



IBM SolutionsConnect 2014

A New Era of Smart



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A New Era of Smart

**Harness all data:
Improve IT agility and
economics**

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IBM Software





Agenda

- Big Data & Analytics SolutionsConnect Track Summary
- The Platform Advantage: From Reporting To Cognitive Analytics
- Watson and the New Era of Computing
- Expert Integrates Systems



Big Data & Analytics: Fuelling Competitive Advantage in the New Era of Smart



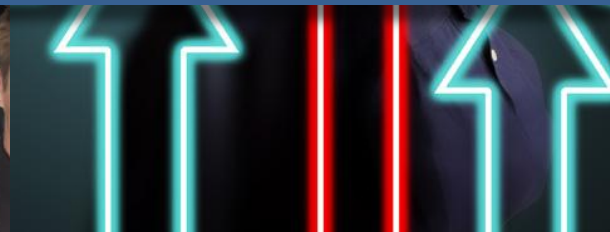
Untapped Resource



Empower Everyone

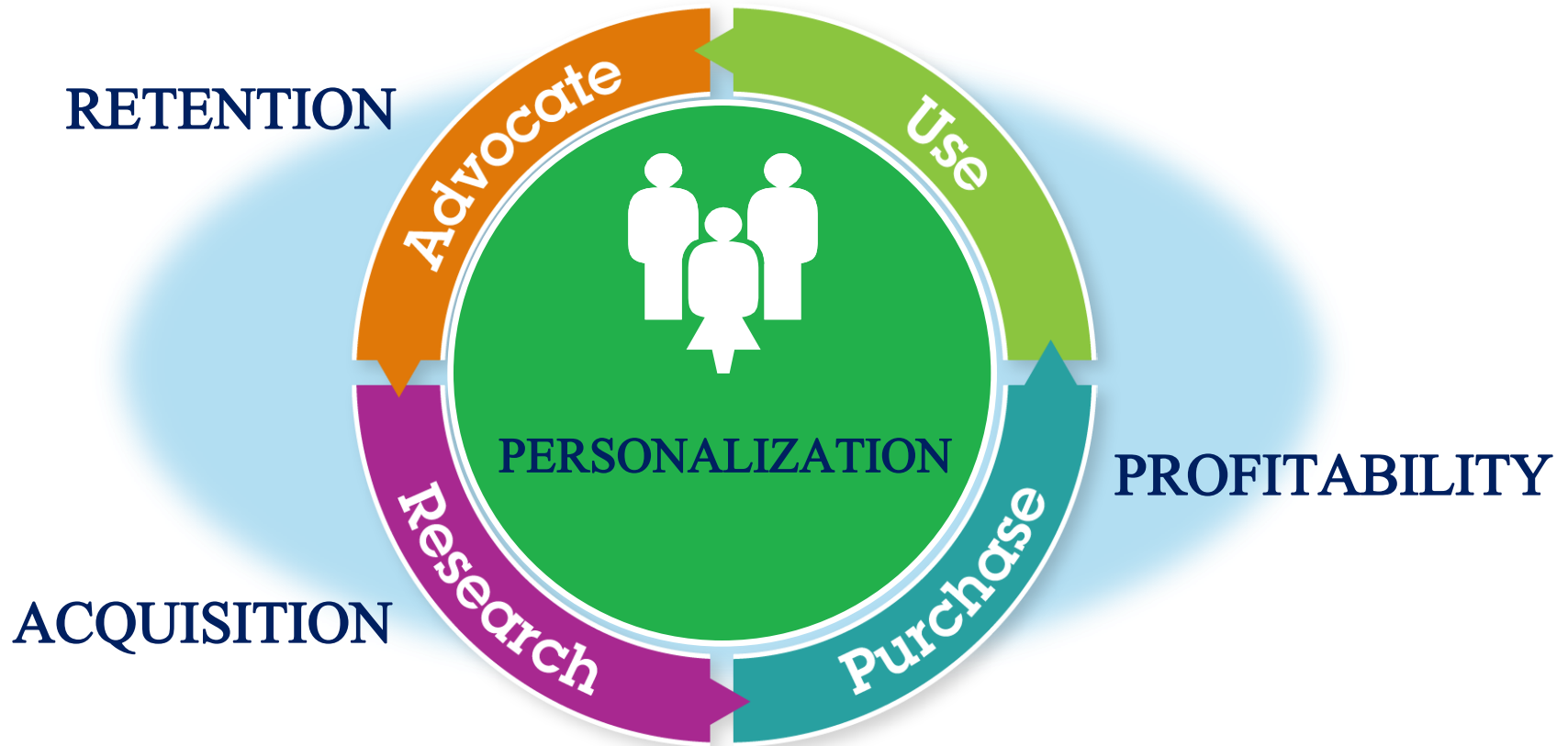


Increased Value





Client-centred enterprise: Use Big Data and Analytics to acquire, grow, and retain customers





Unlocking business insights: Transform Business Management Processes

Government cuts acoustic analysis from hours to **70 Milliseconds**



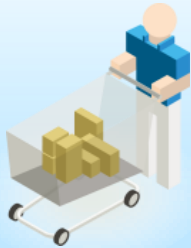
Utility avoids power failures by analyzing **10 PB** of data in minutes



