THE FILLMORE GROUP
Relational Database Solutions

Mid Atlantic Virtual Users Group
May 9, 2013

IBM Big Data Announcements
What You Should Know

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Agenda:

- Introduction to the Mid-Atlantic Virtual Users Group
- Warren Heising Introduction
- The Big Picture – Big Data and Analytics Overview
- Big Data Announcements
- IULA “All You Can Eat” Licensing Announcement
- Next Steps and Q&A

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3 Takeaways:

- One new feature that will help your organization be successful
- How to get questions answered and where to go for help
- A planned next step

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The Mid-Atlantic Virtual Users Group

- IBM Information Management
- No travel!
- Product information and education

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The Fillmore Group

- Kim May, IBM Champion
- Big Data and Information Management Consulting Services
- IBM Authorized Training Partner
- IBM Information Management Software Reseller

IBM CHAMPION

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All about Warren Heising

- What Warren does
- What Warren's team does to promote IM solutions

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The Big Picture - Big Data and Analytics Overview

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On a Smarter Planet, Disruptive Technology Factors are Transforming the Business and IT Landscape

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What is Big Data?

Big Data is all data.

It has become so large and varied
that traditional approaches
must evolve to support
new types of data and analytics.

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Insights from Big Data Can Help Companies Across All Industries

The healthcare industry spends **$250 - $300 billion on healthcare fraud, per year**. In the US alone this is a $650 million per day problem.[1]

One rogue trader at a leading global financial services firm created **$2 billion worth of losses**, almost bankrupting the company.

$93 billion in total sales is missed each year because retailers don't have the right products in stock to meet customer demand.

5 billion global subscribers in the telco industry are demanding unique and personalized offerings that match their individual lifestyles.[2]

Source: 1.Harvard, *Harvard Business Review*, April 2010.
2,IBM Institute for Business Value, The Global CFO Study, 2010.

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Where We Are Today

- Big data has moved **beyond the hype**
- IBM is the **only company** with the **expertise, portfolio and partnerships** to address today's big data challenges
- IBM's April 30th announcements introduced **new and enhanced capabilities** to accelerate the value of big data

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11

Big Data is the Next Natural Resource

"We have for the first time an economy based on a key resource (Information) that is not only renewable, but self-generating.

Running out of it is not a problem, but drowning in it is."

— John Naisbitt

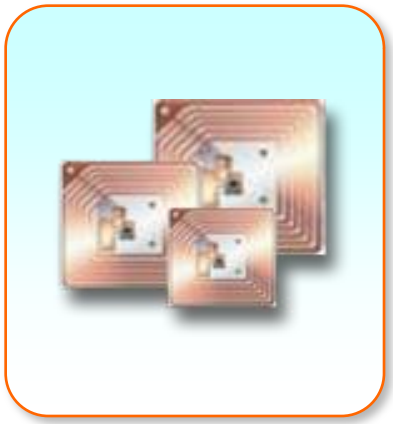
Harvesting any resource requires Mining, Refining and Delivering

Big Data is All Data and All Paradigms

Transactional & Application Data

- Volume
- Structured
- Throughput

Machine Data



- Velocity
- Structured
- Ingestion

Social Data

- Variety
- Unstructured
- Veracity

Enterprise Content

- Variety
- Unstructured
- Volume

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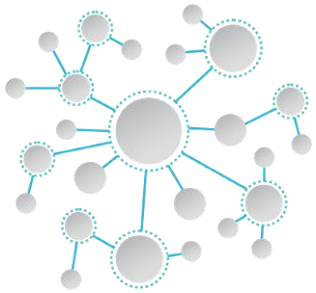
Leaders are Leveraging Big Data to Deliver Immediate Value at the Point of Impact

Delivering Value @ Point of Impact

Operational Systems



- Smarter Infrastructure
- Security Intelligence
- Enterprise Applications

Big Data and Analytics

Extend & Integrate

Systems of Engagement

- Mobile Commerce
- Call Center
- Social Business

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Key Business-driven Use Cases Improve Business Outcomes

