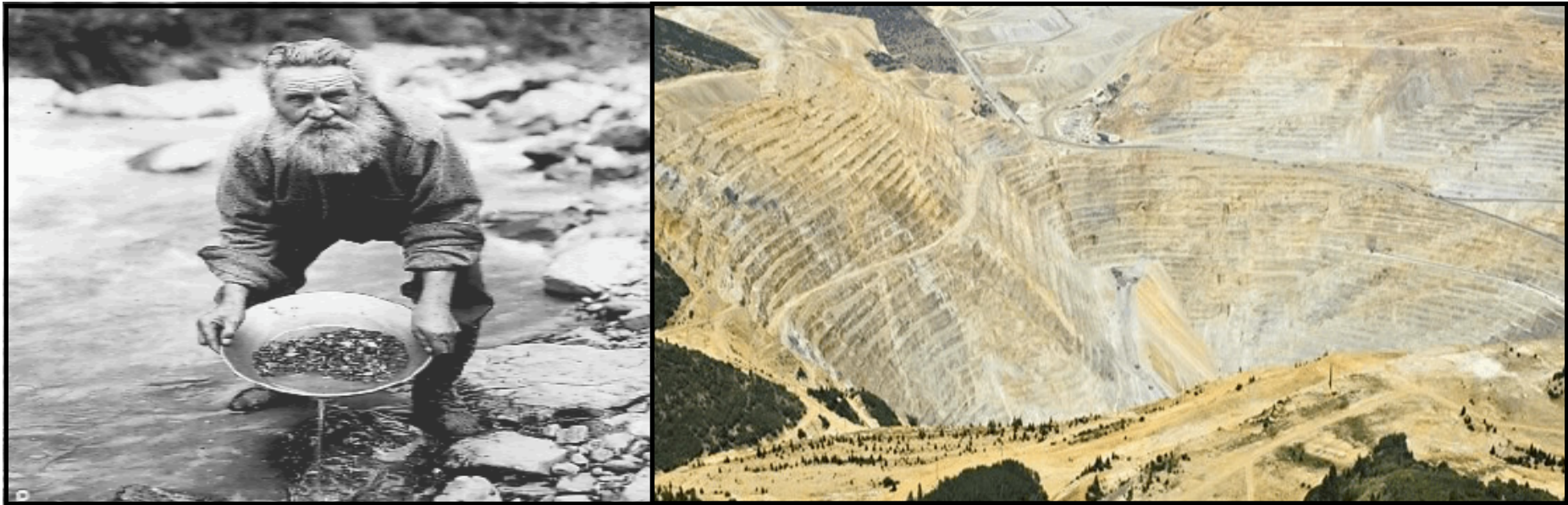
Fraud and Risk



Retail: Churn, NBO



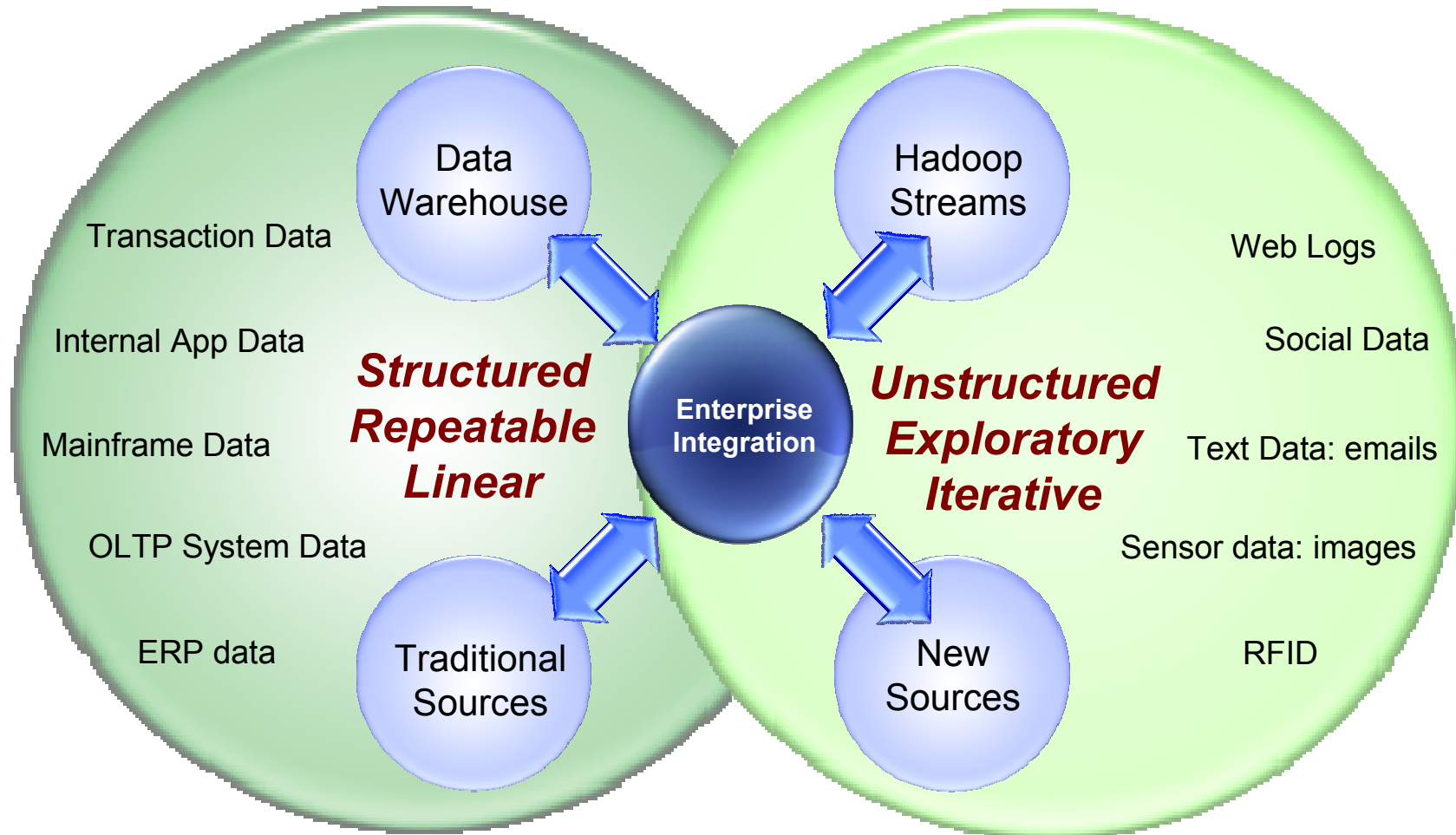
Why Didn't We Use All