IDC Big Data Predictions 2014: Beyond Irrational Exuberance - Opportunities in the Big Data and Analytics Markets

The hype around big data is coming to an end, signifying the beginning of a long-term adoption trend that will expose myriad opportunities and challenges. As the broader **Big Data and Analytics (BDA)** technology and services market approaches **$100 billion** in revenues, vendors looking to expand and/or solidify their position in the BDA market are faced with the need to address an increasingly fragmented technology buyer population. In this Web conference, IDC's Big Data and Analytics research leaders will present their **Top 10 predictions for 2014 and beyond.** They will also discuss the demand and supply trends expected to have the greatest impact for software, hardware, and services vendors.

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IDC Big Data Technology & Services
Data Workflow

DATA CREATION — PRODUCERS
- Machine and Sensors
- Geolocation
- Transaction and Usage Logs
- Mobile Apps Data
- Email and Messaging
- Relationships and Social Influence

VOLUME · VELOCITY · VARIETY

DATA ACQUISITION — ARCHITECTS / ENGINEERS
- Shared Nothing Scale-out Storage + SSD
- Converged Infrastructure
- MPP + In-Memory Compute
- Hadoop
- Non-relational DWH (NoSQL)
- Hi-Speed / -Resiliency Networking
- Cloud

Deep Insights

Real-Time Events

INFO PROCESSING — ANALYSTS / SCIENTISTS
- Data Exploration
- Contextualized Data
- Modeling / Scenarios
- Forecasting
- Stream Processing
- Event Management

ON-DEMAND · PUSH · EMBEDDED

BUSINESS PROCESS — END USERS
- Access-Anywhere Analytics Services
- Context-Aware Business Applications
- Alert and Respond
- Location-Based Services
- Workflow and Interaction Automation
- Smart devices and systems

