Gain Leadership in the New Era of Smart.
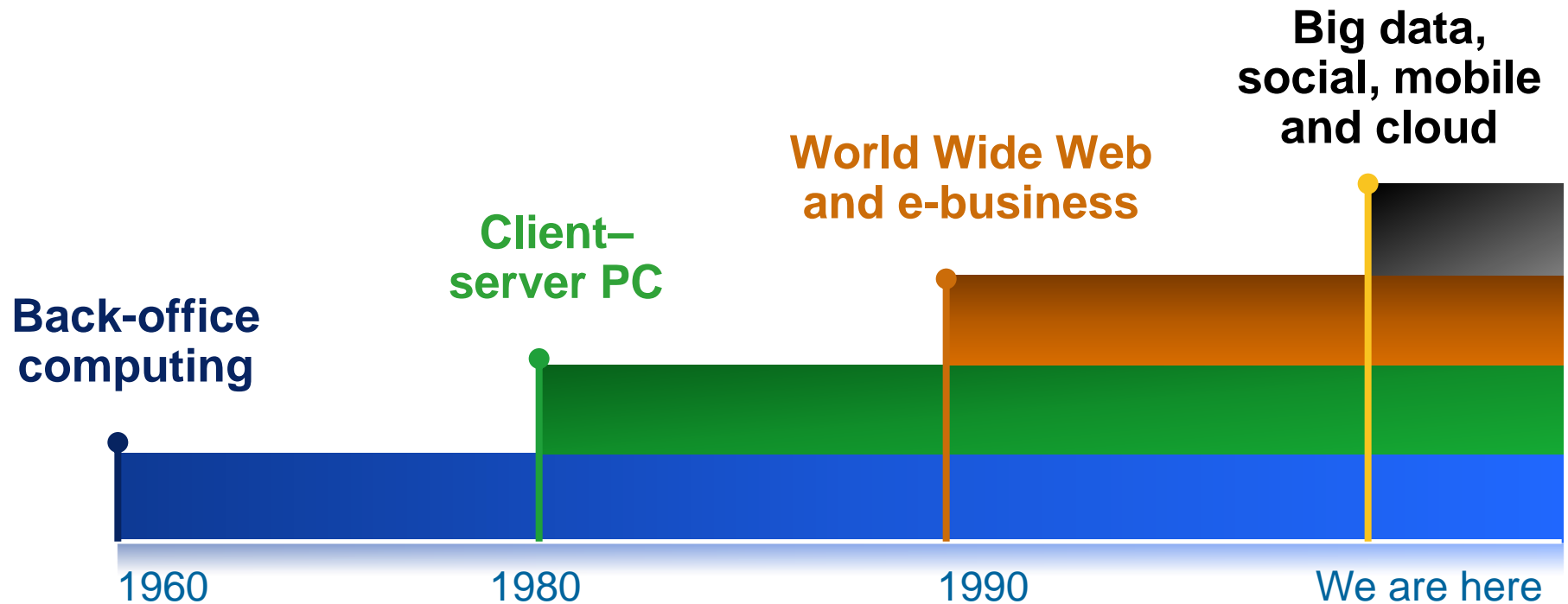
Cloud, Big Data, Mobile , Social and Security

Pairoj Ruamviboonsuk
Software Client Architect
IBM SWG Thailand

Simplicity. Profitability. Growth.

