Smarter Analytics Leadership Summit

Big Data. Real Solutions. Big Results.

5 Game Changing Use Cases for Big Data

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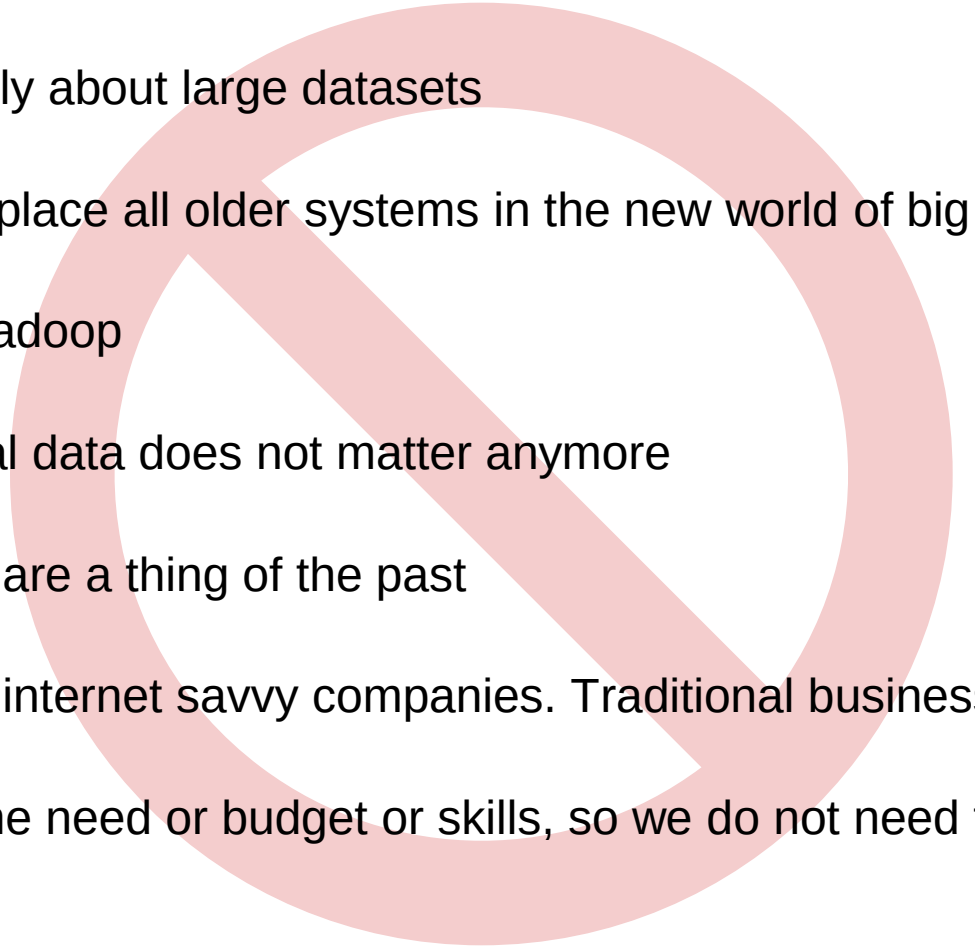
Agenda for today

1. IBM's viewpoint on big data and analytics
2. Five compelling big data use cases
3. IBM's unique value for client success
4. Recommendations on how to get started

What do people say about big data?



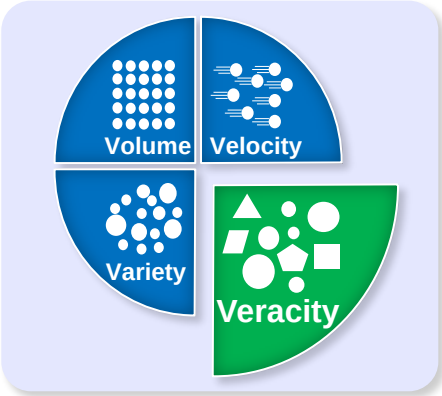
- Big data is primarily about large datasets
- We will have to replace all older systems in the new world of big data
- Big data is only Hadoop
- Older transactional data does not matter anymore
- Data warehouses are a thing of the past
- Big data is for the internet savvy companies. Traditional businesses are immune
- We do not have the need or budget or skills, so we do not need to worry

What is this?

Big data circa 3800 B.C. … Let's not forget what we've learned

IBM Point of View – why is big data important now?

The power of Data coming together…



…with the power of Technology…

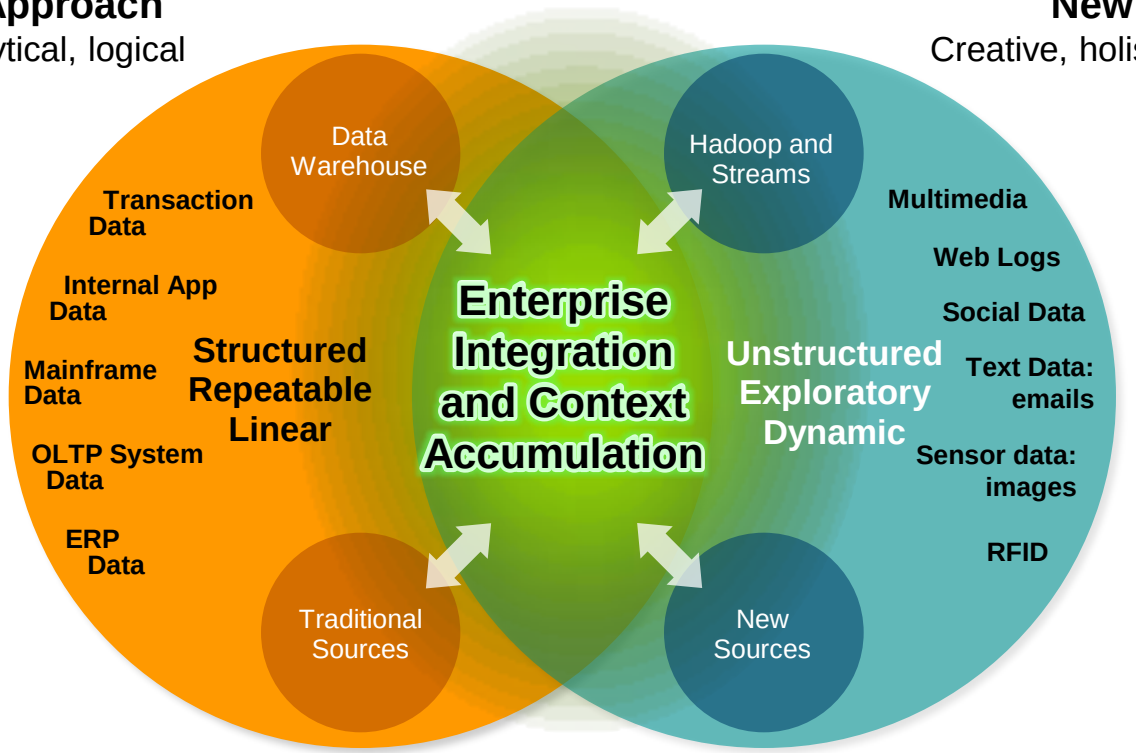
…to deliver Improved Outcomes

1. Enrich your information base
   with Big Data Exploration
2. Improve customer interaction
   with Enhanced 360º View of the Customer
3. Optimize operations
   with Operations Analysis
4. Gain IT efficiency and scale
   with Data Warehouse Augmentation
5. Prevent crime
   with Security and Intelligence Extension