VALUE

SYSTEMS INTEGRATION — OBJECTIVES — DELIVERY MODELS

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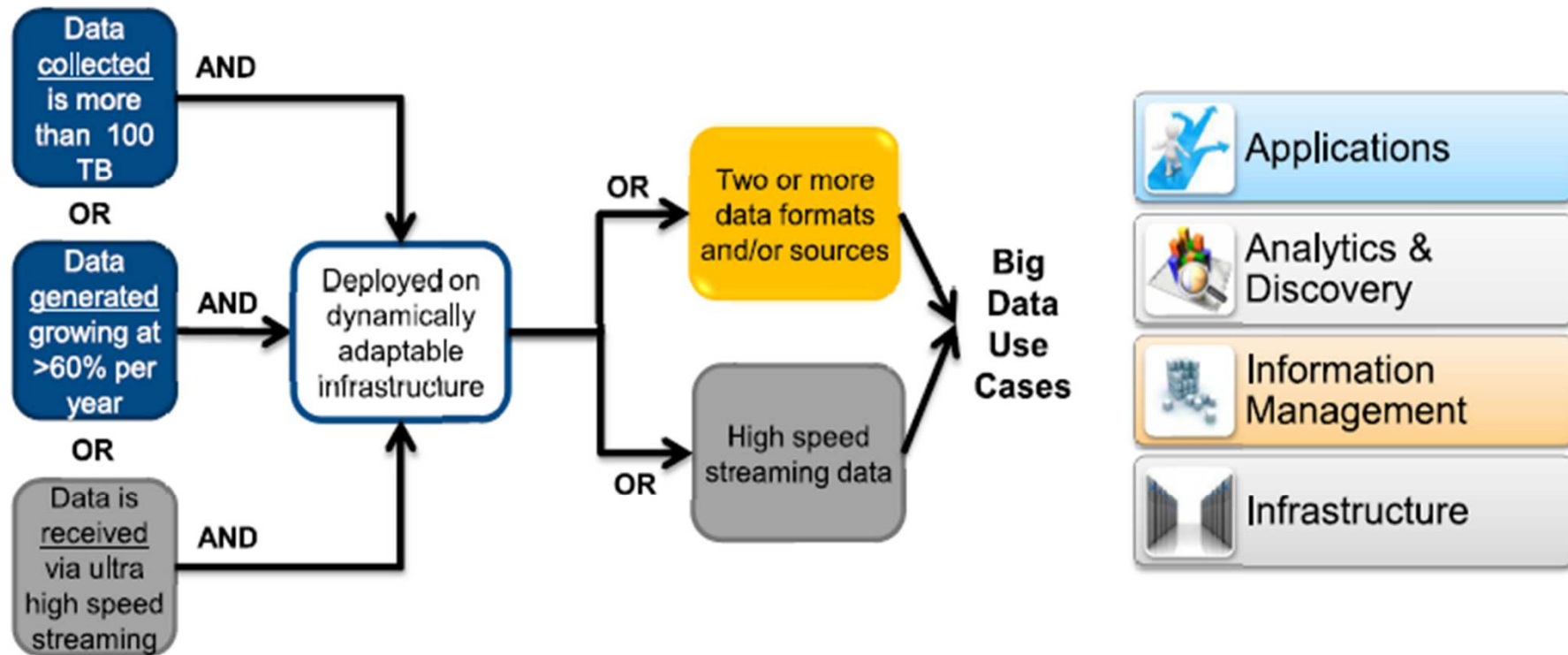
IDC Big Data Technology & Services
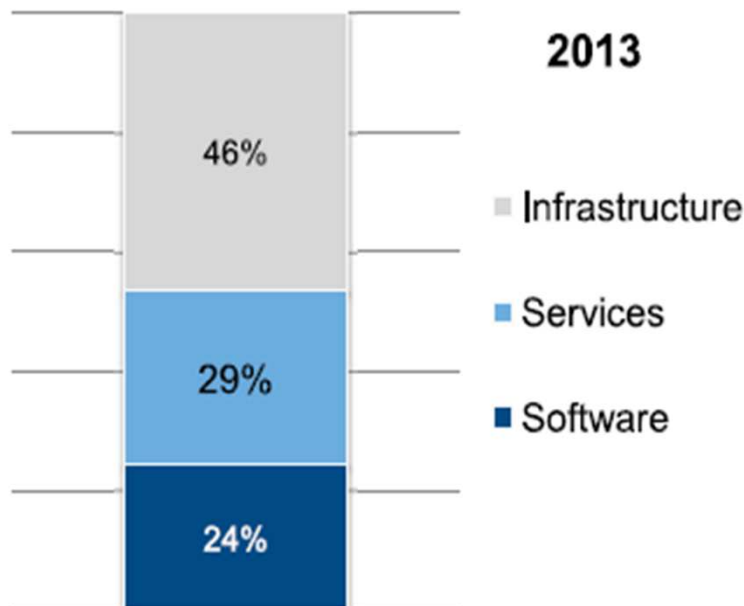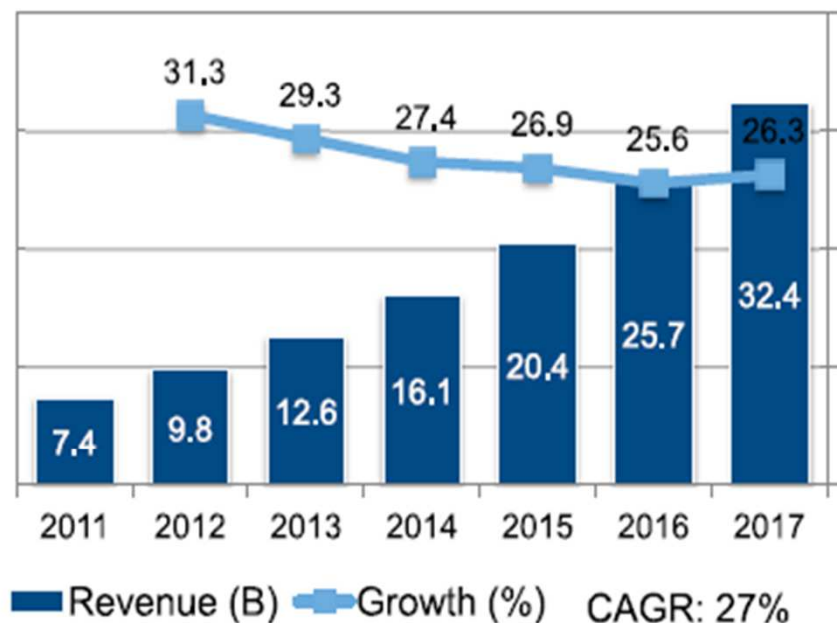## Market Sizing Criteria