Igniting change—
the transformative power of computing

**Big data,
social, mobile
and cloud**

**World Wide Web
and e-business**

**Client–
server PC**

**Back-office
computing**

1960   1980   1990   We are here

Evidence -
of this shift is everywhere

Transactions to ➤ personalized **engagement**

Millions of PCs to ➤ **billions** of mobile devices

Rigid infrastructure to ➤ an **elastic** cloud

Structured data to ➤ **unstructured** big data

Static applications to ➤ **dynamic** services

Reactive security to ➤ **proactive** protection

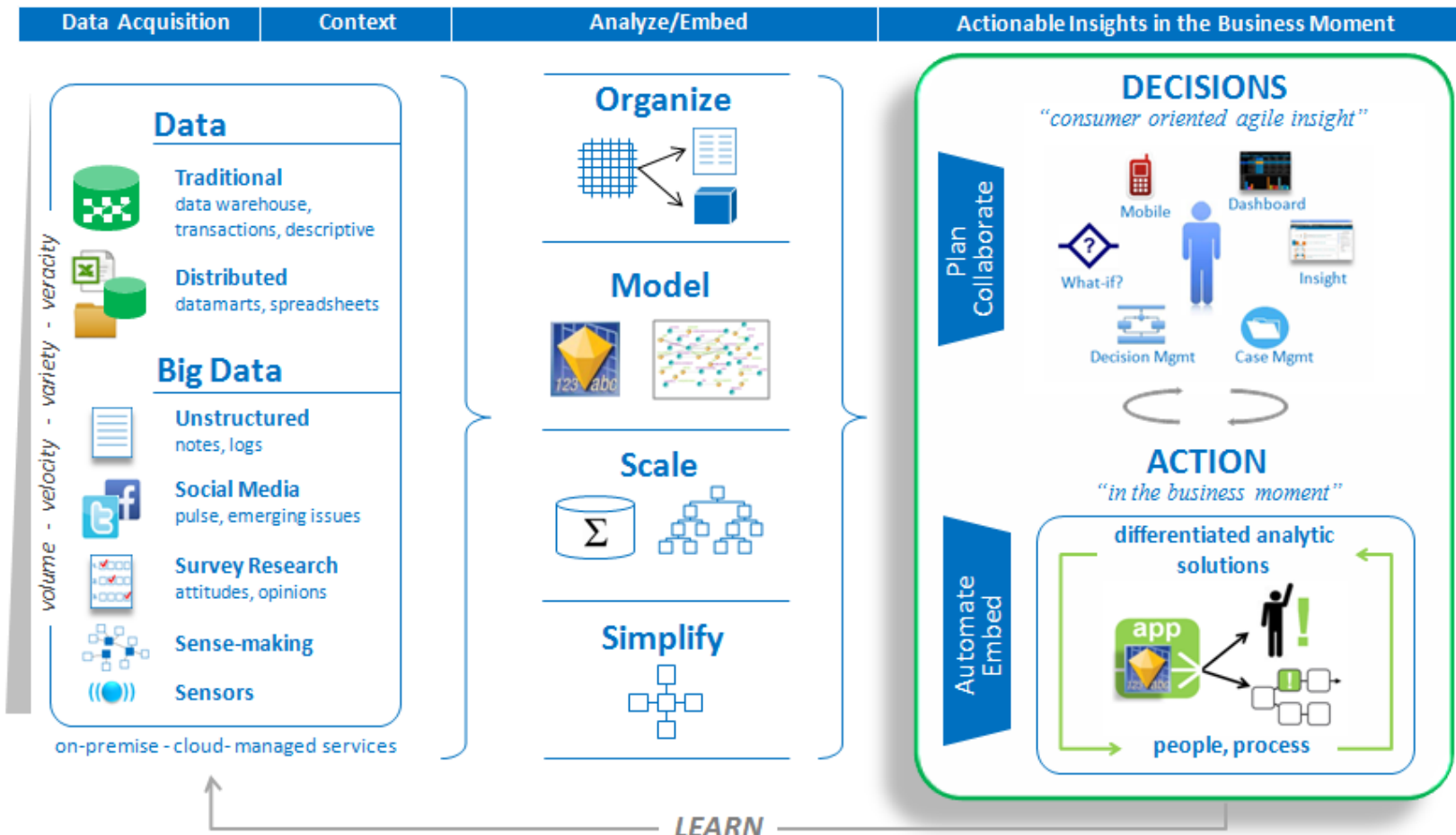# Data… the new natural resource & new basis of competitive advantage

Volume in Exabytes

- 9000
- 7500
- 6000
- 4500
- 3000

— Percentage of uncertain data

We are here.