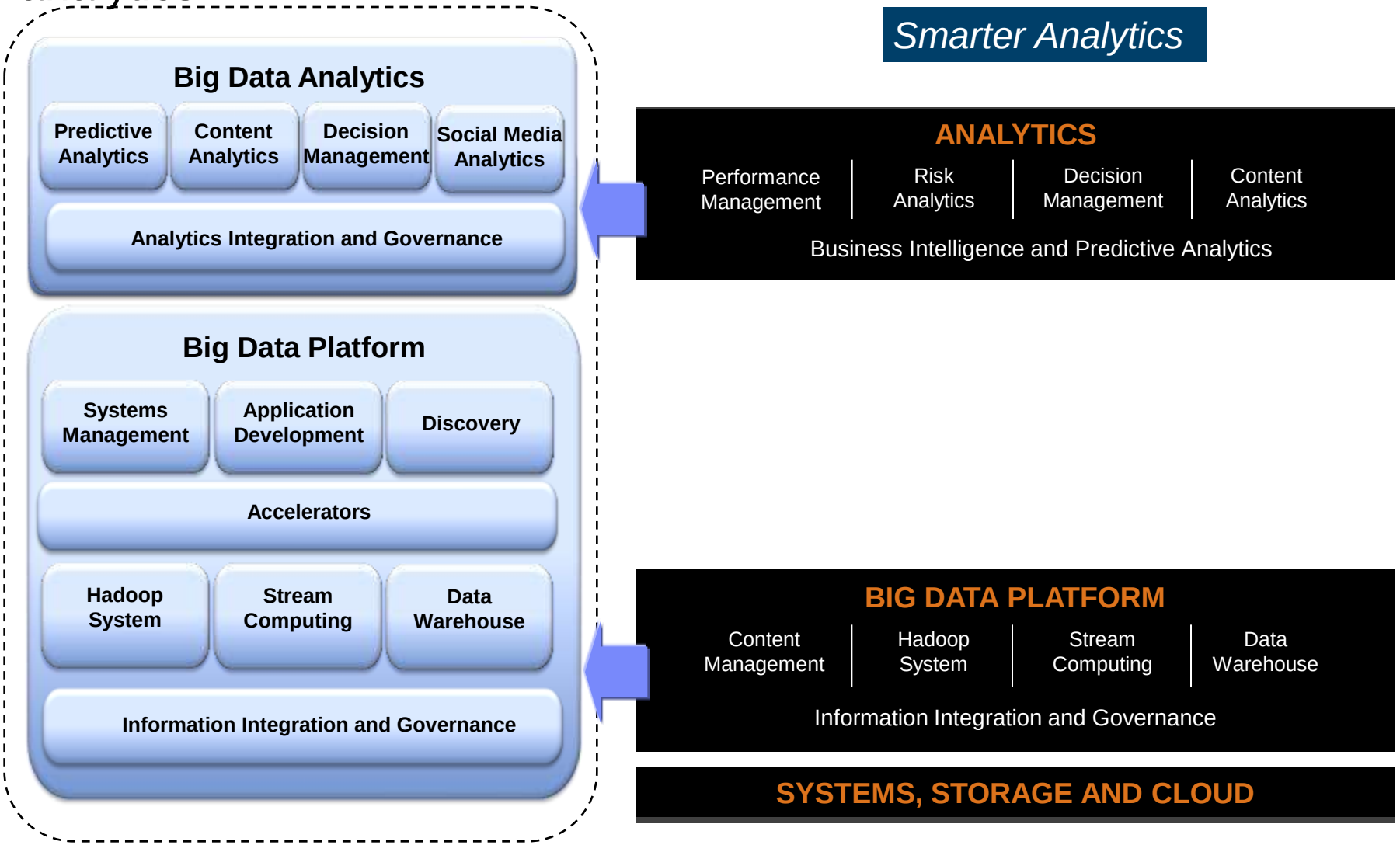
How does big data unlock new insights and create opportunities?

Traditional Approach
Structured, analytical, logical

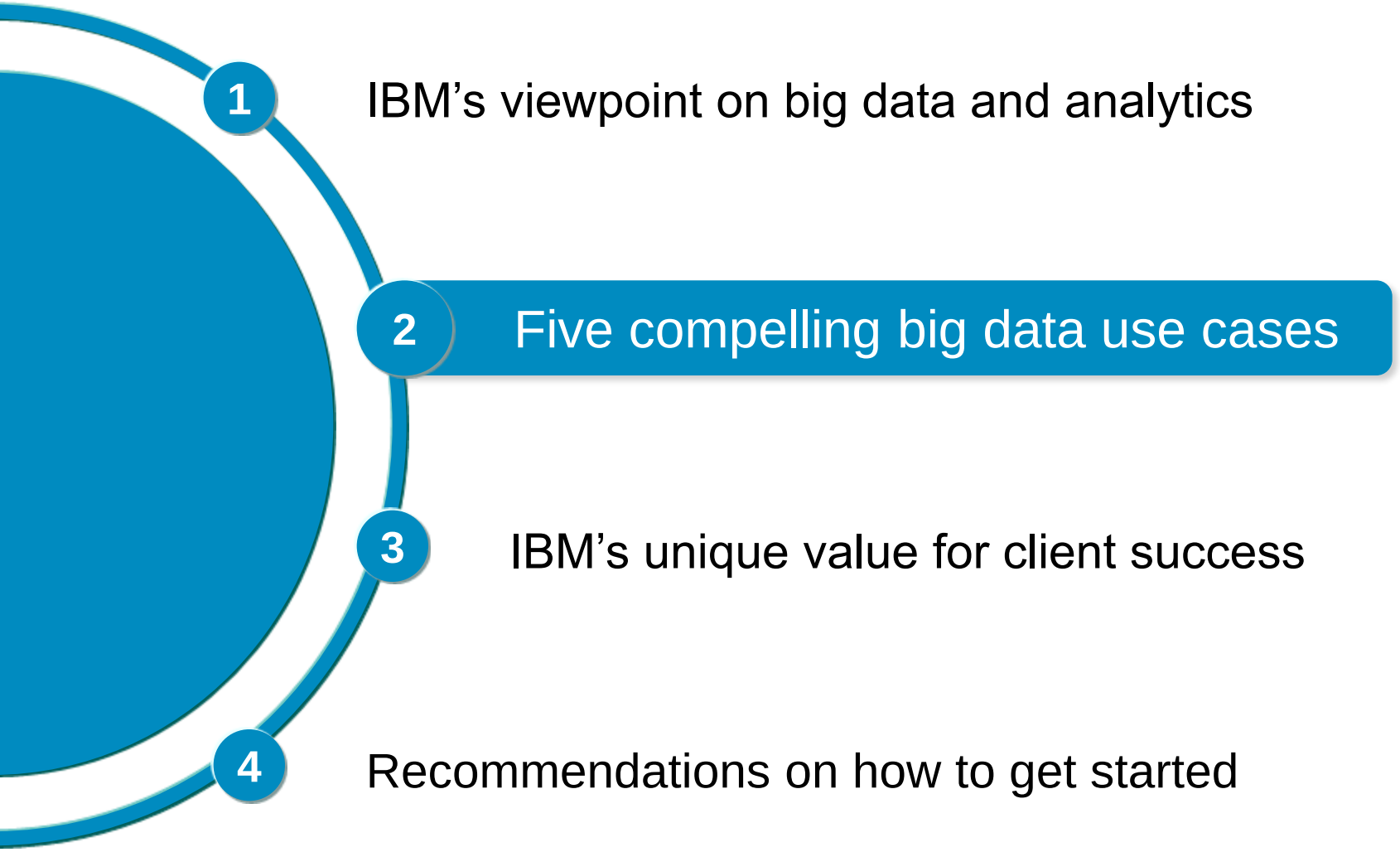
New Approach
Creative, holistic thought, intuition



IBM provides a holistic and integrated approach to big data and analytics



Agenda for today



1. Big Data Exploration: Needs

Explore and mine big data to find what is interesting and relevant to the business for better decision making