A new generation of technologies and architectures designed to economically extract value from very large volumes of a wide variety of data by enabling high-velocity capture, discovery, and/or analysis

Prediction #2

VC and R&D Investment will shift to the top layers of the Big Data software stack

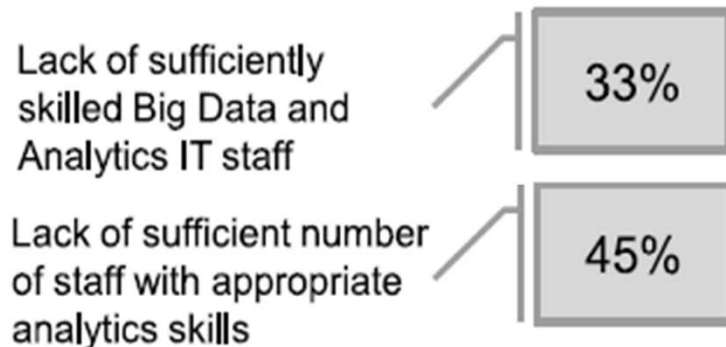- *M&A activity will kick into high gear in 2014/2015*
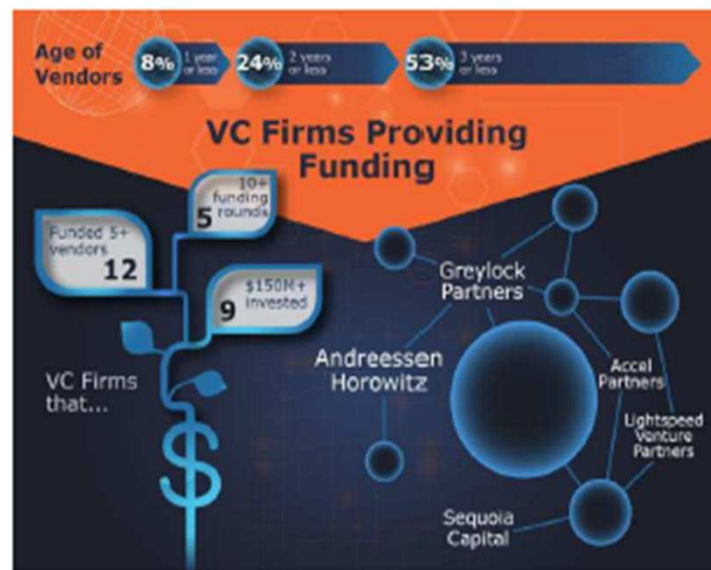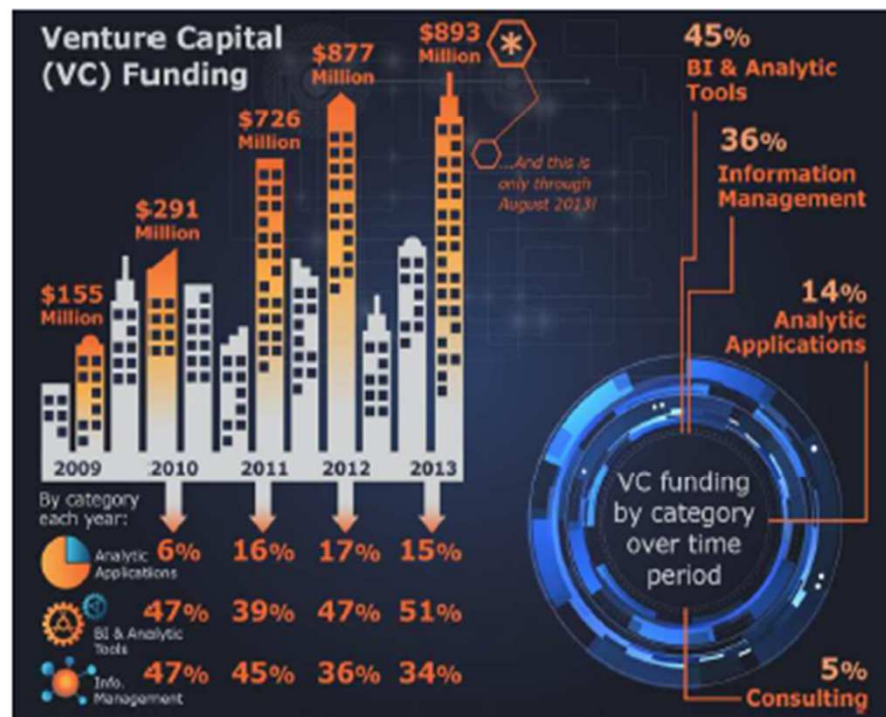
Prediction #3