of the Big Data Before?



Complementary Analytics

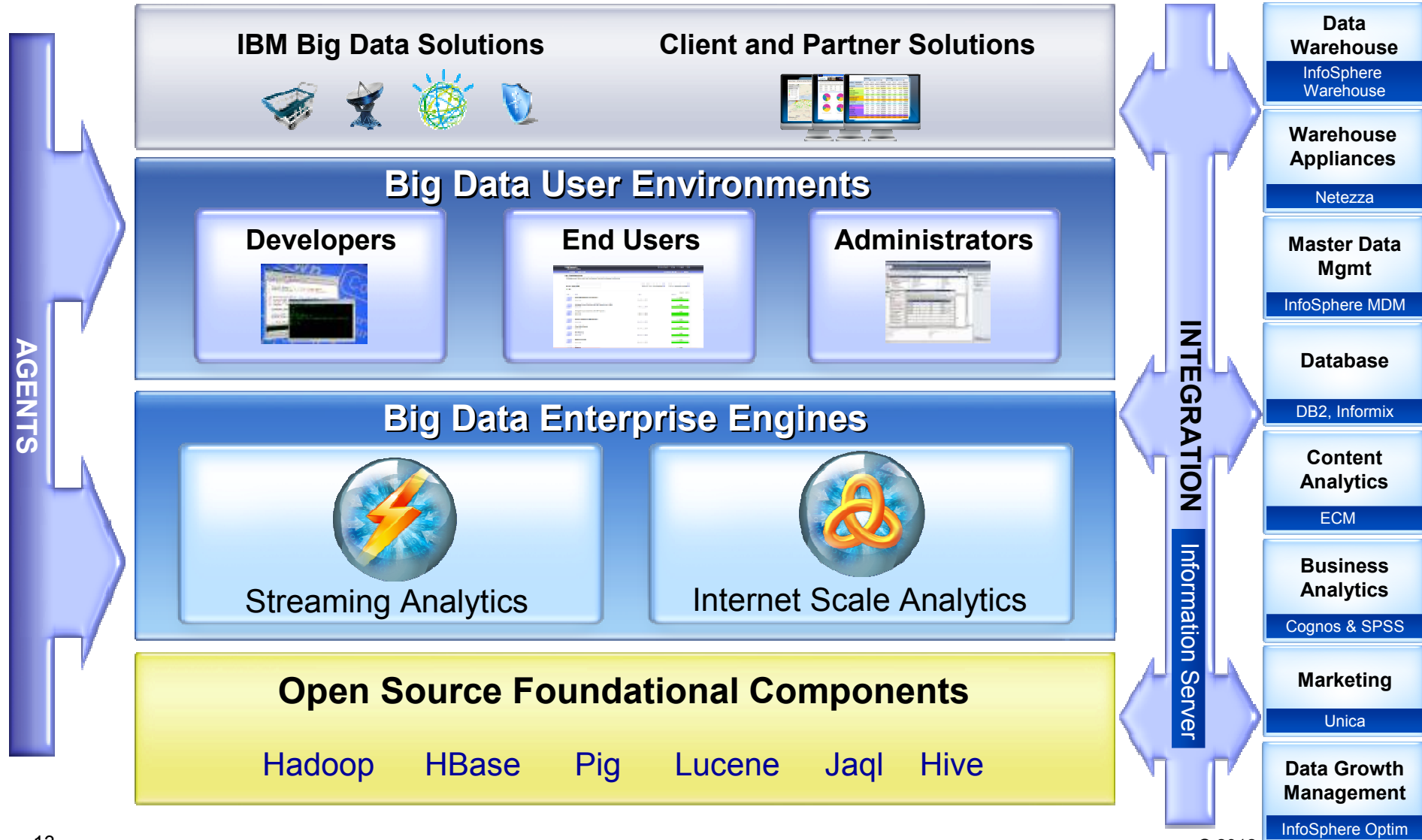
Traditional Approach
Structured, analytical, logical