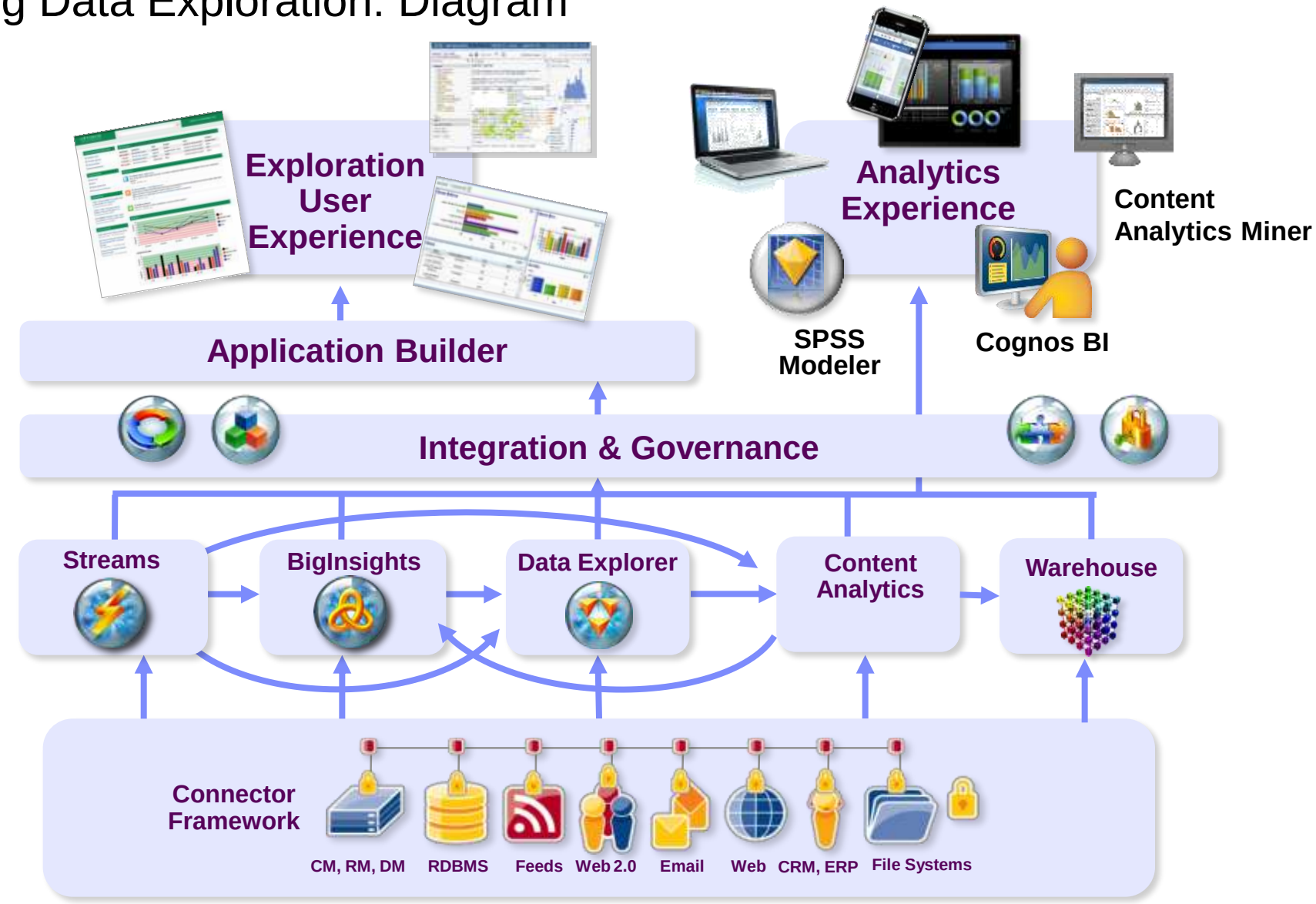
Requirements

- Explore new data sources for potential value
- Mine for what is relevant for a business imperative
- Assess the business value of unstructured content
- Uncover patterns with visualization and algorithms
- Prevent exposure of sensitive information

Industry Examples

- Customer service knowledge portal
- Insurance catastrophe modeling
- Automotive features and pricing optimization
- Chemicals and Petroleum conditioned base maintenance
- Life Sciences drug effectiveness
- …

1. Big Data Exploration: Diagram



Global aerospace manufacturer increases knowledge worker efficiency and saves $36M annually

Need

- Delays in fixing maintenance issues are expensive and potentially incur financial penalties for out-of-service equipment
- Increase the efficiency of its maintenance and support technicians, support staff and engineers

Benefits

- Supporting 5,000 service representatives
- Eliminated use of paper manuals that were previously used for research
- Placed more than 40 additional airplanes into service without adding more support staff
- Reduced call time by 70% (from 50 minutes to 15 minutes)

2. Enhanced 360º View of the Customer: Needs

Optimize every customer interaction
by knowing everything about them

Requirements

- Create a connected picture of the customer
- Mine all existing and new sources of information
- Analyze social media to uncover sentiment about products
- Add value by optimizing every client interaction

Industry Examples

- Smart meter analysis
- Telco data location monetization
- Retail marketing optimization
- Travel and Transport customer analytics and loyalty marketing
- Financial Services Next Best Action and customer retention
- Automotive warranty claims
- …

2. Enhanced 360º View of the Customer: Diagram

Consumer products company improves information access across 30 different repositories

Need

- Intuitive user interface for exploration and discovery across 30 different repositories
- Encompass all global offices and be deployed quickly for a lower total cost of ownership
- Provide secure search capabilities across sharepoint sites, intranet pages, wikis, blogs and databases

Benefits

- Able to identify experts across all global offices and 125,000 users worldwide
- Eliminated duplicate work and effort being performed across all employees
- Improved discovery and “findability” across global organization
- Provided internal knowledge and information that has led to improved decision making