Big Data professional services market will exceed $4.5 billion in 2014. Number of vendors will triple over the next three years.

- *IDC expects services firms to aggressively acquire scarce Big Data talent as well as industry and process-specific IP*

- *Growth in Appliance and Cloud deployments will alleviate some of the skill shortage*

- *Response from High Education industry will bear fruit in only 4 – 5 years*

Profession services firms that:	**End User organizations challenges:**
30% — Increased Big Data and Analytics staff in the past 12 months	Lack of sufficiently skilled Big Data and Analytics IT staff — **33%**
45% — Plan to increased Big Data and Analytics staff in the next 12 months	Lack of sufficient number of staff with appropriate analytics skills — **45%**

Prediction #4

A growing number of vendors will provide not only technology but also analytic services and content.
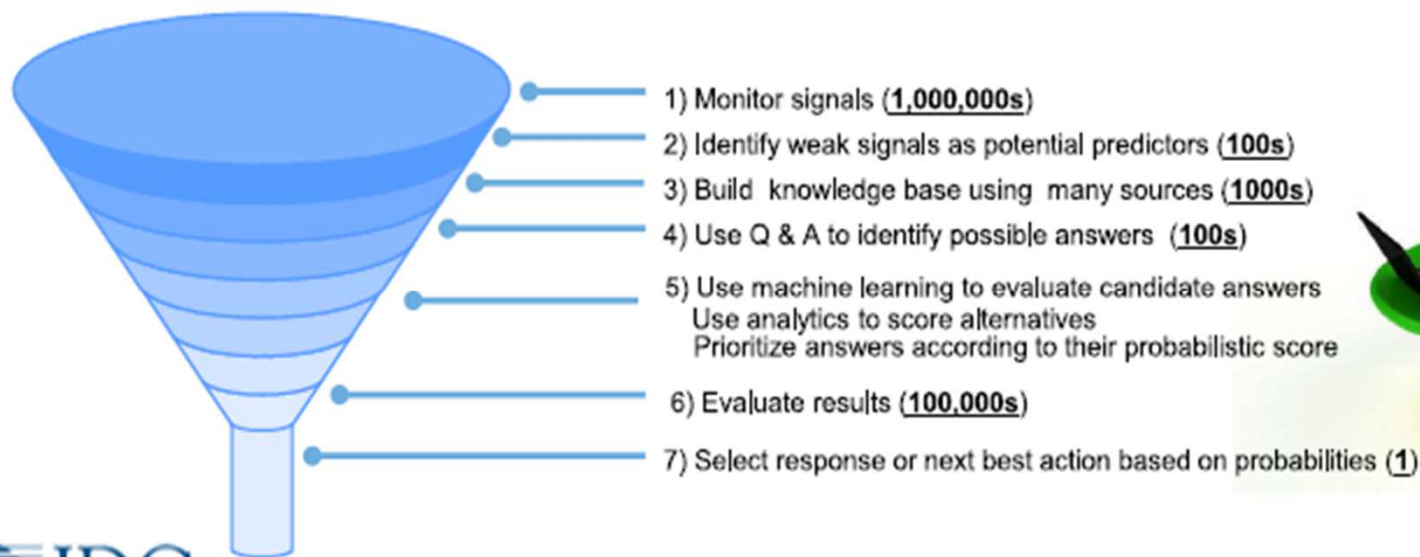
Value Added Content provider market will:

- *Grow rapidly and become a significant buyer of Big Data technology*

- *Reinforce the notion of Data as a medium of exchange*

- *Challenged by lack of business model clarity and standards*

Traditional Vendors	Company & Personal Info Vendors
•Thomson •Dun & Bradstreet •Nielsen Etc. •LexisNexis •HIS •Reed Elsevier •Experian	•Experian •Acxiom Etc. •InfoUSA •Equifax •Neustar •Tarsus
New Wave Vendors	**Search Engine / Aggregators**
•DataSift •Gnip •FirstRain Etc. •LinkedIn •Eloqua •Innography •DataMarket	•Yahoo Etc. •Google •Baidu •Microsoft •AOL •Salesorce/Data.com

Prediction #5

Decision and recommendation automation solutions will proliferate the Big Data landscape

- *These solutions will utilize a mix of cognitive computing, rules management, analytics, biometric, rich media recognition software, and commercialized HPC infrastructure*

- *Some of these solutions will begin to* replace or significantly impact knowledge worker roles.

1) Monitor signals (**1,000,000s**)
2) Identify weak signals as potential predictors (**100s**)
3) Build knowledge base using many sources (**1000s**)
4) Use Q & A to identify possible answers (**100s**)
5) Use machine learning to evaluate candidate answers
   Use analytics to score alternatives
   Prioritize answers according to their probabilistic score
6) Evaluate results (**100,000s**)
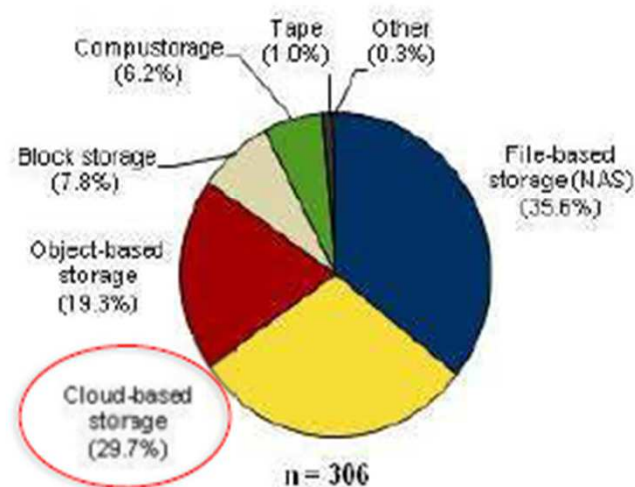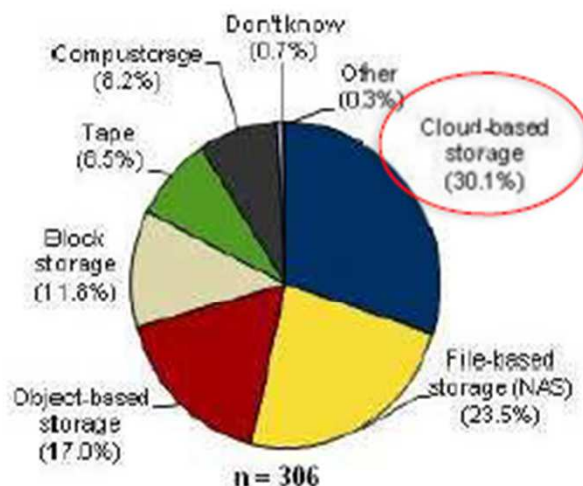7) Select response or next best action based on probabilities (**1**)

Prediction #6

Cloud Infrastructure will be the fastest growing sub-segment of the market with an expected CAGR of close to 50%

- *Data "born in the cloud" will increasingly remain in the cloud*

- *80%+ of the new "killer apps" on the 3rd Platform will be "data-intensive"*

- *Adjacency to compute will make it easier to analyze large disparate data sets in the cloud*

- *A significant amount of data that can be described as Big Data in the datacenters will either get disposed of or archived to the cloud.*

- *More vendors will join Amazon Web Services to offer cloud-based real time data processing as a service – making it easier for cloud-based data creation and disposal*

Storage Medium for pre-processed Data

Tape (1.0%)
Other (0.3%)
Compustorage (6.2%)
Block storage (7.8%)
File-based storage (NAS) (35.6%)
Object-based storage (19.3%)
Cloud-based storage (29.7%)
n = 306