Sensor & Devices

Social Media

Voice Over IP

Enterprise Data

2010   2015

Strategic Imperative: *Make Markets by transforming industries and professions with data*

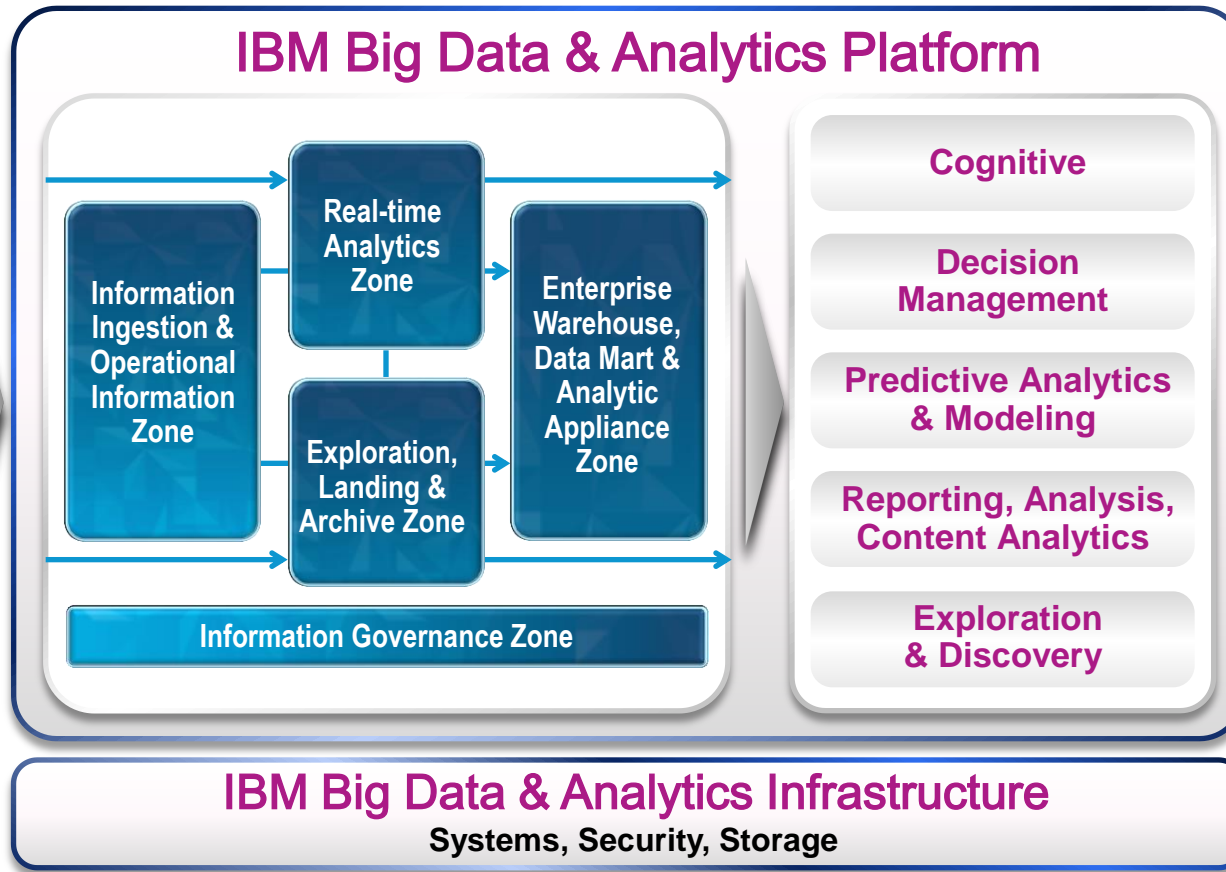# Big Data & Analytics – the value is in "actionable"