3. Operations Analysis: Needs

Apply analytics to machine data for greater operational efficiency

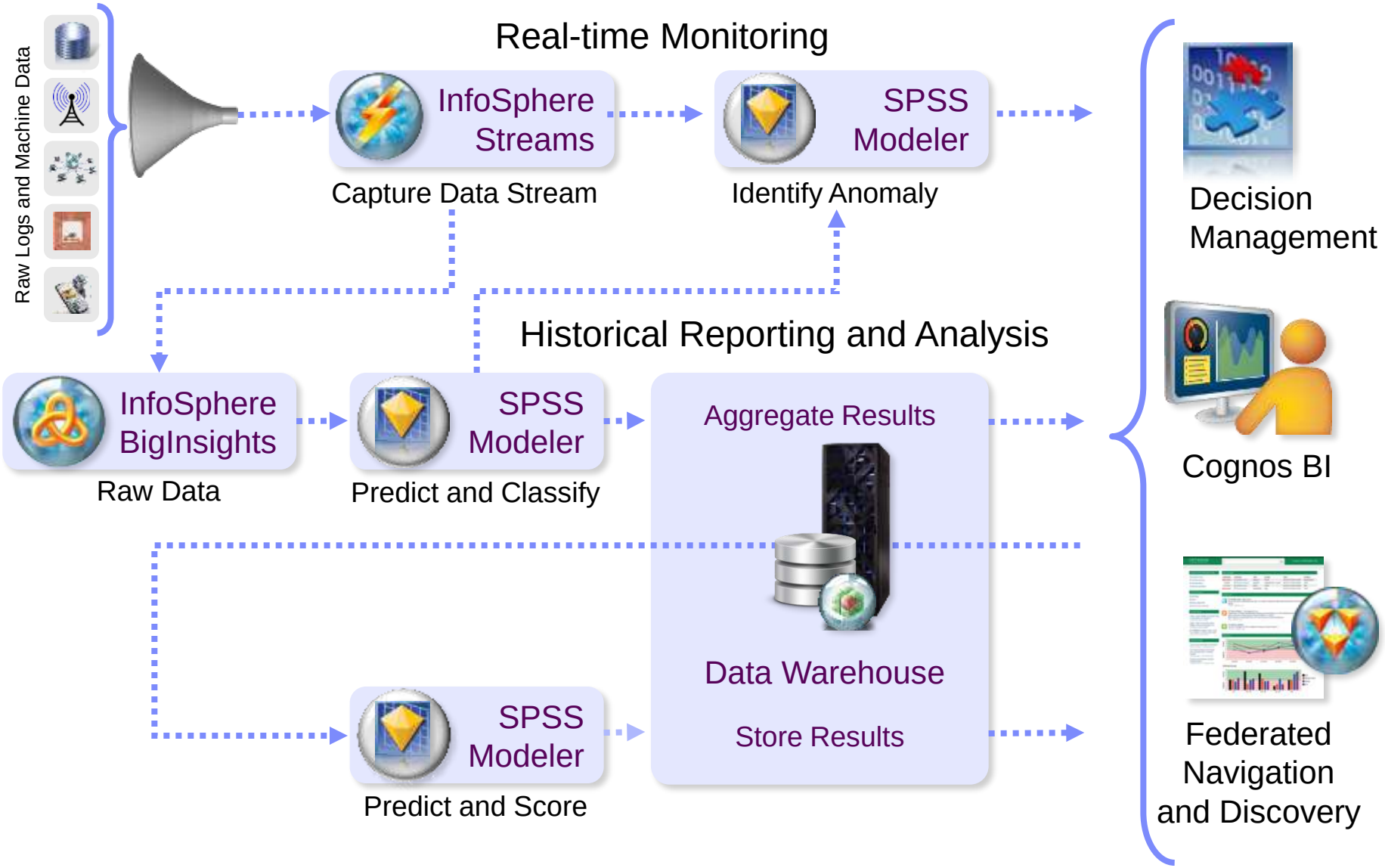
Requirements

- Analyze machine data to identify events of interest
- Apply predictive models to identify potential anomalies
- Combine information to understand service levels
- Monitor systems to avoid service degradation or outages

Industry Examples

- Automotive advanced condition monitoring
- Chemical and Petroleum condition-based Maintenance
- Energy and Utility condition-based maintenance
- Telco campaign management
- Travel and Transport real-time predictive maintenance
- …

3. Operations Analysis: Diagram



Ufone reduced churn and kept subscribers happy, helping ensure that campaigns are highly effective and timely

Need

- To ensure that its marketing campaigns targeted the right customers, before they left the network
- To keep its higher usage customers happy with campaigns offering services and plans that were right for them

Benefits

- Predictive analytics is expected to improve the campaign response rate from about 25% to at least 50%
- CDRs can be analyzed within 30 seconds, instead of requiring at least a day
- Expected to reduce churn by approximately 15-20%

4. Data Warehouse Augmentation: Needs

Exploit technology advances to deliver more value from an existing data warehouse investment while reducing cost

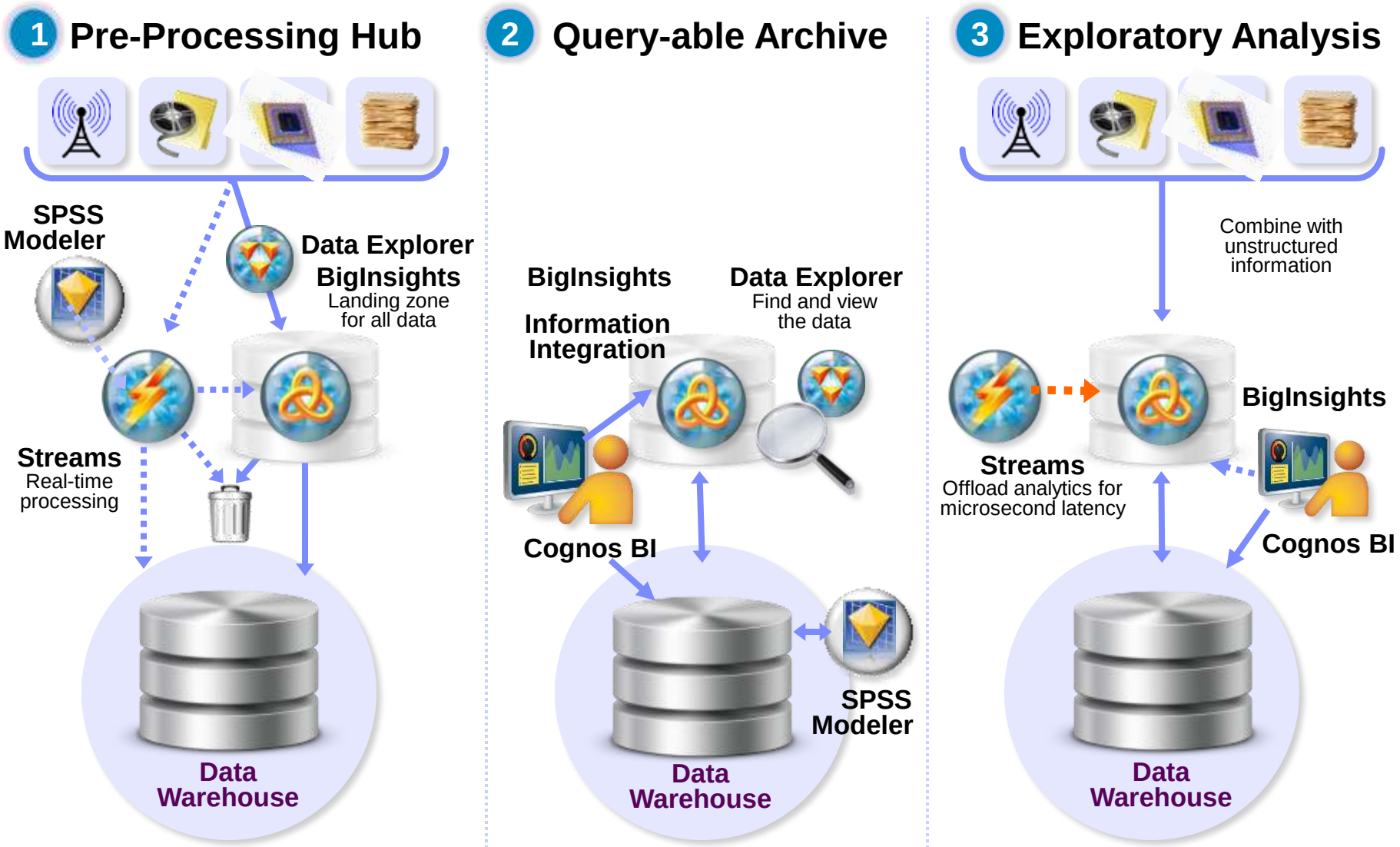
Requirements

- Add new sources to existing data warehouse investments
- Optimize storage and provide query-able archive
- Rationalize for greater simplicity and lower cost
- Enable complex analytical applications with faster queries
- Scale predictive analytics and business intelligence

Examples

- Pre-Processing Hub
- Query-able Archive
- Exploratory Analysis
- Operational Reporting
- Real-time Scoring
- Segmentation and Modeling

4. Data Warehouse Augmentation: Diagram



Automotive manufacturer to build out global data warehouse

Need

- Consolidate existing DW projects globally
- Deliver real-time operational reporting
- Gain new insights across all data sources

Benefits

- Single infrastructure to consolidate structured, semi-structured and unstructured data
- Proven, enterprise-class capabilities that can be deployed quickly and are simpler to manage

5. Security and Intelligence Extension: Needs

Enhance traditional security solutions to prevent crime by analyzing all types and sources of big data