Hospital analyses streaming vitals to detect illness **24 hours earlier**



Retailer reduces time to run queries by **80%** to optimize inventory



Stock Exchange cuts queries from 26 hours to **2 minutes** on **2 PB**



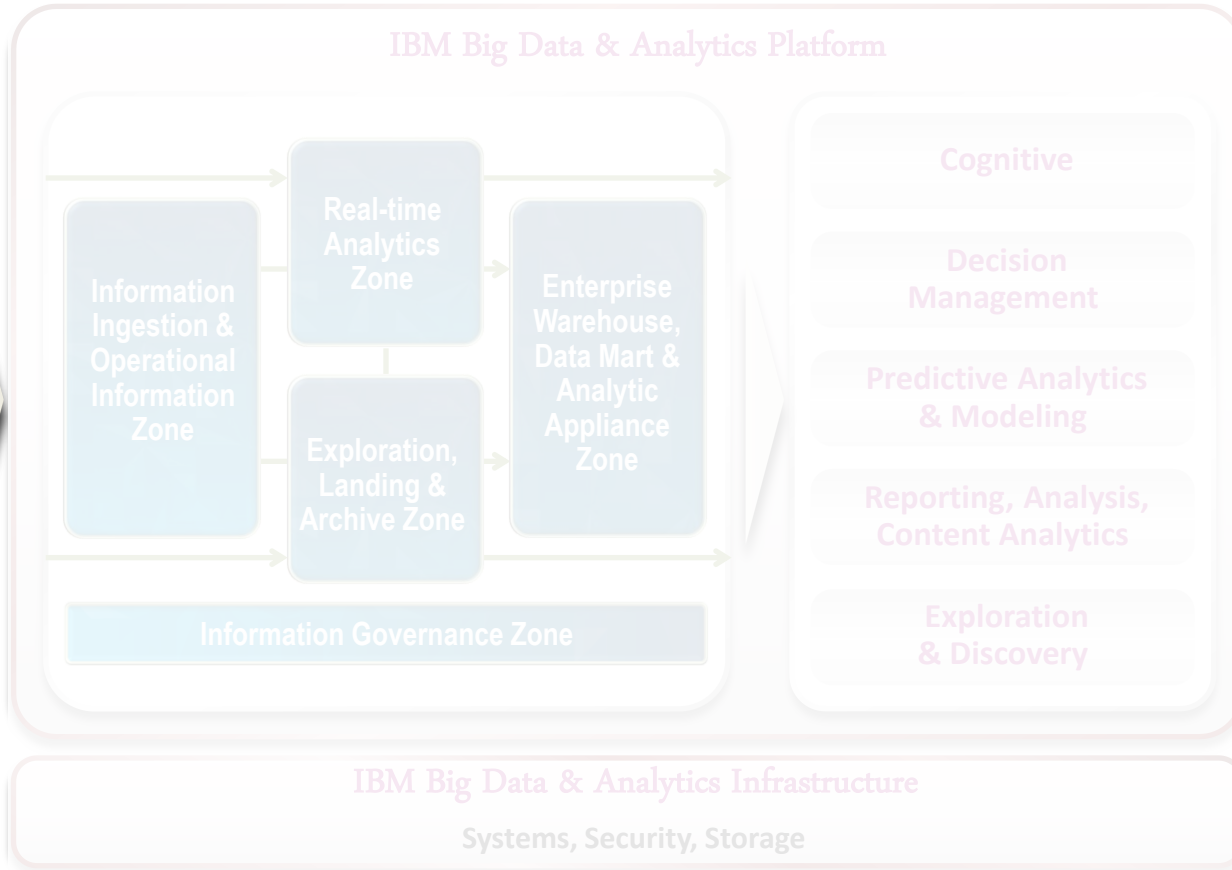