Creates New Value from Actionable Insight

New Mix of Data / **Broader Application** / **New Buyers & Decision Types**
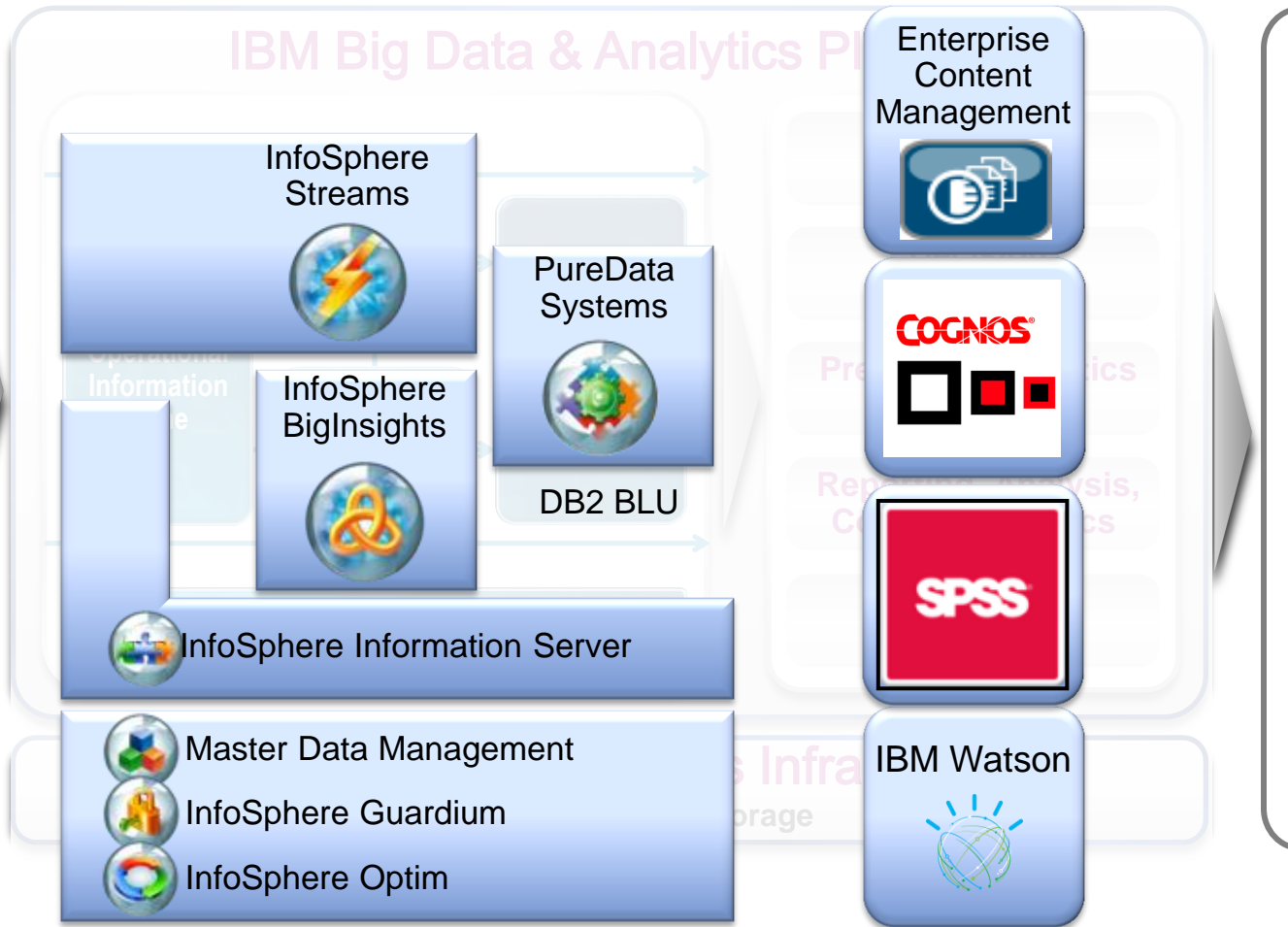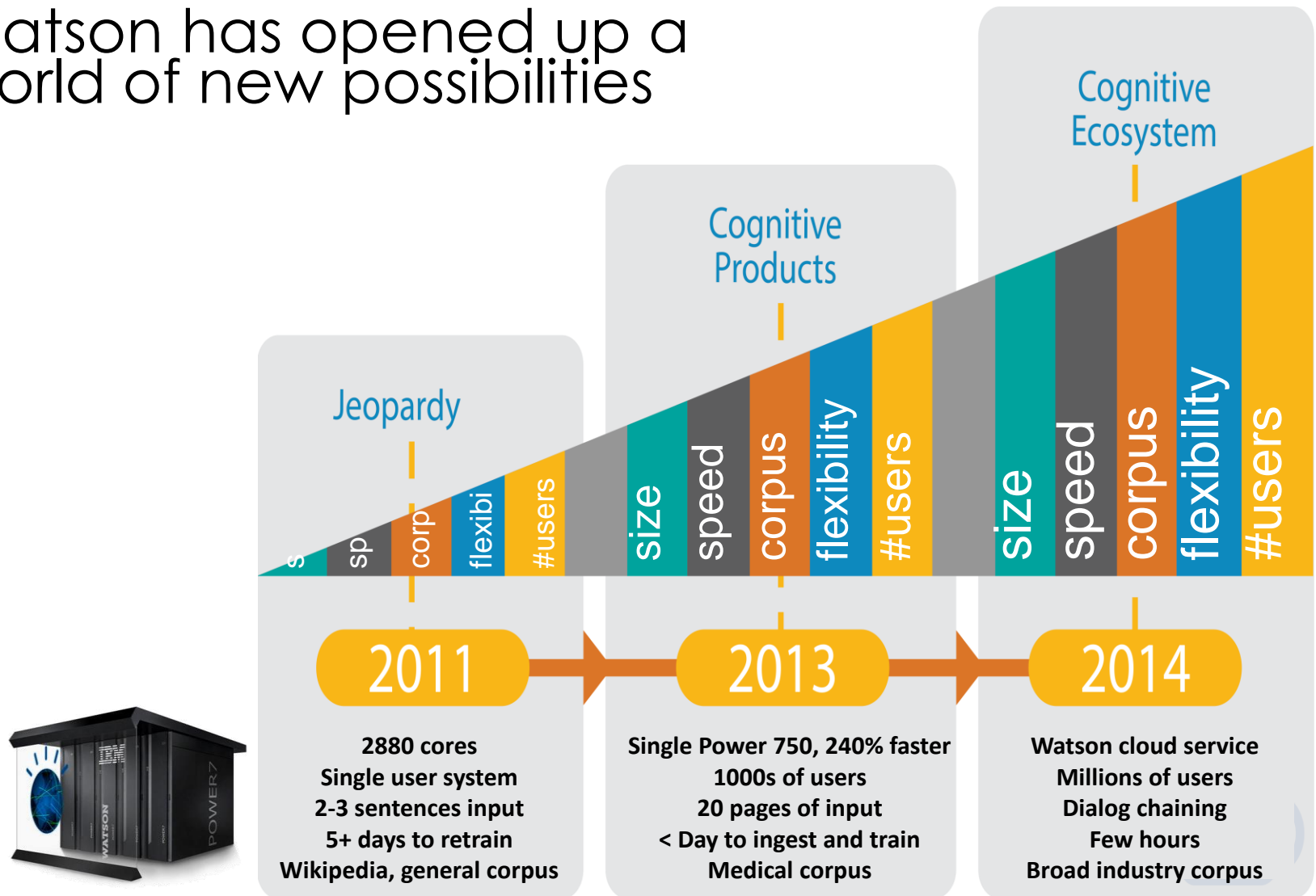
IBM Big Data & Analytics platform