Enrich Your Information Base *with Big Data Exploration*

99%

Reduction In Time Required For Analysis

SUNY The State University of New York

Improve Customer Interaction *with Enhanced 360º View of the Customer*

1,100

Association Publishing Partnerships

MULTIVIEW

Prevent Threat and Fraud *with Security and Intelligence Extension*

42TB

Real-time Acoustic Data Analyzed

TerraEchos

Optimize Infrastructure and Monetize Data *with Operations Analysis*

60K

Metered Customers in Five States

Pacific Northwest SMART GRID

Gain IT efficiency and scale *with Data Warehouse Augmentation*

40X

Gain in Analysis Performance

Constant Contact

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Every Industry Can Leverage Big Data & Analytics Solutions

Banking
- Optimize Offers and Cross Sell
- Contact Center Efficiency and Problem Resolution
- Payment Fraud Detection & Investigation
- Counterparty Credit Risk Management

Insurance
- Claims Fraud
- Next Best Action
- Catastrophe Modeling

Telco
- Pro-active Call Center
- Network Analytics
- Location Based Services
- IT/Network Infrastructure Transformation
- Smarter Campaigns

Energy & Utilities
- Smart Meter Analytics
- Distribution Load Forecasting/Scheduling
- Condition Based Maintenance
- Create & Target Customer Offerings

Media & Entertainment
- Business process transformation
- Audience & Marketing Optimization
- Multi-Channel Enablement
- Digital commerce optimization

Retail
- Actionable Customer Insight
- Merchandise Optimization Playbook
- Dynamic Pricing

Travel & Transport
- Customer Analytics & Loyalty Marketing
- Capacity & Pricing Optimization
- Predictive Maintenance Analytics

Consumer Products
- Optimized Promotions Effectiveness
- Micro-Market Campaign Management
- Real Time Demand Forecast

Government
- Threat Prediction and Prevention
- Detect and Prevent Improper Payments
- Single View

Healthcare
- Measure & Act on Population Health
- Engage Consumers in their Healthcare
- Increase visibility into drug safety and effectiveness

Automotive
- Data Warehouse Optimization
- Predictive Asset Optimization (PAO)
- Actionable Customer Intelligence

Chemical & Petroleum
- EDW Smart Consolidation & Augmentation
- Operational Surveillance, Analysis & Optimization
- Engineering & Operational Data Exploration & Mining

Aerospace & Defense
- Uniform Information Access Platform
- Data Warehouse Optimization
- Predictive Asset Optimization (PAO)

Electronics / Industrial Products
- Channel Driven Customer Analytics (CDCA)
- Predictive Asset Monitoring & Optimization (PAMO)

Life Sciences
- Increase visibility into drug safety and effectiveness

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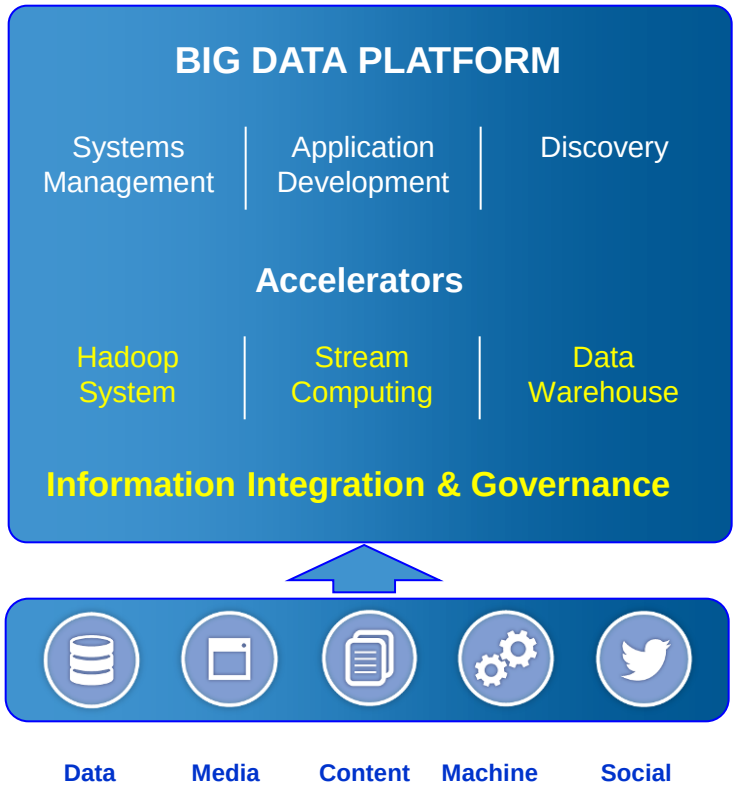
IBM's Big Data Platform Advantage