Telco analyses streaming network data to reduce hardware costs by **90%**





Imagine It. Instrumented and Interconnected world

All Data

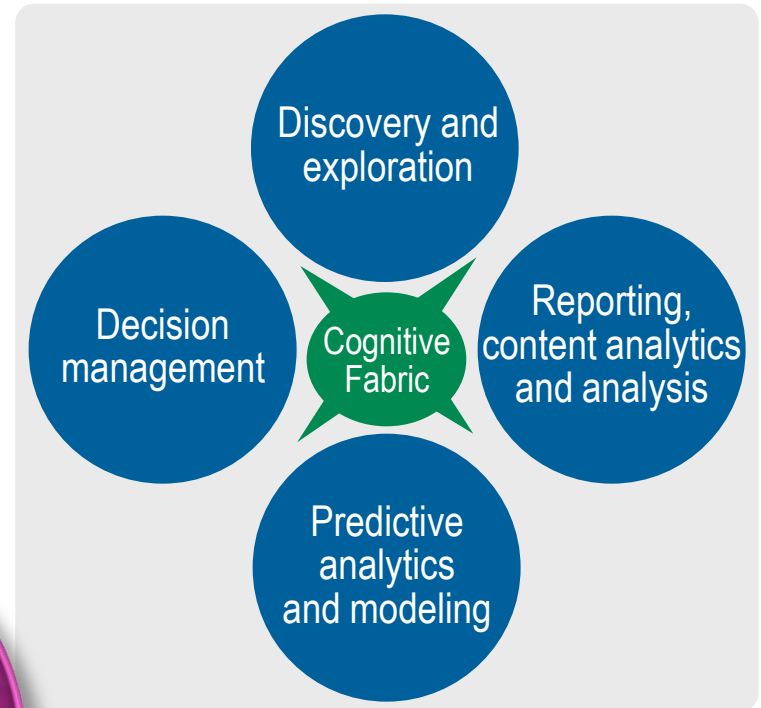


New/
Enhanced Applications





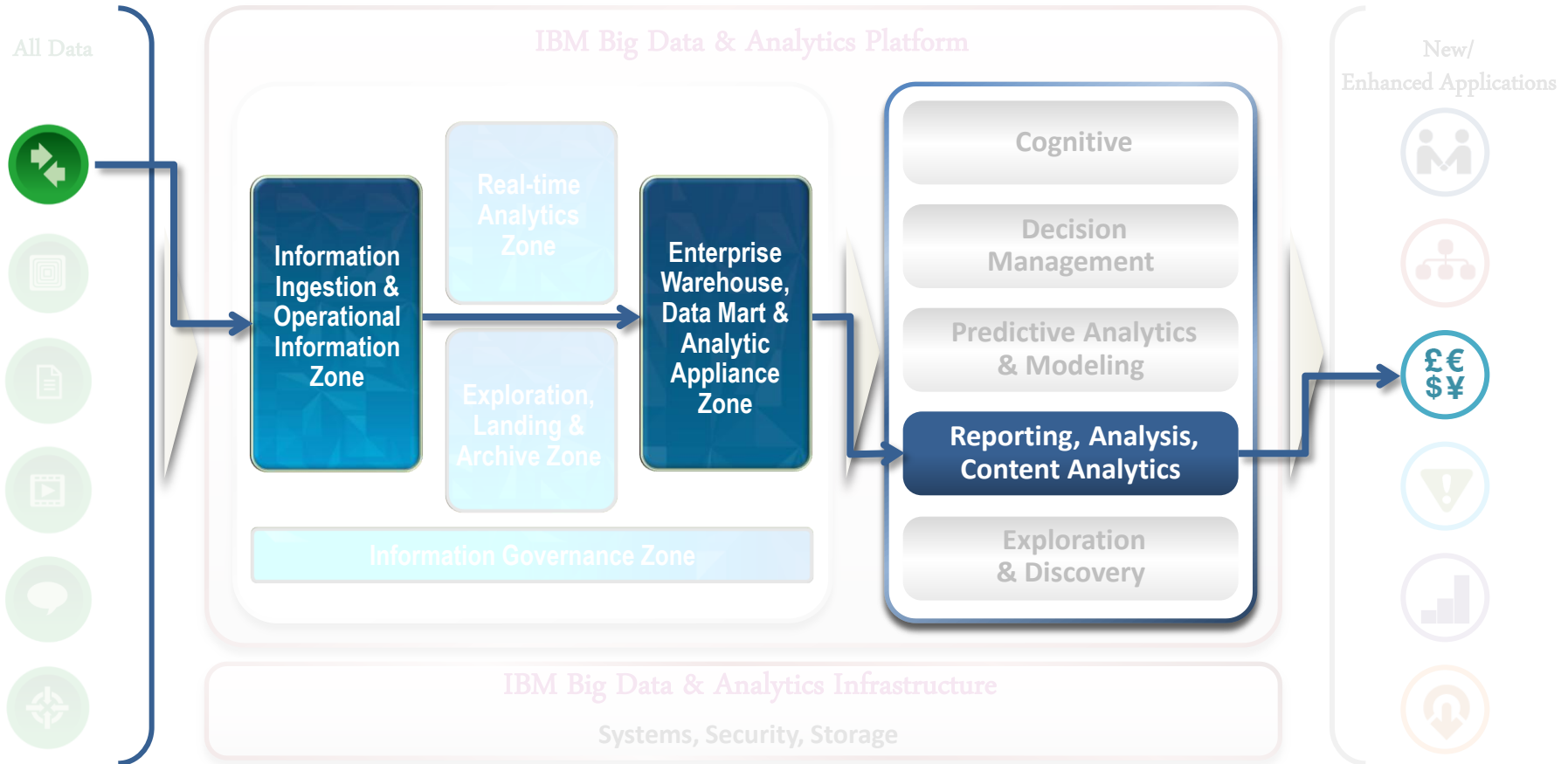
Realize It. The spectrum of Analytics is expanding