All Data

IBM Big Data & Analytics Platform

Real-time Analytics Zone

Information Ingestion & Operational Information Zone

Exploration, Landing & Archive Zone

Enterprise Warehouse, Data Mart & Analytic Appliance Zone

Information Governance Zone

Cognitive

Decision Management

Predictive Analytics & Modeling

Reporting, Analysis, Content Analytics

Exploration & Discovery

IBM Big Data & Analytics Infrastructure
Systems, Security, Storage

New/ Enhanced Applications

Multiple entry points

All Data

IBM Big Data & Analytics Platform

InfoSphere
Streams

PureData
Systems

InfoSphere
BigInsights

DB2 BLU

InfoSphere Information Server

Master Data Management

InfoSphere Guardium

InfoSphere Optim

Enterprise
Content
Management

COGNOS®

SPSS®

IBM Watson

**New/
Enhanced
Applications**

Watson has opened up a world of new possibilities

Cognitive Ecosystem

size speed corpus flexibility #users

Cognitive Products

size speed corpus flexibility #users

Jeopardy

s sp corp flexibi #users

2011 → **2013** → **2014**

2011	2013	2014
2880 cores	**Single Power 750, 240% faster**	**Watson cloud service**
Single user system	**1000s of users**	**Millions of users**
2-3 sentences input	**20 pages of input**	**Dialog chaining**
5+ days to retrain	**< Day to ingest and train**	**Few hours**
Wikipedia, general corpus	**Medical corpus**	**Broad industry corpus**

Watson is cognitive computing

Watson understands me.