The Whole is Greater than the Sum of the Parts

- Almost all big data use cases require an integrated set of big data technologies to address the business pain completely
- Reduce time and cost and provide quick ROI by leveraging pre-integrated components
- Provide both out-of-the-box and standards-based services
- Start small with a single project and progress to others over your big data journey

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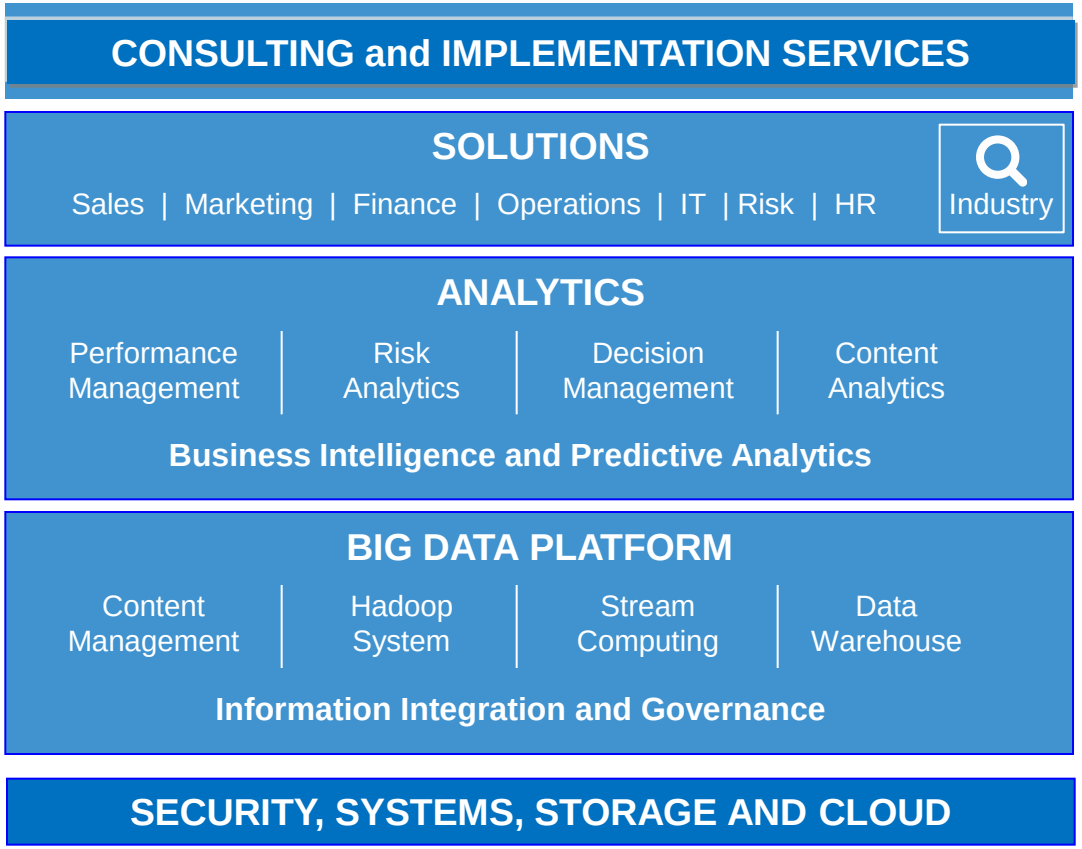
Big Data Platform is an Essential Component of the Broader IBM Big Data and Analytics Strategy



Enabling organizations to

- Assemble and combine relevant mix of information
- Discover and explore with smart visualizations
- Analyze, predict and automate for more accurate answers
- Take action and automate processes
- Optimize analytical performance and IT costs
- Manage, govern and secure information
- Reduced infrastructure complexity and cost