Be
More Right, More
Often

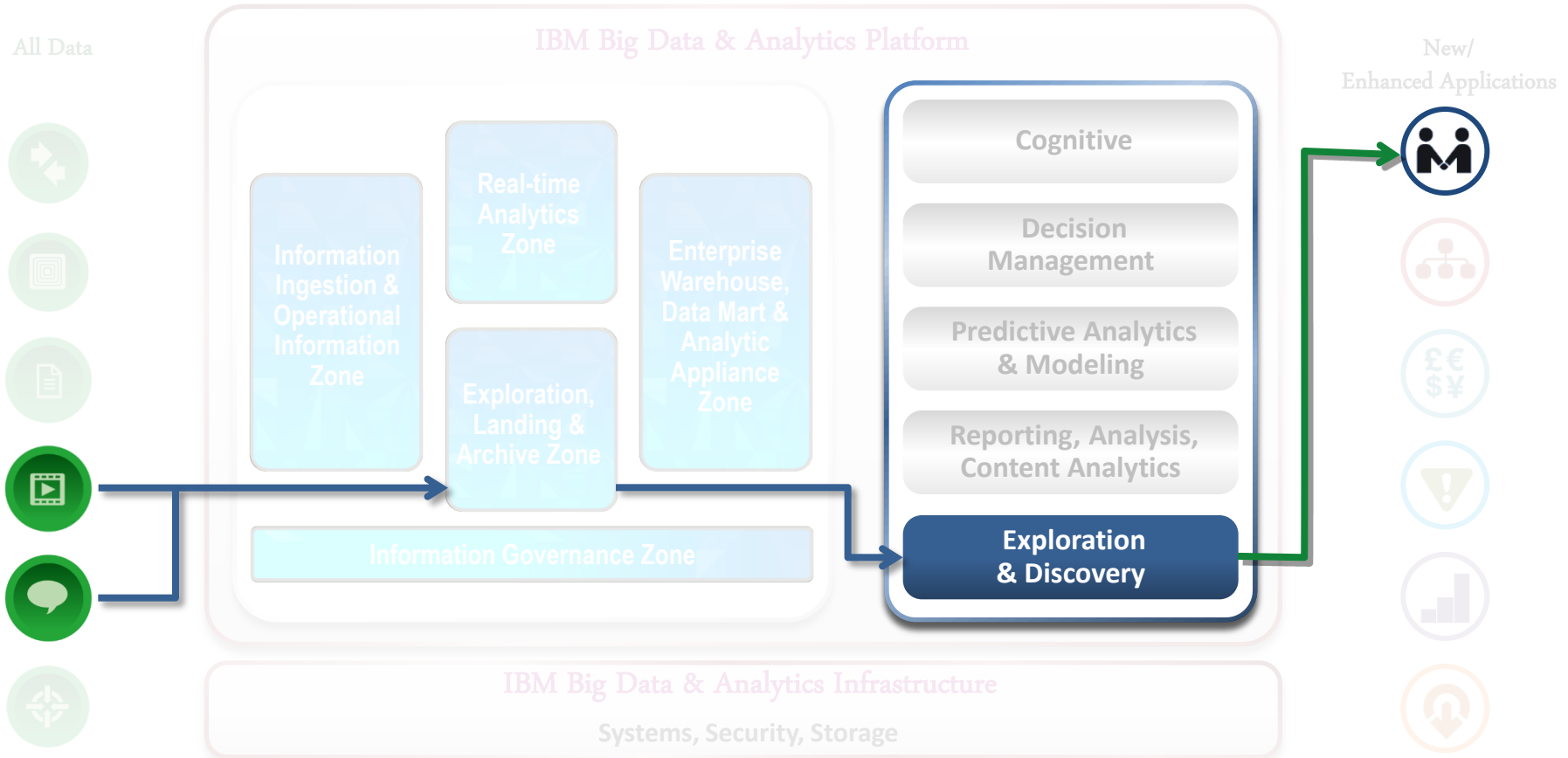


Realize It. Invest in a Big Data & Analytics platform



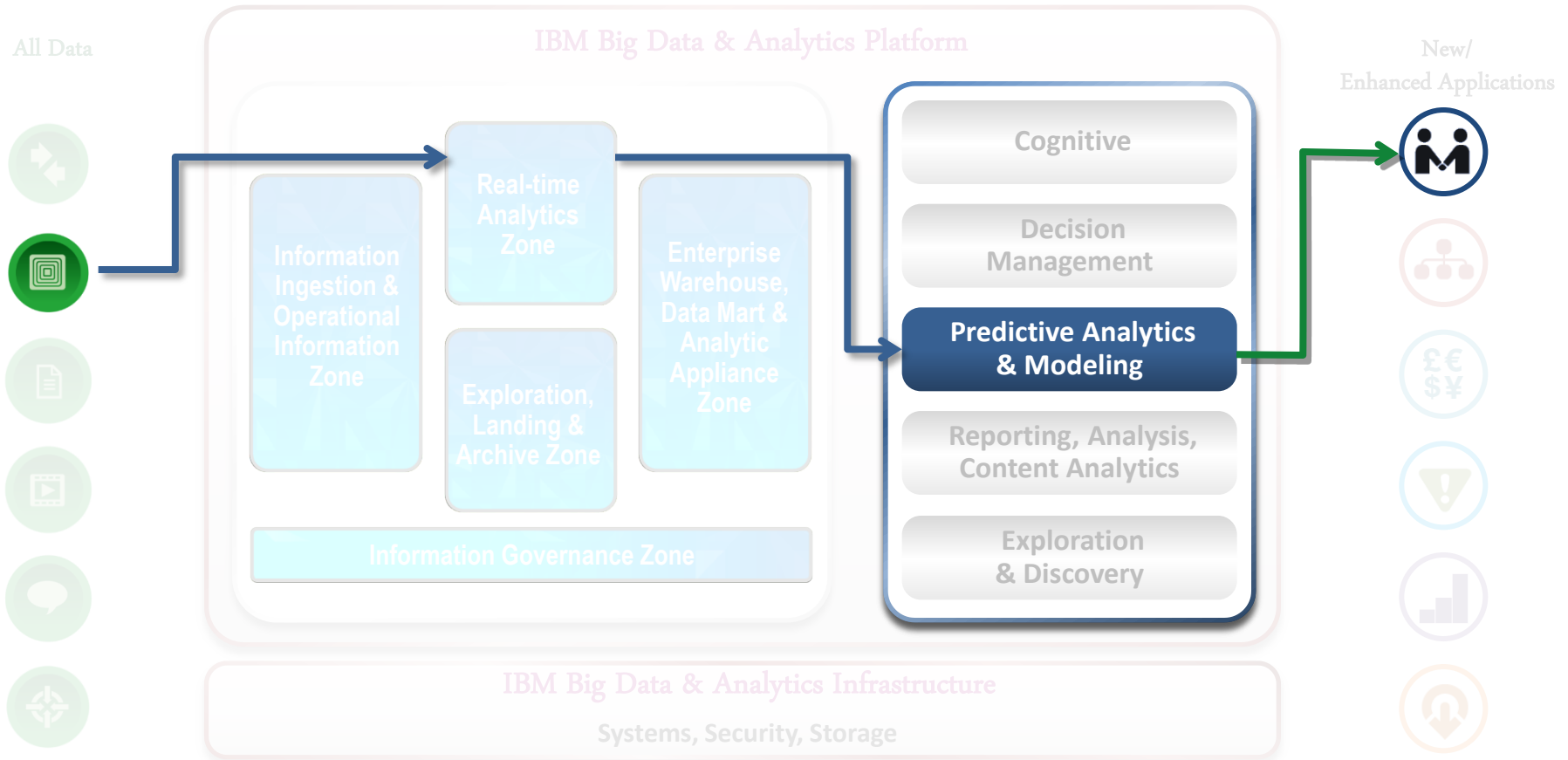


Realize It. Invest in a Big Data & Analytics platform