Watson engages me.

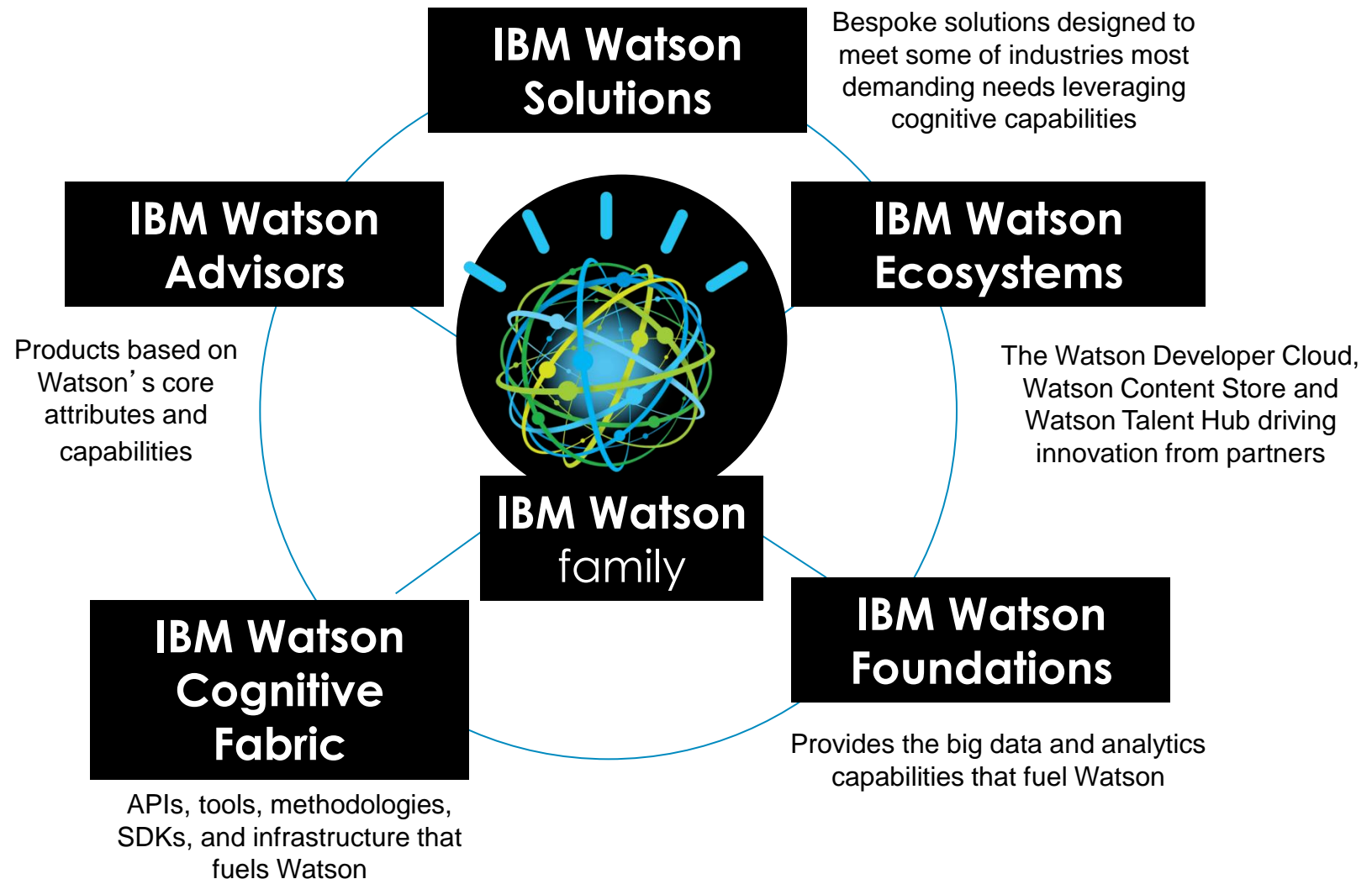Watson learns and improves over time.