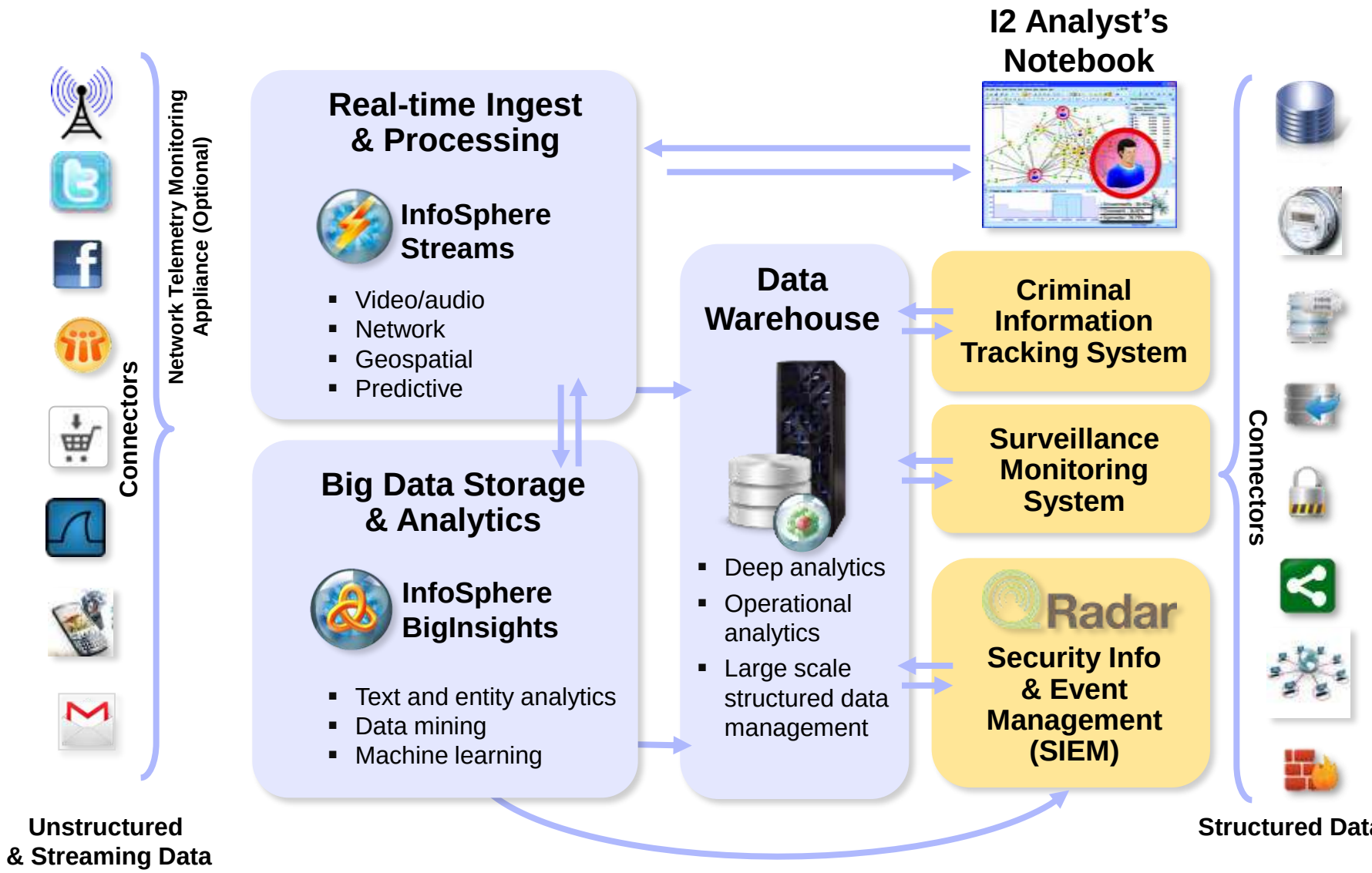
Requirements

Enhanced Intelligence and Surveillance Insight	Analyze data-in-motion and at rest to: ▪ Find associations ▪ Uncover patterns and facts ▪ Maintain currency of information
Real-time Cyber Attack Prediction and Mitigation	Analyze network traffic to: ▪ Discover new threats sooner ▪ Detect known complex threats ▪ Take action in real-time
Crime Prediction and Protection	Analyze telco and social data to: ▪ Gather criminal evidence ▪ Prevent criminal activities ▪ Proactively apprehend criminals

Industry Examples

- Government threat and crime prediction and prevention
- Insurance claims fraud
- …

5. Security/Intelligence Extension: Diagram



TerraEchos uses streaming data technology to support covert intelligence and surveillance sensor systems

Need

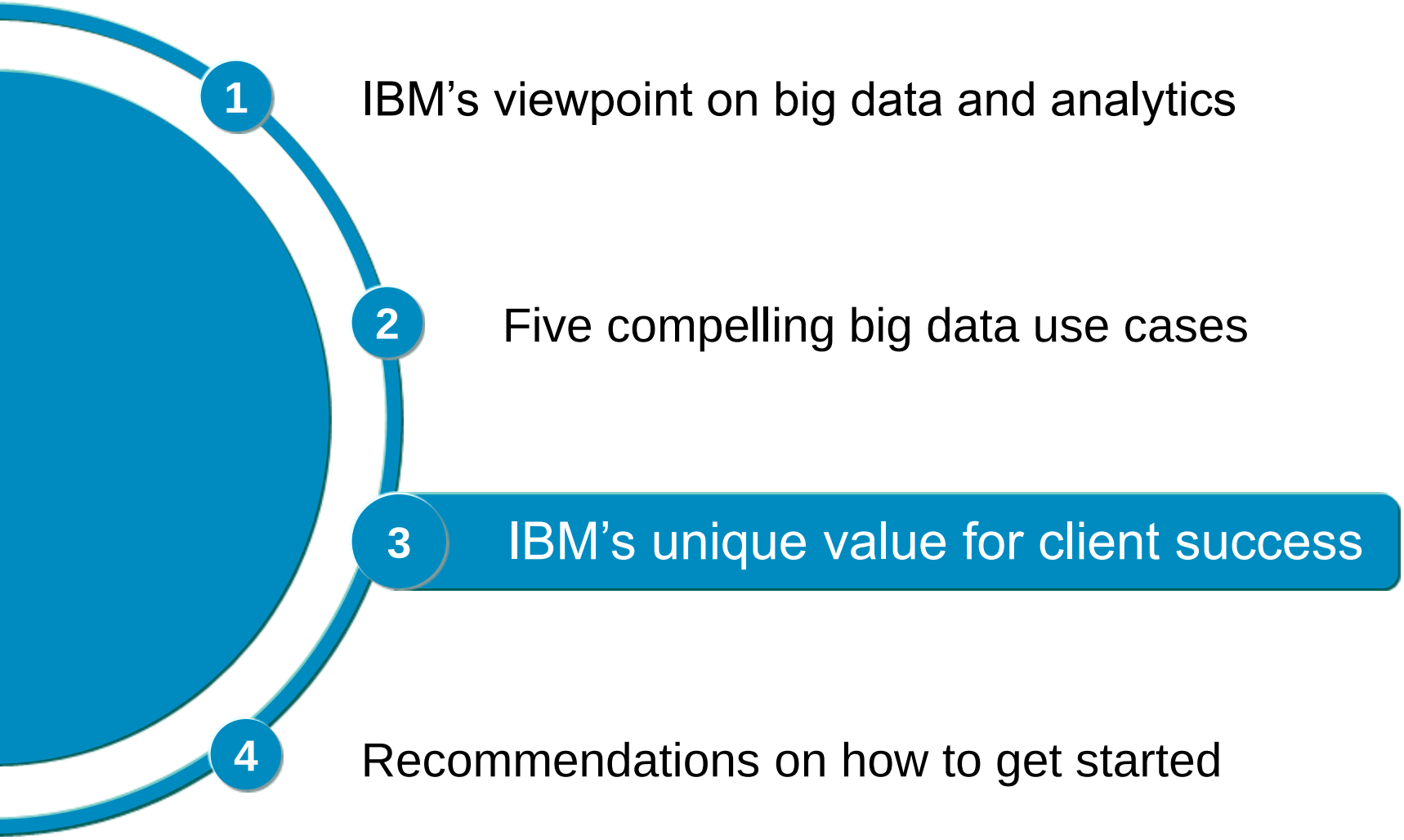
- Deployed security surveillance system to detect, classify, locate, and track potential threats at highly sensitive national laboratory