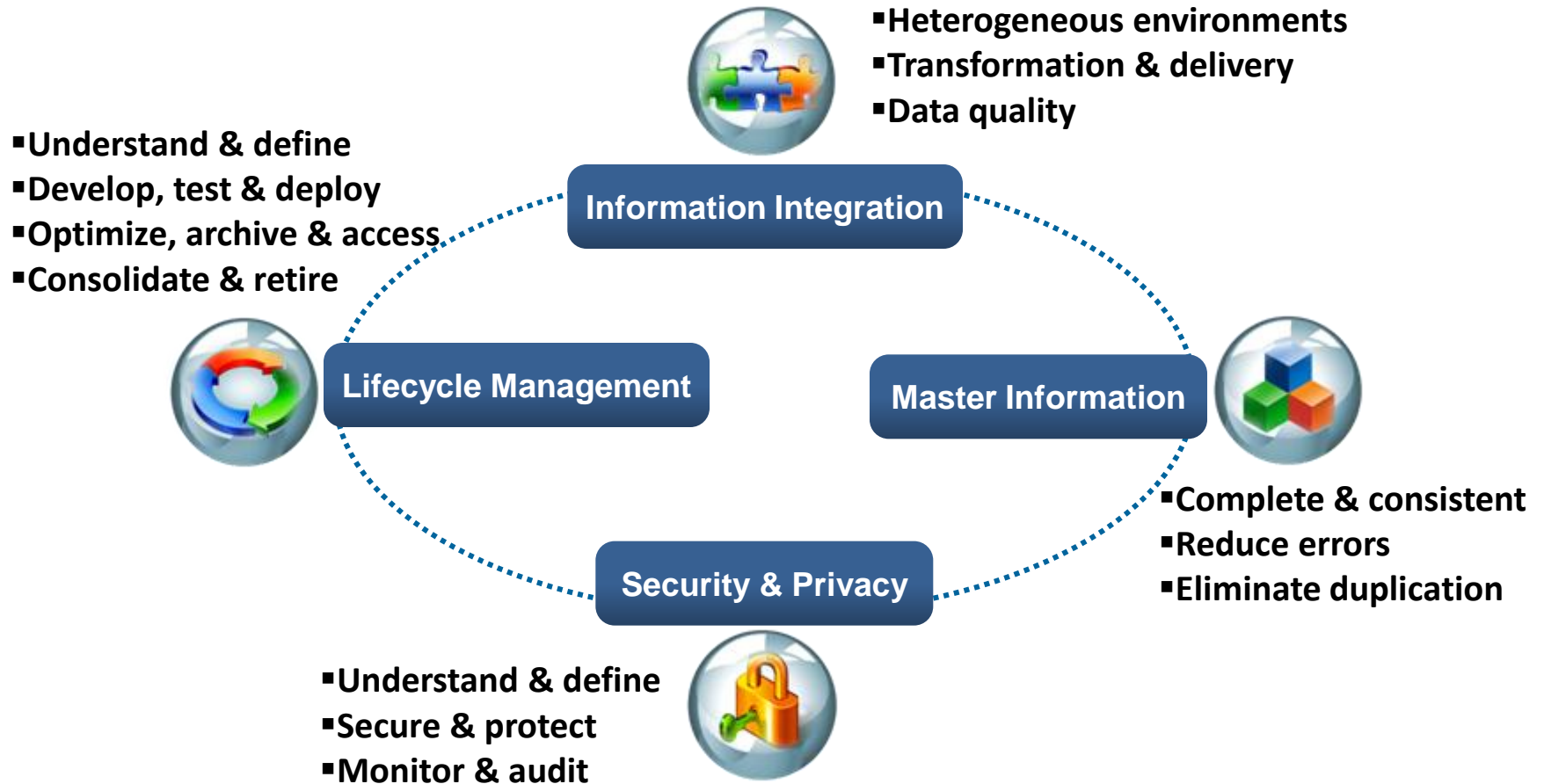


Realize It. Invest in a Big Data & Analytics platform



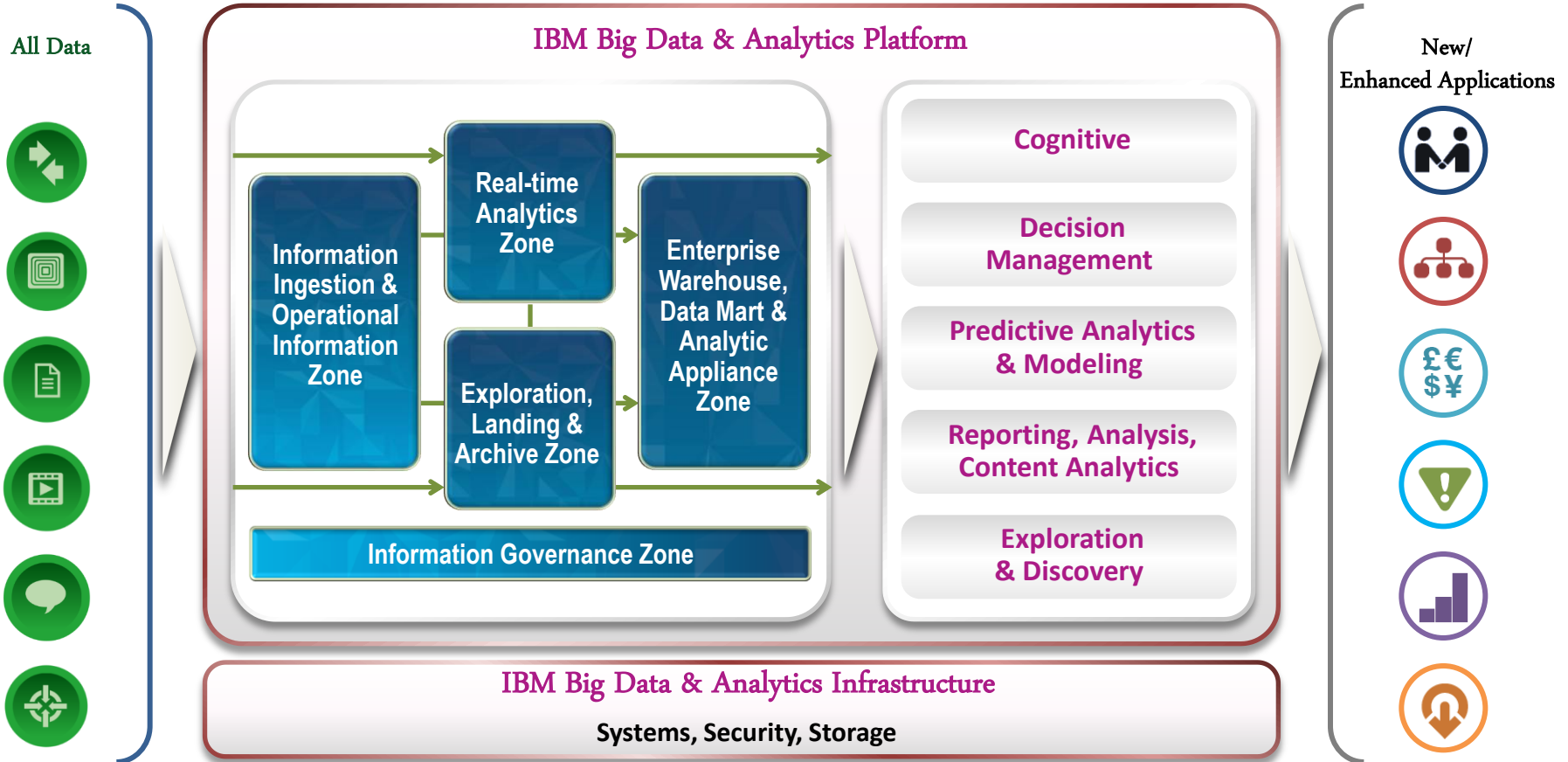


Trust It. Be proactive about privacy, security and governance.