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Poll Question #1

IBM Information Management

2011

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IBM Big Data Announcements

Announced April 30, 2013

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IBM is Announcing Continued Big Data Leadership in the New Era of Computing

DB2 *with BLU Acceleration* — New

Speed of Thought Analytics

- Dramatically faster reporting and analytics
- Significant reduction in disk space
- "Create, load and go" simplicity

Big Data Platform — Enhanced

Platform advances in consumability and performance

- Integrated Hadoop ready for the enterprise
- Larger scale analysis of data in motion
- Supported by Information Integration and Governance

PureData System for Hadoop — New

Explore and analyze more data with appliance simplicity

- Faster deployment than custom-built solutions[1]
- First appliance with built-in analytics accelerator[2]
- Only Hadoop system with built-in archiving tools[2]

1 Based on IBM internal testing and customer feedback. "Custom built clusters" refer to clusters that are not professionally pre-built, pre-tested and optimized. Individual results may vary.
2 Based only on current commercially available Big Data appliance product data sheets from large US vendors

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Introducing **BLU Acceleration**

New

A new generation of data management innovation

- **8-25x faster reporting and analytics**[1]
  - more than 1000x seen in some lab test queries[2]
- **10x storage space savings**[3]
  seen during beta tests
- First in DB2 10.5 and Informix TimeSeries for reporting & analytics
- Planned to be extended for other data workloads and in other products in the future

BLU Acceleration

[1] Based on internal IBM testing of sample analytic workloads comparing queries accessing row-based tables on DB2 10.1 vs. columnar tables on DB2 10.5. Performance improvement figures are cumulative of all queries in the workload. Individual results will vary depending on individual workloads, configurations and conditions.
[2] Based on internal IBM tests of pure analytic workloads comparing queries accessing row-based tables on DB2 10.1 vs. columnar tables on DB2 10.5. Results not typical. Individual results will vary depending on individual workloads, configurations and conditions, including size and content of the table, and number of elements being queried from a given table.
[3] Client-reported testing results in DB2 10.5 early release program. Individual results will vary depending on individual workloads, configurations and conditions, including table size and content.

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Super fast, Super Easy – Create, Load, and Go!

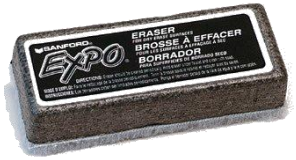
Database Design and Tuning

1. Decide on partition strategies
2. Select Compression Strategy
3. Create Table
4. Load data
5. Create Auxiliary Performance Structures
   - Materialized views
   - Create indexes
     - B+ indexes
     - Bitmap indexes
6. Tune memory
7. Tune I/O
8. Add Optimizer hints
9. Statistics collection

Repeat

DB2 with BLU Acceleration

1. Create Table
2. Load data



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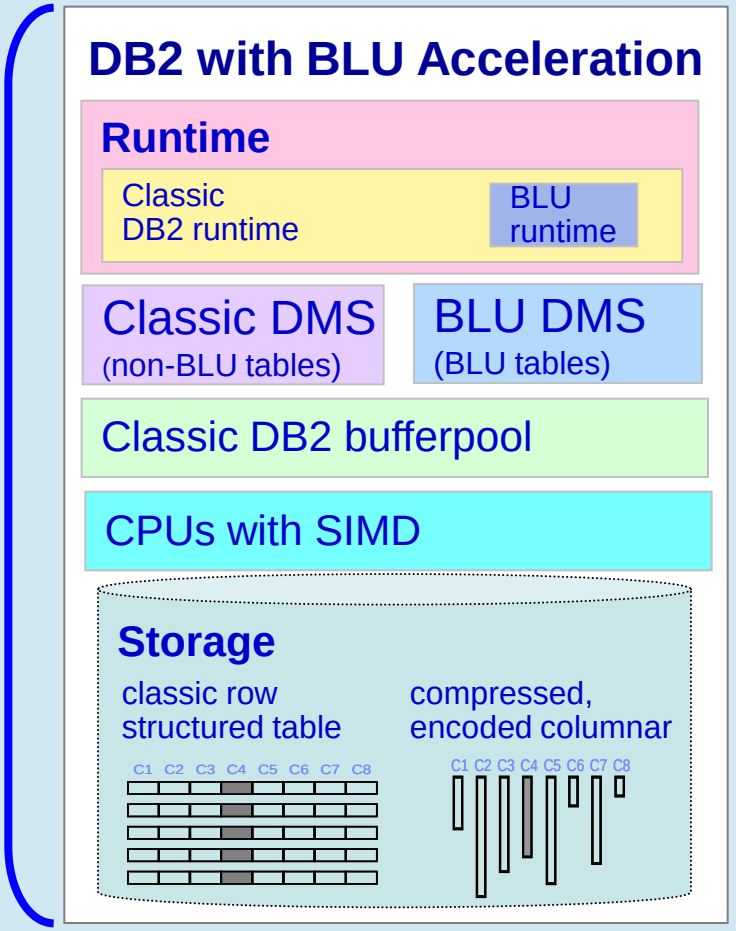
What is **BLU Acceleration ?**