Storage Medium for post-processed Data

Don't know (0.7%)
Compustorage (6.2%)
Other (0.3%)
Tape (6.5%)
Cloud-based storage (30.1%)
Block storage (11.8%)
File-based storage (NAS) (23.5%)
Object-based storage (17.0%)
n = 306

Source: IDC's *Big Data Survey*, March 2013

Prediction #7

Security will become the next big front for Big Data

- *Security infrastructure will increasingly take on Big Data-like attributes*

- *Privacy concerns and risk posture of user data will fuel processes on data security*

- *Security applications will span cloud and traditional datacenters*

- *Big Data will be used to correlate log data and identify malicious activity in real time*

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Prediction #8

Big Data technology based on RDBMS will not disappear (any time soon), but will be augmented with purpose built technology

- *The Hadoop ecosystem will continue to expand, rapidly supported by both open source projects and distributors and commercial vendors*

- *Adoption of Graph database and NoSQL databases will expand to address use cases where these technologies outperform traditional RDBMSs*

- *In the short-term, the information management architecture (including software and infrastructure), will become more complex for most organizations*

Q. To what extent has your organization supplemented general purpose relational database management systems with any of the following specialized big data and analytics technologies?

Source: IDC and Computerworld 2013 Business Analytics Survey
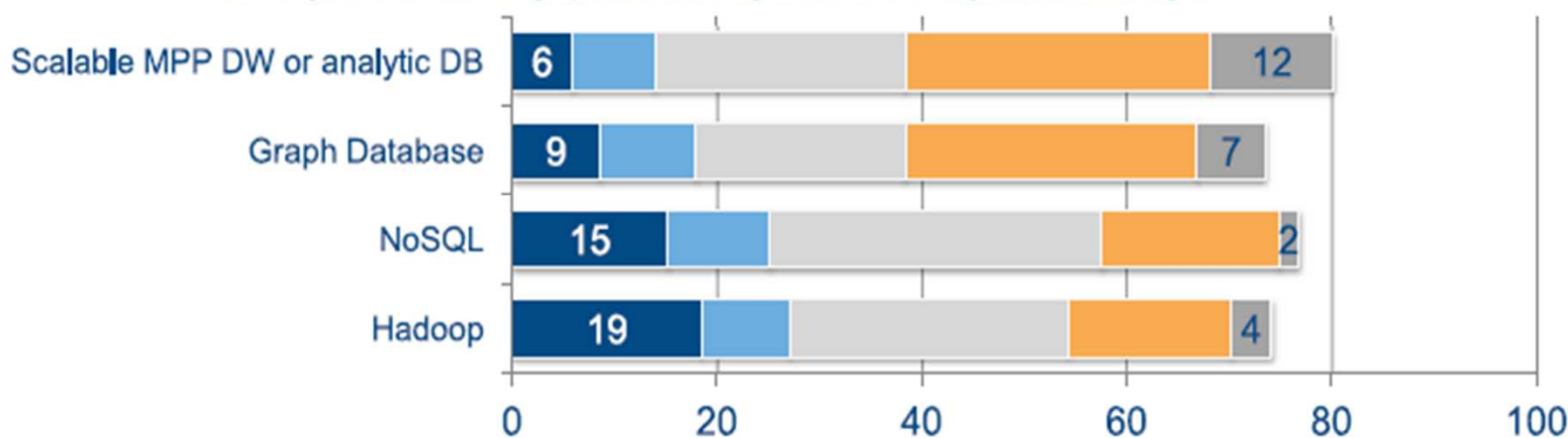
Prediction #9

Proliferation of sensor, mobile, wearable, and embedded devices (Internet of Things) will become a significant driver of Big Data market

- *To address data from the IoT, there will be a need to invest in technology for both Data-In-Motion and Data-at-Rest*