New Approach
Creative, holistic thought, intuition



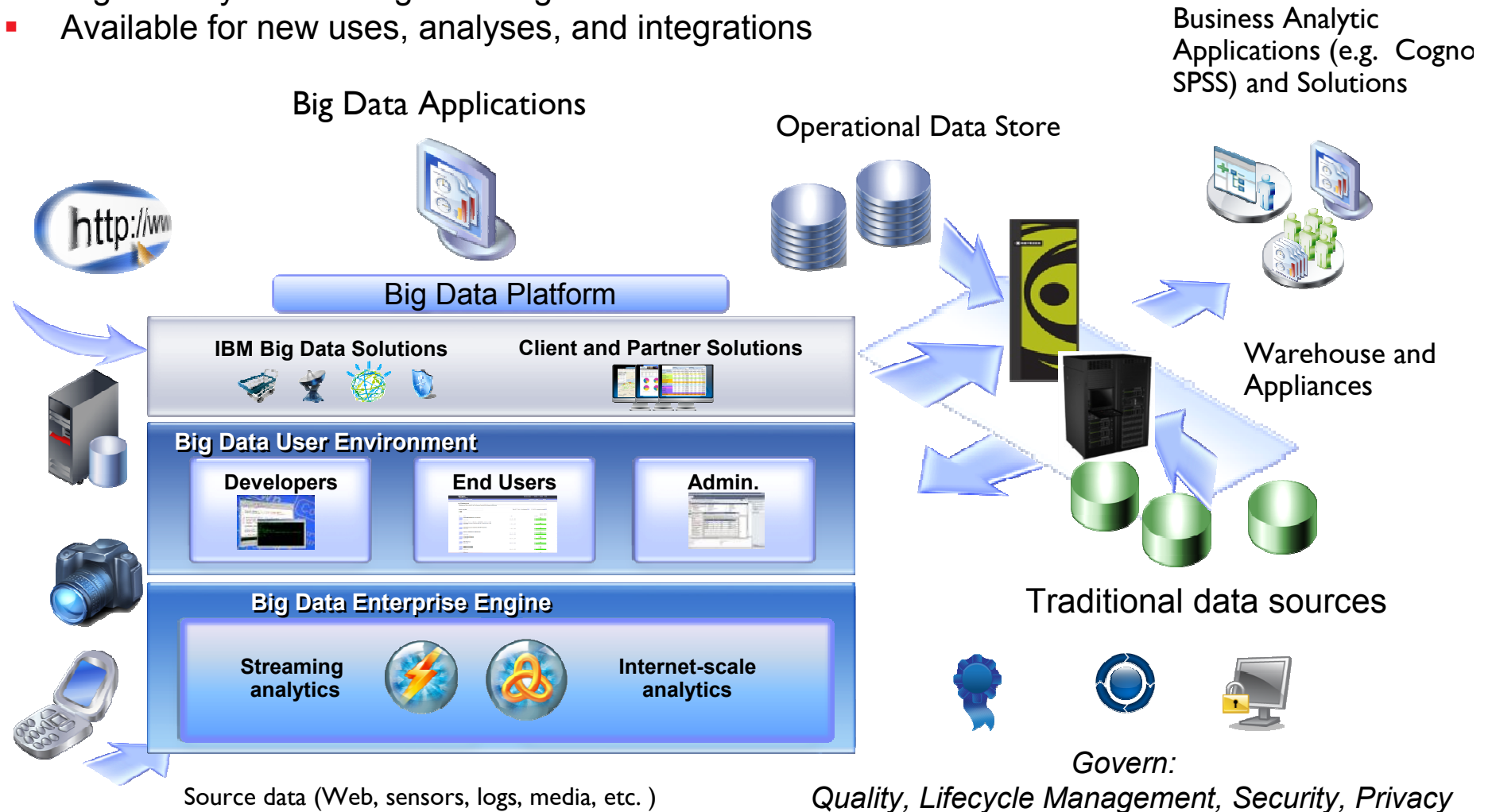
IBM's Big Data Platform

Bringing Big Data to the Enterprise



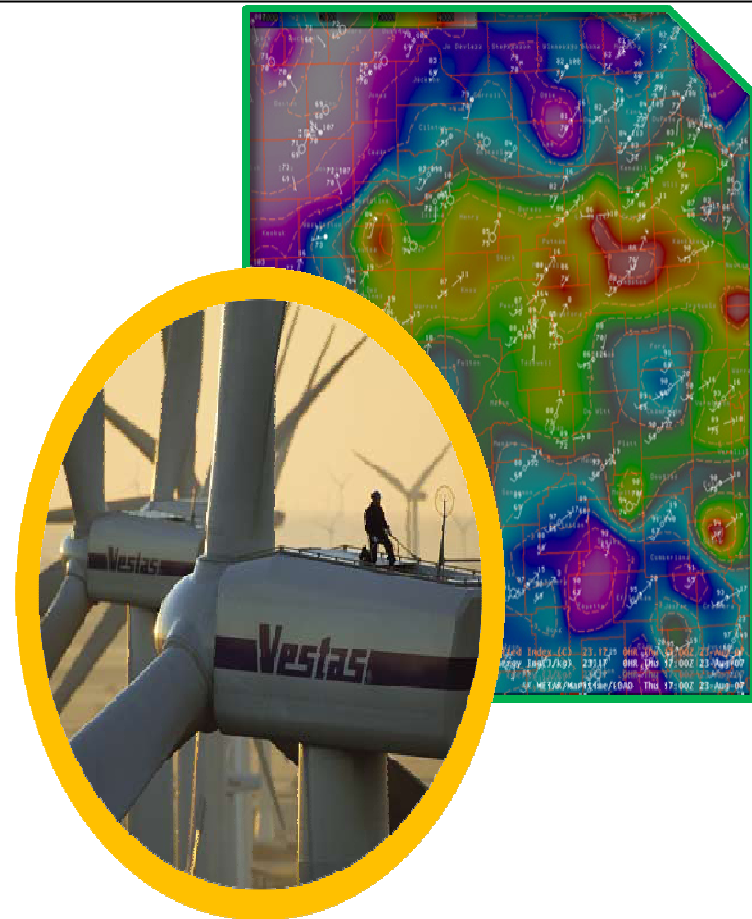
Big Data is an integral part of an enterprise data platform

- Manage Big Data from the instant it enters the enterprise
- High fidelity – no changes to original format
- Available for new uses, analyses, and integrations