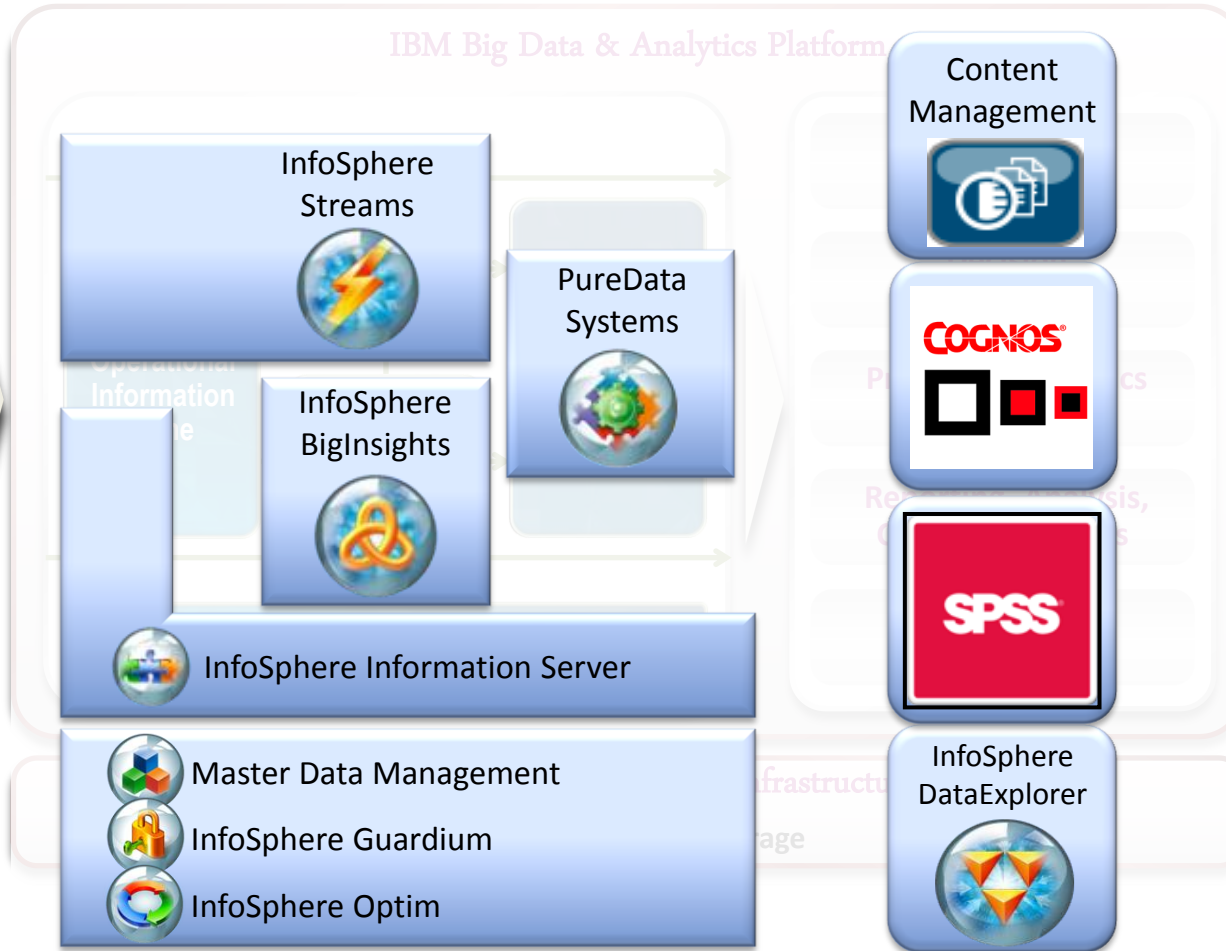
Realize It. Invest in a Big Data & Analytics platform





Realize It. Invest in a Big Data & Analytics platform

All Data

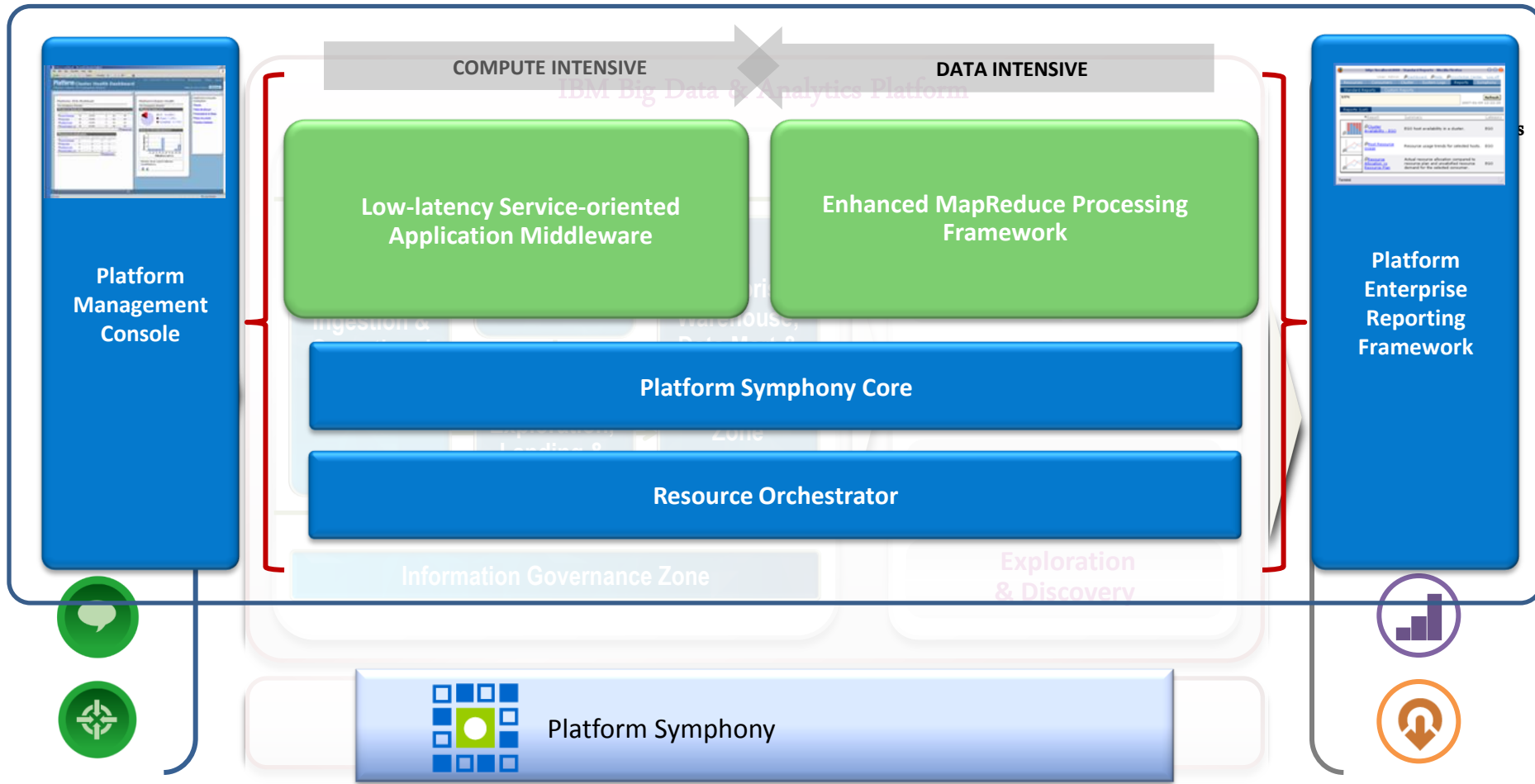


New/
Enhanced Applications





Realize It. Invest in a Big Data & Analytics platform







So why is it so hard for computers to understand humans?

Welch ran this?

Person	Organization
L. Gerstner	IBM
J. Welch	GE
W. Gates	Microsoft

“If leadership is an art then surely Jack Welch has proved himself a master painter during his tenure at GE.”