New

- **Large order of magnitude benefits**
  - Performance
  - Storage savings
  - Time to value
  - 10TB query in seconds or less
- **New technology in DB2 for analytic queries**
  - CPU-optimized unique runtime handling
  - Unique encoding for speed and compression
  - Unique memory management
  - Columnar storage, vector processing
  - Built directly into the DB2 kernel
- **Revolution or evolution**
  - BLU tables coexists with traditional row tables - in same schema, storage, and memory
  - Query any combination of row or BLU tables
  - Easy conversion of tables to BLU tables
    - Change everything, or change incrementally



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DB2® 10.5 Multi-workload database software for the era of big data

- **Speed of Thought Analytics** - *with new BLU Acceleration*
  - **8-25x** faster reporting and analytics[1]; more than **1000x** seen in some lab test queries[2]
  - **10x** storage space savings seen during beta test[3]
- **Always Available Transactions** - *with enhanced pureScale reliability*
  - Online rolling maintenance updates with no planned downtime[4]
  - Designed for disaster recovery over distances of 1000s km[5]
  - Transparent scalability beyond 100 nodes[6]
- **Unprecedented Affordability**
  - In-memory speed and simplicity on existing infrastructure
  - Optimized for SAP workloads for faster performance and to help dramatically reduce costs
  - Upgrade to DB2 with average. 98% Oracle Database application compatibility[7]
- **Future-Proof Versatility**
  - Optimized capabilities for both OLTP and data warehousing
  - Business grade NoSQL and mobile database for greater application flexibility

[1] Based on internal IBM testing of sample analytic workloads comparing queries accessing row-based tables on DB2 10.1 vs. columnar tables on DB2 10.5. Performance improvement figures are cumulative of all queries in the workload. Individual results will vary depending on individual workloads, configurations and conditions.
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[3] Client-reported testing results in DB2 10.5 early release program. Individual results will vary depending on individual workloads, configurations and conditions, including table size and content.
[4] Based on IBM design for normal operation with rolling maintenance updates of DB2 server software on a pureScale cluster. Individual results will vary depending on individual workloads, configurations and conditions, network availability and bandwidth.
[5] Based on IBM design for normal operation under typical workload. Individual results will vary depending on individual workloads, configurations and conditions, network availability and bandwidth.
[6] Available with DB2 Advanced Enterprise Server Edition.
[7] Based on internal tests and reported client experience from 28 Sep 2011 to 07 Mar 2012.

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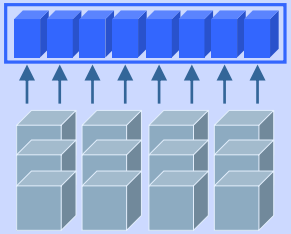
Big Data Software Enhancements for Exploration, Performance, and Consumability

InfoSphere BigInsights

For exploration, analysis & archiving large volumes and variety of data

Data at Rest



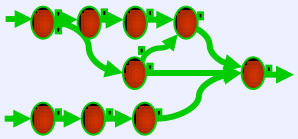
Hadoop System

- Big SQL
- GPFS
- High Availability

InfoSphere Streams

For real-time analysis of data in motion

Data in Motion



Stream Computing

- Simplified large scale deployments
- Increased performance
- Developer enhancements
- Enhanced integration