- *Cloud-based real-time data processing services will support the IoT movement – allowing real-time analysis of geo-dispersed incoming data streams*
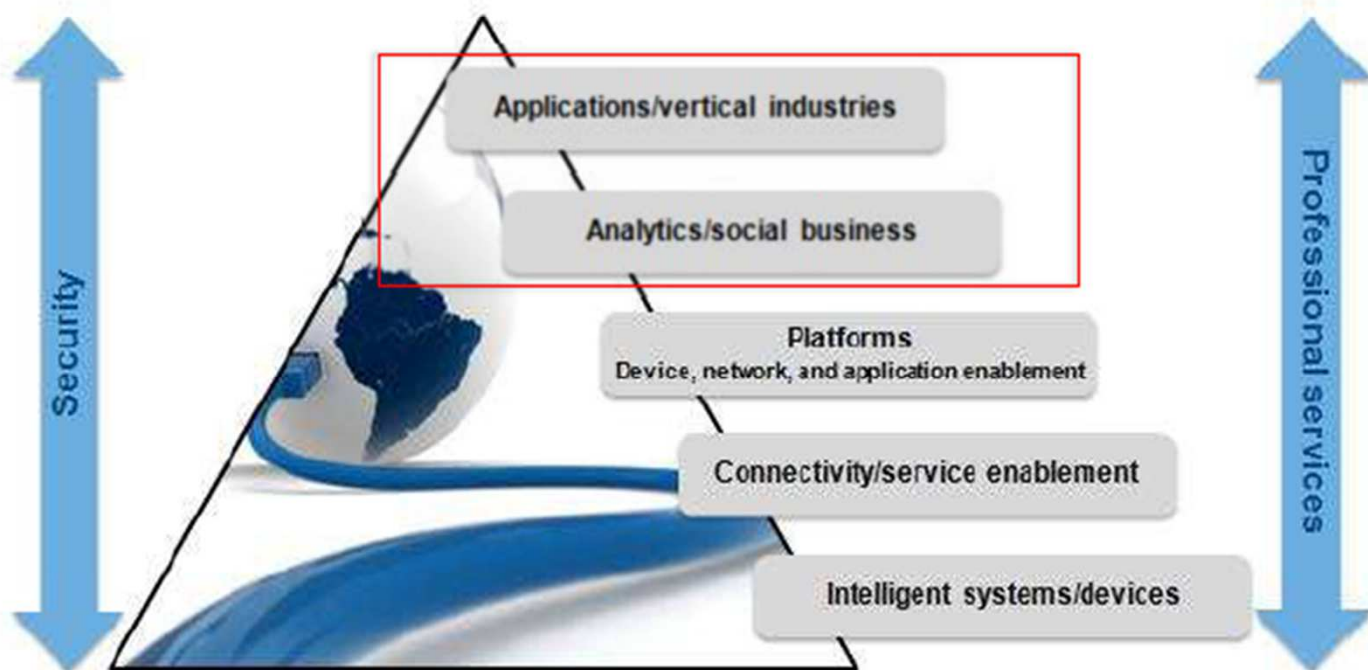
Prediction #10

Boundaries between enterprise Big Data and HPC will continue to blur

- *Vendors will cross in both directions: from HPC to commercial markets and from commercial markets to the HPC market*

- *High performance data analytics (HPDA), as a segment of the Big Data Market is estimated to grow at 19.4% CAGR to reach $600 million in 2017*

- *Early crossover use cases:*
  - ✓ *Fraud/error detection*
  - ✓ *Genomics/proteomics*
  - ✓ *Personalized medicine*
  - ✓ *FSI*