- Noses that run and feet that smell?
- How can a house can burn up as it burns down?
- Does CPD represent a complex comorbidity of lung cancer?
- What mix of zero-coupon, non-callable, A+ munis fit my risk portfolio?

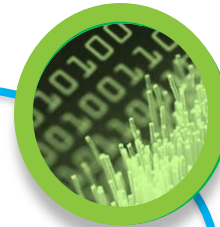


Watson combines transformational technologies

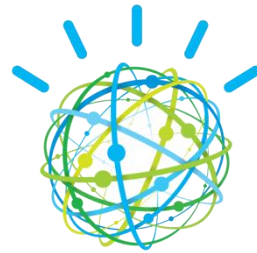
1 Understands natural language and human communication



2 Generates and evaluates evidence-based hypothesis



3 Adapts and learns from user selections and responses



...built on a massively parallel architecture



Watson enables three classes of cognitive systems



Ask

- Leverage vast amounts of data
- Ask questions for greater insights
- Natural language inquiries
- e.g. - Next generation Chat



Discover

- Find the rationale for given answers
- Prompt for inputs to yield improved responses
- Inspire considerations of new ideas
- e.g. - Next generation Search → Discovery



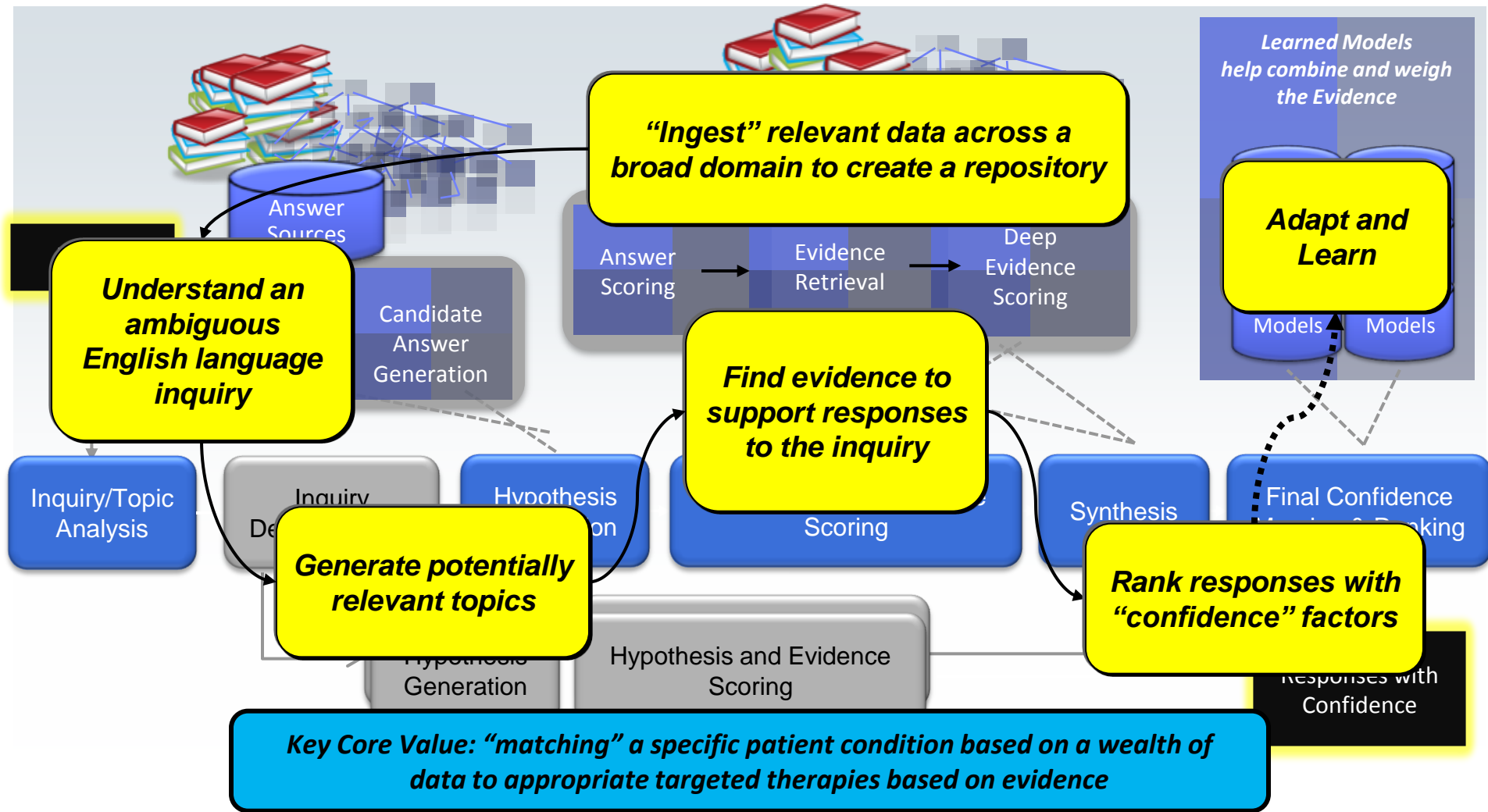
Decide

- Ingest and analyze domain sources, info models
- Generate evidence to support client decisions with confidence
- Learn with new outcomes and actions
- e.g. - Next generation Apps → Probabilistic Apps

Watson can be applied to problems of discovery and more insightful decision management and recent research and development in inference-chaining and dialoging will drive even deeper insight and accuracy



Imagine if you could read, understand and recall all relevant data...





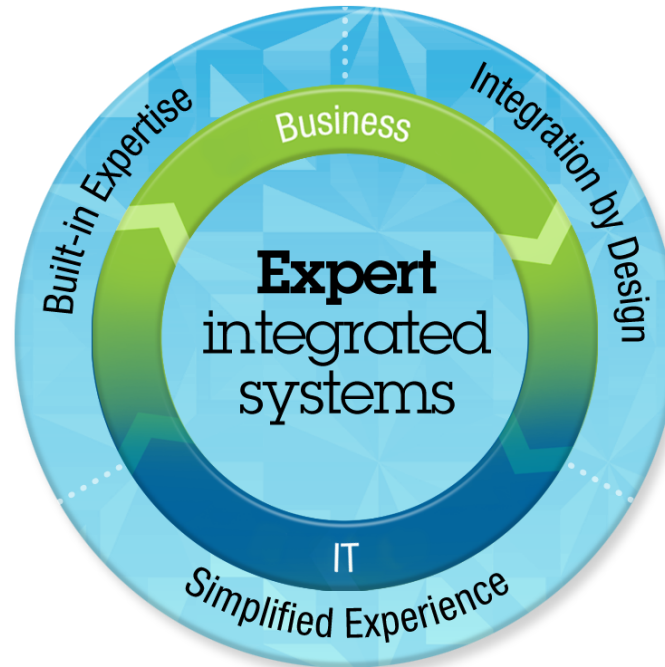


PureSystems™

Systems with integrated expertise and built for cloud

Built-in Expertise

Capturing and automating what experts do – from the infrastructure patterns to the application patterns