InfoSphere Identity Insight

For finding relationships in real-time

Relationship Detection

Entity Analytics

- Global scale individual and organizational entity recognition

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PureSystems Accelerate Delivery of Big Data Solutions

Simplicity of workload optimized expert integrated systems for big data

PureData System

For Hadoop
Optimized system to accelerate analytics on big data and online archive with appliance simplicity

New

For Analytics
Optimized system delivering data services for analytics and reporting

For Operational Analytics
Optimized system delivering data services for operational analytics

For Transactions
Optimized system delivering data services for high scale online transaction processing

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Highest Quality Data Services for Big Data

zEnterprise

InfoSphere BigInsights
for zBladeCenter Extension
for exploration & online archiving

DB2 Analytics Accelerator
powered by Netezza technology
for reporting & analytics
and operational analytics

DB2
for SQL & NoSQL transactions
with enhanced Hadoop integration
in DB2 11 (beta)

New

IMS
for highest performance transactions
with enhanced Hadoop integration
in IMS 13 (beta)

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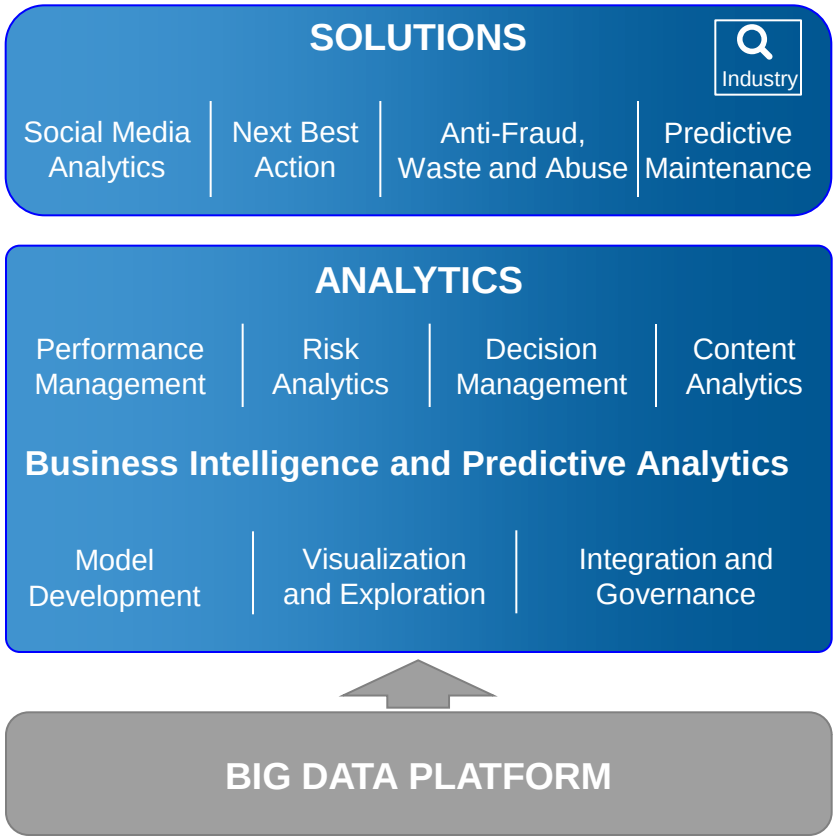
IBM's Advantage in Analytics for Big Data



Only IBM has expanded and evolved Analytics for Big Data to…

- Fuel all decision-making with powerful analytics
- Broaden analytic adoption without silos or programming
- Analyze all data wherever it lives
- Accelerate business value with solutions that have built-in analytics expertise

…**so organizations can find what is business relevant in big data and make it instantly actionable**

New

- *Social Media Analytics*
- *Integration and proven high performance - DB2 with BLU Acceleration and BigInsights Big SQL*