Benefits

- Reduced time to capture and analyze 275MB of acoustic data from hours to one-fourteenth of a second
- Enabled analysis of real-time data from different types of sensors and 1,024 individual channels to support extended perimeter security
- Enabled a faster and more intelligent response to any threat

TerraEchos

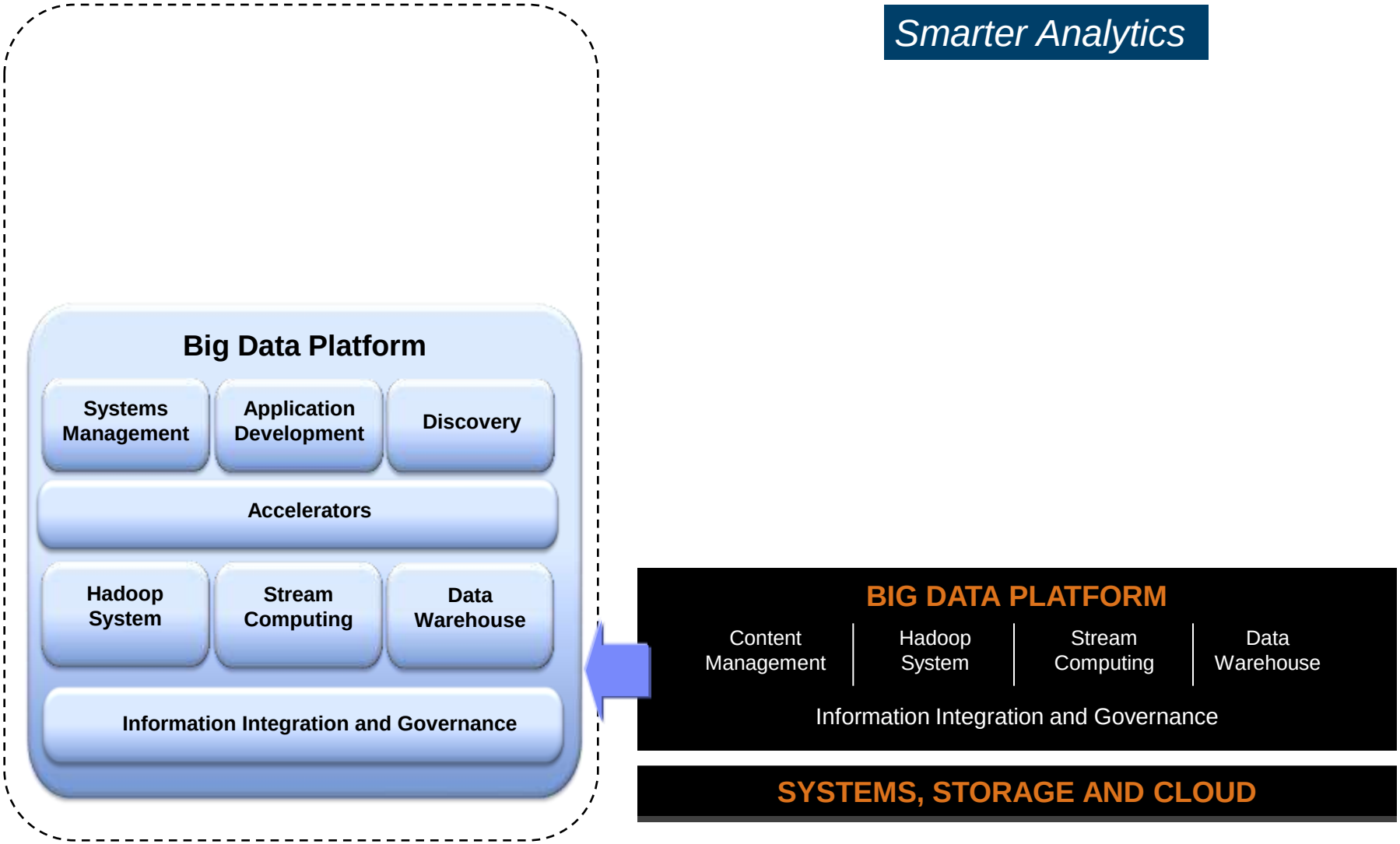
Agenda for today



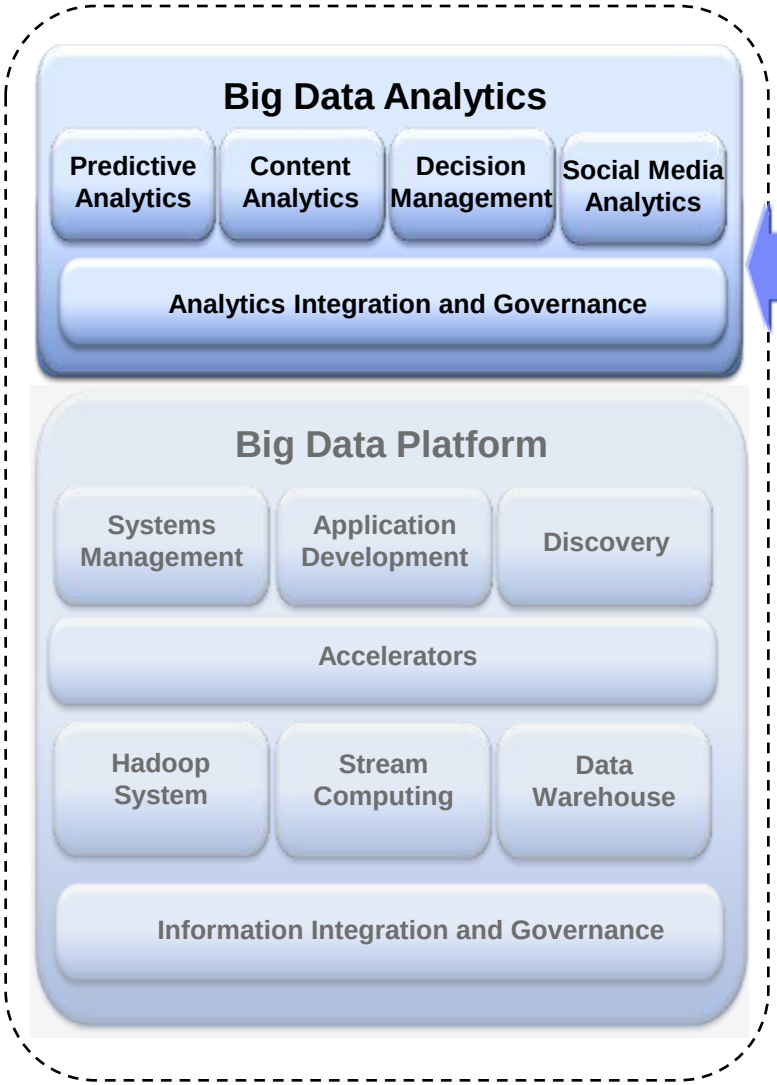
Big data best practices

	Best Practices
Strategy	▪ Start with a use case for big data and build a business case ▪ Adopt a data-driven mind set in day-to-day operations ▪ Build on existing infrastructure investments
People and Process	▪ Create a data science culture by fostering data experimentation ▪ Enable people to go hands-on with a self-service approach to data and analytics ▪ Maintain governance, security and privacy - dispose of data you don't need ▪ Right interface for each person depending on skill set ▪ Ensure the stack allows collaboration between different types of users
Technology	▪ Seek out reusability ▪ Embrace and think beyond Hadoop ▪ Optimize workload performance and costs ▪ Continually re-evaluate what is big data or not ▪ Accumulate context, mine and visualize information for answers ▪ Use tools that go across all big data sources, rather than tools for each data source