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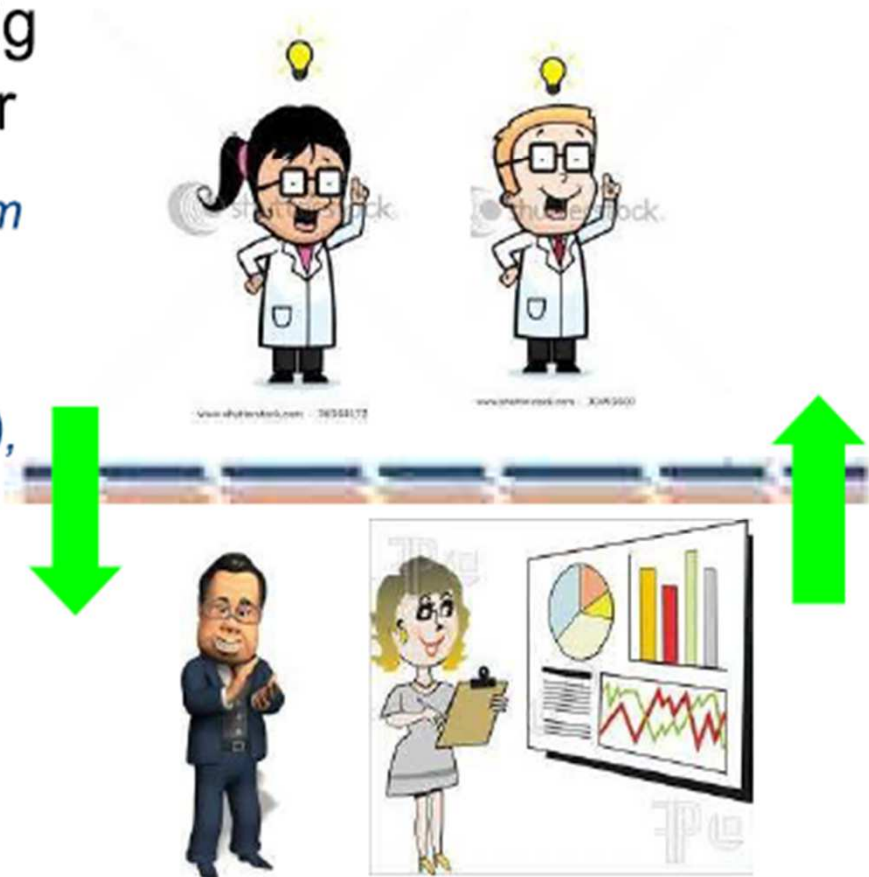
Essential Guidance for Vendors

- Recognize that for Big Data solutions, one size (technology) does not fit all (requirements).

- Identify specific decision processes and groups of decision makers.

- Package and price offerings to address specific use cases. There's no such thing as an enterprise-wide Big Data product or need.

- Be prepared for a more consultative role of a trusted advisor.

- Expect the unexpected. Plan for dynamically adaptable technology.

- Consider the performance impact of enabling hardware infrastructure. Choices such as whether to use memory-optimized computing or MPP analytic databases, appliances, or separate components will have a material impact on the success of the customer's business analytics solution.

- Be prepared to encounter new competition from unexpected segments of the market.

Related Research

- Worldwide Big Data Technology and Services 2013 – 2017 Market Forecast, IDC #244979, December 2013
- Market Analysis Perspective: Business Analytics Software 2013, IDC #244966, December 2013
- IDC Maturity Model Benchmark: Big Data and Analytics in North America, IDC #245197, Dec 2013
- Market Analysis Perspective: Worldwide Search and Content Analytics Technologies, 2013, IDC #244737, December 2013
- Hadoop in the Enterprise: The Use of Alternate File Systems for Persistent storage, IDC #244699, December 2013
- Worldwide Business Analytics Software, Services, and Hardware Market 2013 - 2017 Forecast, IDC #245099, December 2013
- Pulse Survey Results on HPDA: A 2013 Market Profile, IDC #244492, November 2013
- It's More Than Data: Investing for Big Data and Analytics Project Success, IDC #243305, September 2013
- Value-Added Content: A Growing Market for Information, IDC #242954, September 2013
- HPDA: Importance of Hardware in Effective Big Data Solutions, IDC #243495, September 2013
- Worldwide Business Analytics Software 2013–2017 Forecast and 2012 Vendor Shares, IDC #241689, June 2013
- Worldwide High-Performance Data Analysis 2013–2017 Forecast, IDC #241315, June 2013
- The NewSQL Revolution: Rethinking the Relational Database Management System, IDC # 241247, May 2013
- Worldwide Storage in Big Data 2013–2017 Forecast IDC #241319, May 2013
- Storage for Big Data: Insight into Usage Patterns, IDC #240372, April 2013
- IDC Maturity Model: Big Data and Analytics — A Guide to Unlocking Information Assets, IDC #239771, March 2013

Questions, Comments

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- … plus a large team of technology, industry, and regional analysts with expertise and ongoing coverage of Big Data and Analytics

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