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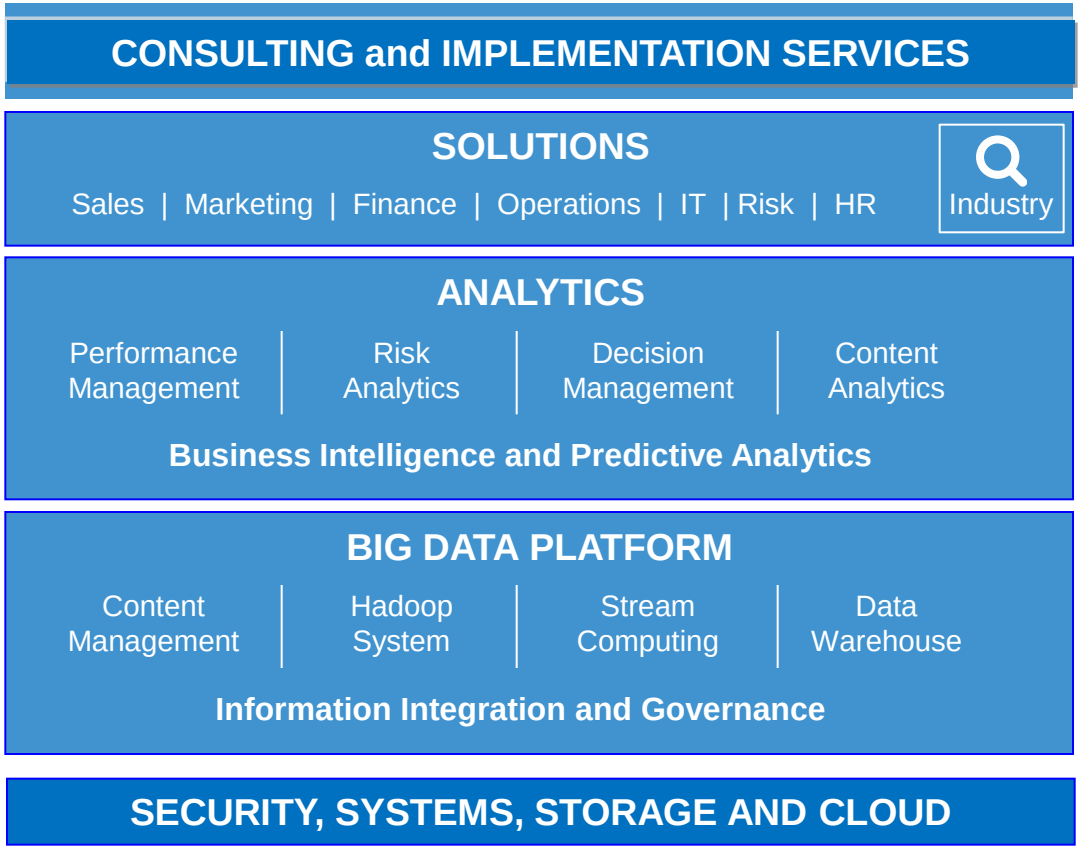
IBM Provides a Holistic and Integrated Approach to Big Data and Analytics



- More than $16B in Acquisitions since 2005
- More than 9,000 dedicated consultants
- Largest math department in private industry
- More than 27,000 Business Partner certifications

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Poll Question #2

IBM Information Management

2011

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IULA “All You Can Eat”

Licensing Announcement

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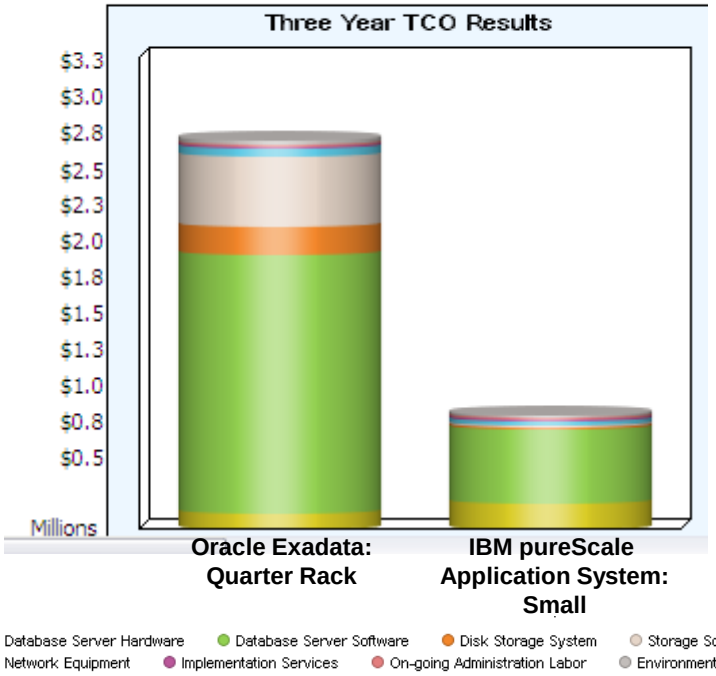
3-Year TCO and initial investment comparison