The platform for the new era of big data applications



Realize the value of big data with analytics



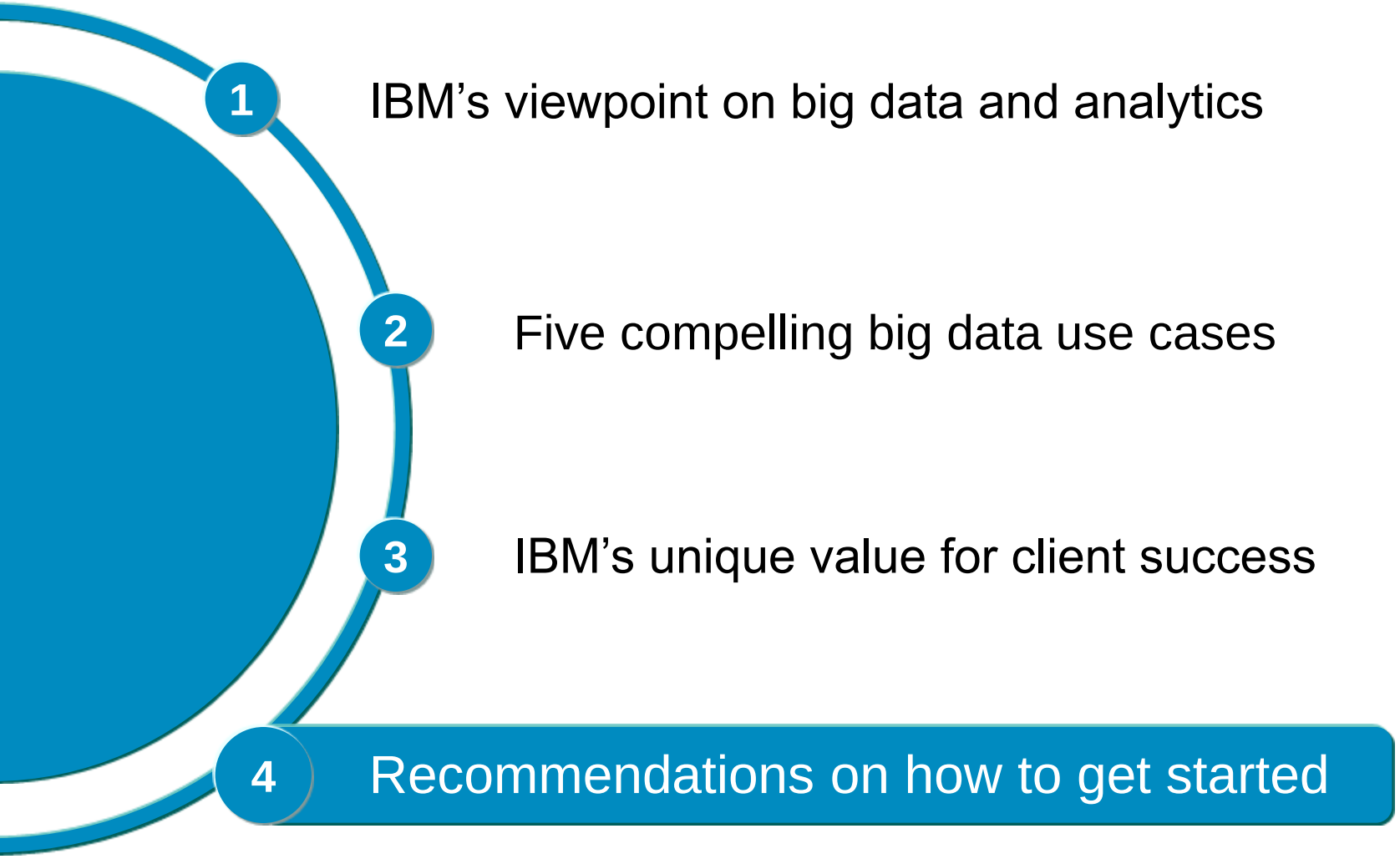
Smarter Analytics

ANALYTICS

Performance Management	Risk Analytics	Decision Management	Content Analytics

Business Intelligence and Predictive Analytics

Agenda for today



Smarter Analytics Leadership Summit

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Recommendations on how to get started

Mike Schroeck
Partner/Vice President
Global Business Services
IBM Corporation

IBM Institute for Business Value and the Saïd Business School partnered to benchmark global big data activities

www.ibm.com/2012bigdatastudy

IBM Institute for Business Value

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategies and insights for senior executives around critical public and private sector issues.

Saïd Business School University of Oxford

The Saïd Business School is one of the leading business schools in the UK. The School is establishing a new model for business education by being deeply embedded in the University of Oxford, a world-class university, and tackling some of the challenges the world is encountering.

The study showed four phases of adoption

Big data adoption

Educate	Explore	Engage	Execute
Focused on knowledge gathering and market observations	**Developing strategy and roadmap based on business needs and challenges**	**Piloting big data initiatives to validate value and requirements**	**Deployed two or more big data initiatives and continuing to applying advanced analytics**
Percentage of total respondents	Percentage of total respondents	Percentage of total respondents	Percentage of total respondents
24%	**47%**	**22%**	**6%**

When segmented into four groups based on current levels of big data activity, respondents showed significant consistency in organizational behaviors

Total respondents n = 1061
Totals do not equal 100% due to rounding

The study highlights how organizations are moving forward with big data

1. Customer analytics are driving big data initiatives
2. Big data is dependent upon a scalable and extensible information foundation
3. Initial big data efforts are focused on gaining insights from existing and new sources of internal data
4. Big data requires strong analytics capabilities
5. The emerging pattern of big data adoption is focused upon delivering measureable business value