Integration by Design

Deeply integrating and tuning hardware and software – in a ready-to-go workload optimized system

Simplified Experience

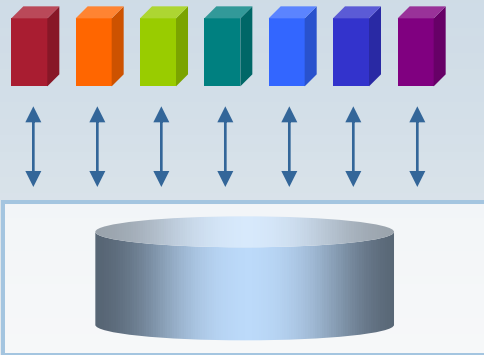
Making every part of the IT lifecycle easier – with integrated management of the entire system and a broad open ecosystem of optimized solutions



Specialized data systems deliver greater performance and efficiency



E-commerce



Scalable Transactional Database

Transaction Processing

Random reads & random updates

Many transactions with narrow data scope accessing the same database

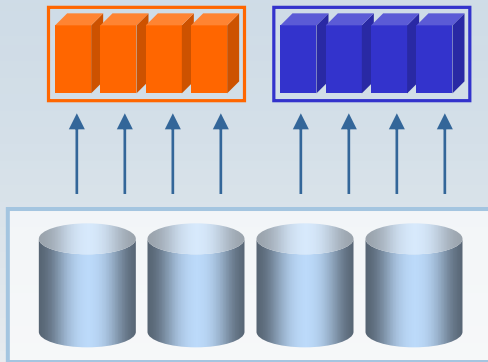
Shared access to all data

When you are updating your shopping cart, or pressing the “Buy now” button, you probably are not thinking about the 1000s of other shoppers that are also doing so...

But the retailer’s E-commerce database is



Specialized data systems deliver greater performance and efficiency



Analytics Data Warehouse

Reporting and Analytics

Sequential reads & sequential data loads

Analytics with broad data scope, split into many parts across data partitions to run in parallel

Partitioned data access

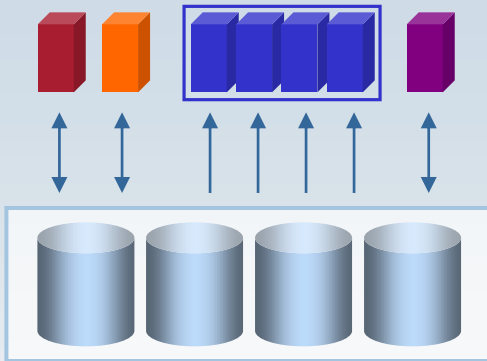
When you get a coupon at the checkout that is actually for something you need, you probably are not thinking about how your purchase history matches a predictable buying pattern...

But the retailer's customer data warehouse is



Specialized data systems deliver greater performance and efficiency

Real Time Fraud Detection



Operational Data Warehouse

Operational Analytics

Random and sequential reads & data loads + continuous ingest

Analytics split into many parts and narrow scope operations, all running in parallel

Partitioned data access

When your credit card company tells you that it denied a transaction with your card today – on the other side of the world – you probably are not thinking about all the transactions checked in just that second...

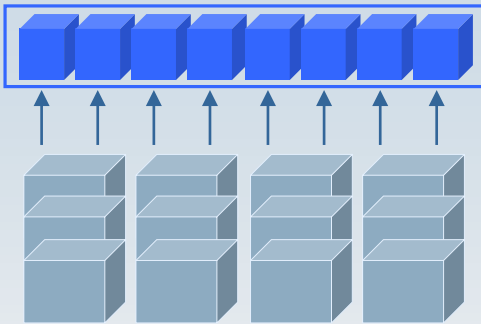
But the credit provider's operational data warehouse is



Specialized data systems deliver greater performance and efficiency



Actionable Customer Insight



Hadoop Analytics System

Hadoop Analytics

Sequential reads & append writes

Analytics split into map phase running in parallel and reduce phase to consolidate results

Partitioned data access, data replicated for performance and availability

When shopping for the hot new gaming console and seeing how your favorite store offers it bundled with just the right games, you probably are not thinking of web log analytics and customer sentiment analysis of social media data...

But the retailer's Hadoop analytics system is



PureData is an Expert Integrated System for Big Data

Big Data & Analytics Platform

Visualization & Discovery

Application Development

Systems Management



Accelerators

Hadoop System



Stream Computing



Data Warehouse



Information Integration & Governance

Systems of Record

PureData

For Hadoop

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

For Analytics

Optimized system delivering data services for analytics & reporting

For Operational Analytics

Optimized system delivering data services for operational analytics

For Transactions

Optimized system delivering data services for transactions





Are You Being **BOLD** Enough?

Imagine It.

Have you unleashed your organization's creativity?

Realize It.

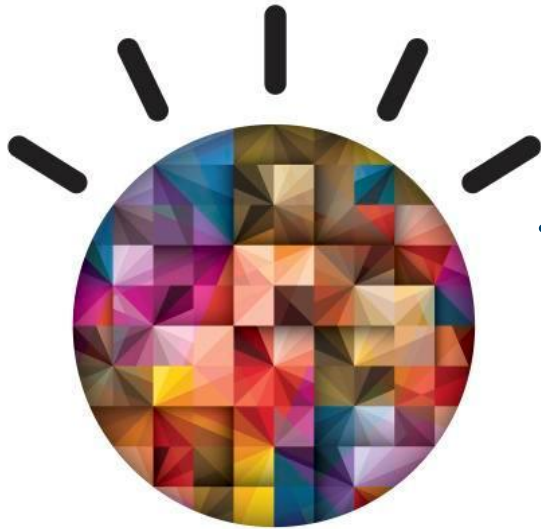
Have you architected for all data and all paradigms?

Trust It.

Are you protecting your data and your reputation?



Are You Being **BOLD** Enough?



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#ibmbigdata #ibmanalytics

ibm.com/watson

#ibmwatson

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Thank You