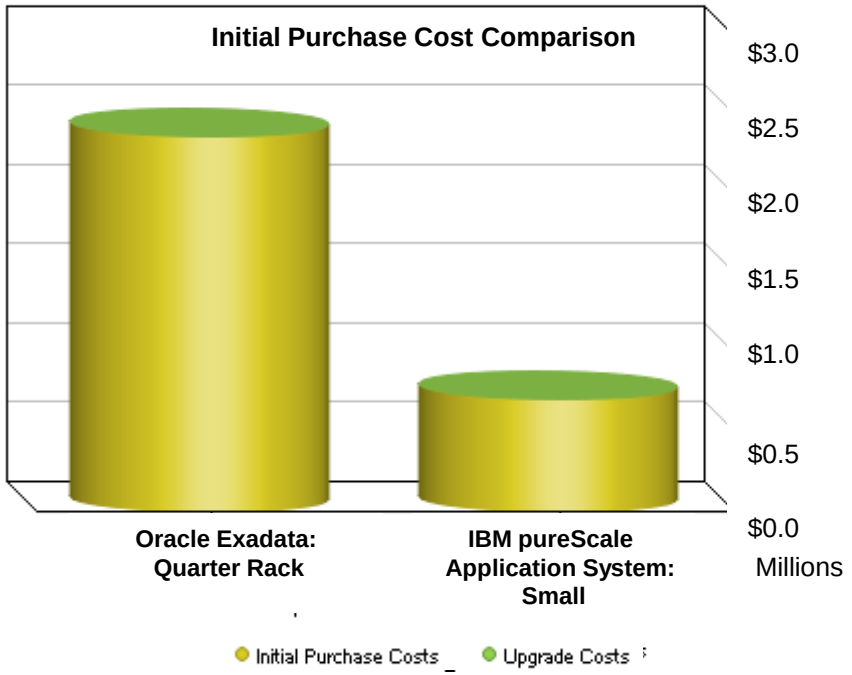
Oracle Quarter Rack Exadata vs. Small pureScale Application System

3 Yr TCO Savings with IBM over Oracle = 71%
Investment Cost Savings with IBM over Oracle = 70%

Savings with IBM pureScale $2,330,378 or 70.7%



Savings with IBM pureScale $1,666,447 or 70%



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The New IBM Unlimited License Agreement (IULA)

Audience

- For customers who want to deploy IBM middleware on an unlimited basis over a defined term.
- Best suited for database and core WebSphere software, but any IBM middleware will be considered for inclusion.
- Targeted accounts will not have an existing ELA in place
- The offering is intended for accounts where IBM does not have a dominant position in the account for the software in scope.

Benefits

- Provides predictability of costs
- Provides Freedom of Deployment
- Provides Ease of Administration / Flexibility

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Cost Predicability

- S&S fixed at beginning of contract
- License Term of 1-5 years
- Agreed S&S held flat during term
  - Limit annual S&S increases to NTE 5% after IULA term ends

Freedom of Deployment

- Entitlement based on certified deployment at end of term
  - No true-up / No additional license cost

Additional Flexibility

- Allow shorter IULA terms (1yr) vs. Oracle's 3 years minimum
- Lower entry TCV (1 yr = $500K, 2 yrs+ = $1M) vs. Oracle's standard $3M minimum

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Poll Question #3

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Next Steps and Q&A

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Thank You!

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Kim May, The Fillmore Group, kim.may@thefillmoregroup.com

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www.thefillmoregroup.com/blog

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