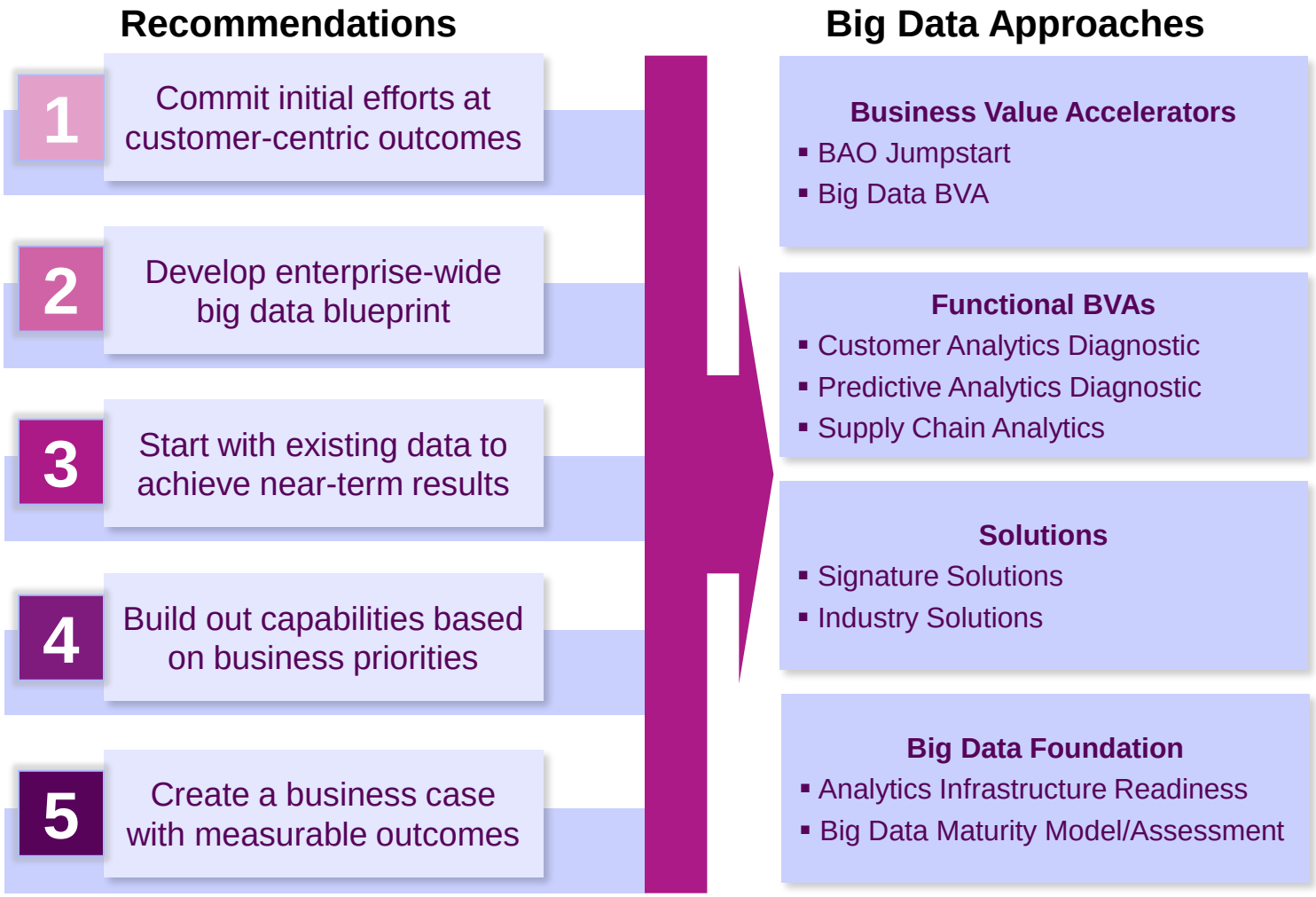
Big data creates the opportunity for real-world organizations to extract value from untapped digital assets

- Focus on a business case with measurable business outcomes
- Take a pragmatic approach
- Develop blueprint and roadmap
- Expand your big data capabilities and efforts across the enterprise

Big data: Tapping into new sources of value

Source: *Analytics: The real-world use of big data*, a collaborative research study by the IBM Institute for Business Value and the Saïd Business School at the University of Oxford. © IBM 2012

IBM can help organizations succeed with their big data initiatives



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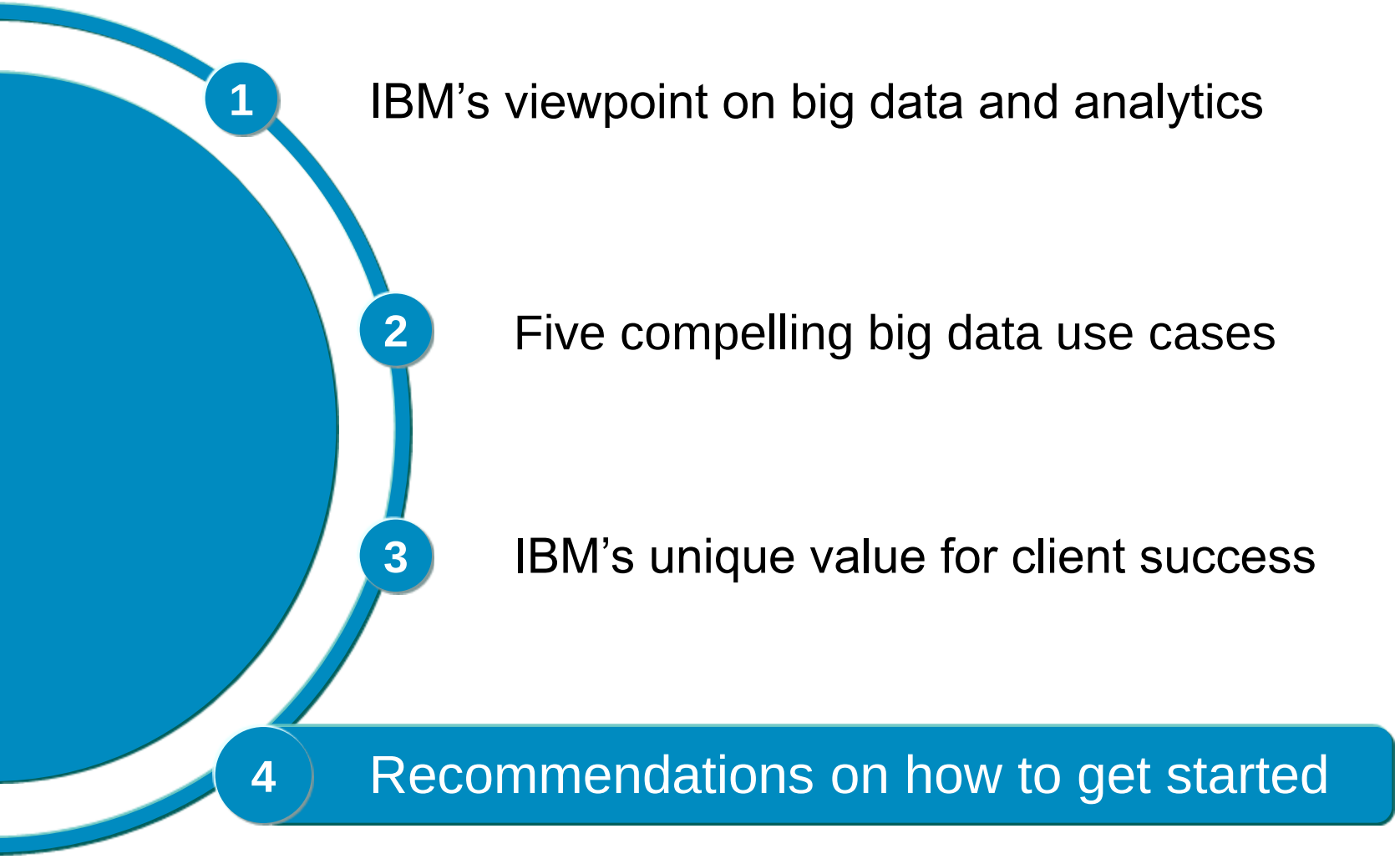


Recommendations for getting started

Assess which Use Case would you most benefit from?

- What part of the business would benefit from expanding the data set and analytics to provide more complete answers?
- What part of the business is not using analytics today, but would benefit from analytics for their user community or to fuel their processes using new information sources?
- What information do I collect today, or what analytics do I perform, that would be highly valuable as an information set to others?

Assess existing skills. You may need to:

- Evolve your existing analytics and information capabilities
- Raise your corporate competency
- Get ready to address performance, scalability, simplicity and cost

True value is gained from a hybrid of existing and new investments

Closing the skills gap with IBM and 200+ universities worldwide

SFU
ENGAGING THE WORLD

NORTH

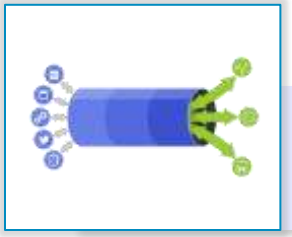
berlin

School of Information Studies
SYRACUSE UNIVERSITY
THE iSCHOOL

BEIJING JIAOTONG UNIVERSITY

BU
BOSTON UNIVERSITY

IBM committed to your success with big data and analytics



Broadest and best portfolio for big data and analytics

More delivery choices and lower TCO

Proven expertise and innovation that drive faster results

Get started on any big data challenge and grow

THINK

BIG

ibm.com/bigdata
ibm.com/smarteranalytics

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