Vestas Wind Systems A/S

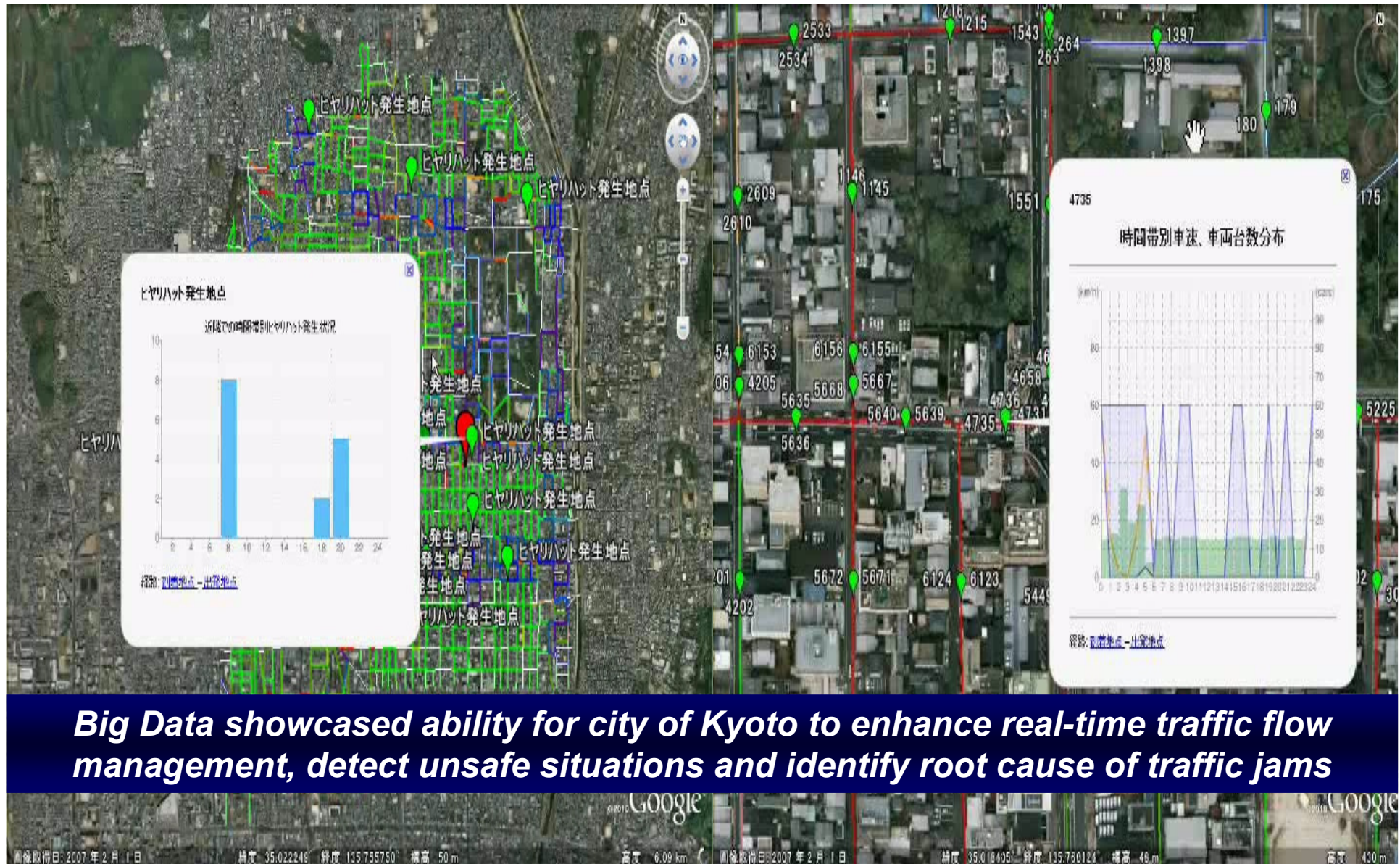
- Weather and geographic data analysis for wind turbine and wind farm site planning
- Deployed **IBM InfoSphere® BigInsights, based on Apache Hadoop**, to store, manage and to analyze location-specific data
- Analyzing **2.8 petabytes of public and private weather data** for each geographic location
- **Reduced by 97%** - from weeks to hours – the modeling time for wind forecasting information



Vestas®
No. 1 in Modern Energy

IBM InfoSphere BigInsights

Big Data Analytics for traffic flow management



Big Data showcased ability for city of Kyoto to enhance real-time traffic flow management, detect unsafe situations and identify root cause of traffic jams

IBM's Value Proposition for Big Data

Find new insights to create competitive advantage

- Purpose-built analytics to handle volume, variety and velocity

Less complex than integrating many piece parts

- One platform for ALL Big Data

Increased success rate with a pre-integrated platform

- Enterprise-class scalability and reliability

Lower development and integration costs

- Pre-built enterprise integration

Smarter Computing for Big Data - Imagine the possibilities ...in a world with no limits

Information from Everywhere



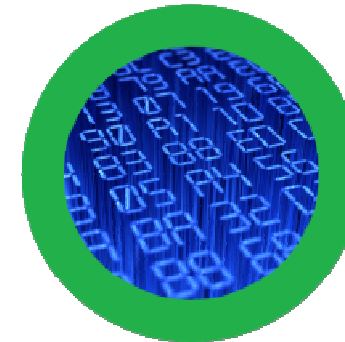
- Data & content
- Apps, web & sensors
- At rest & in motion
- Integrated & federated

Radical Flexibility



- Virtualization at every level
- Automated administration
- Easy-to-use analytics

Extreme Scalability



- “Big data” analytics
- Real-time stream processing
- Efficient parallelism
- Workload-optimized