Watson helps me discover.

Watson establishes trust.
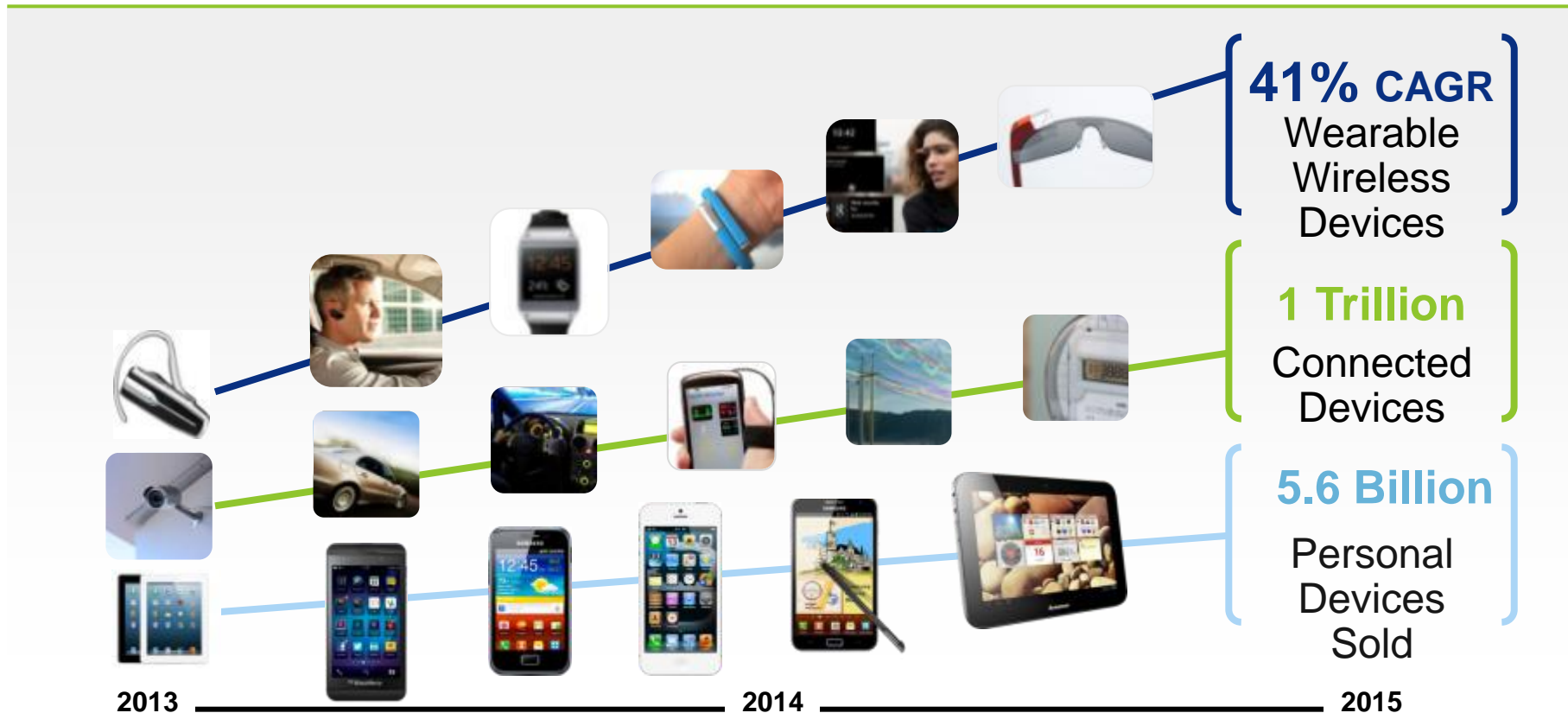
Watson has endless capacity for insight.

Watson operates in a timely fashion.

Understands natural language

Generates and evaluates hypotheses

Adapts and learns
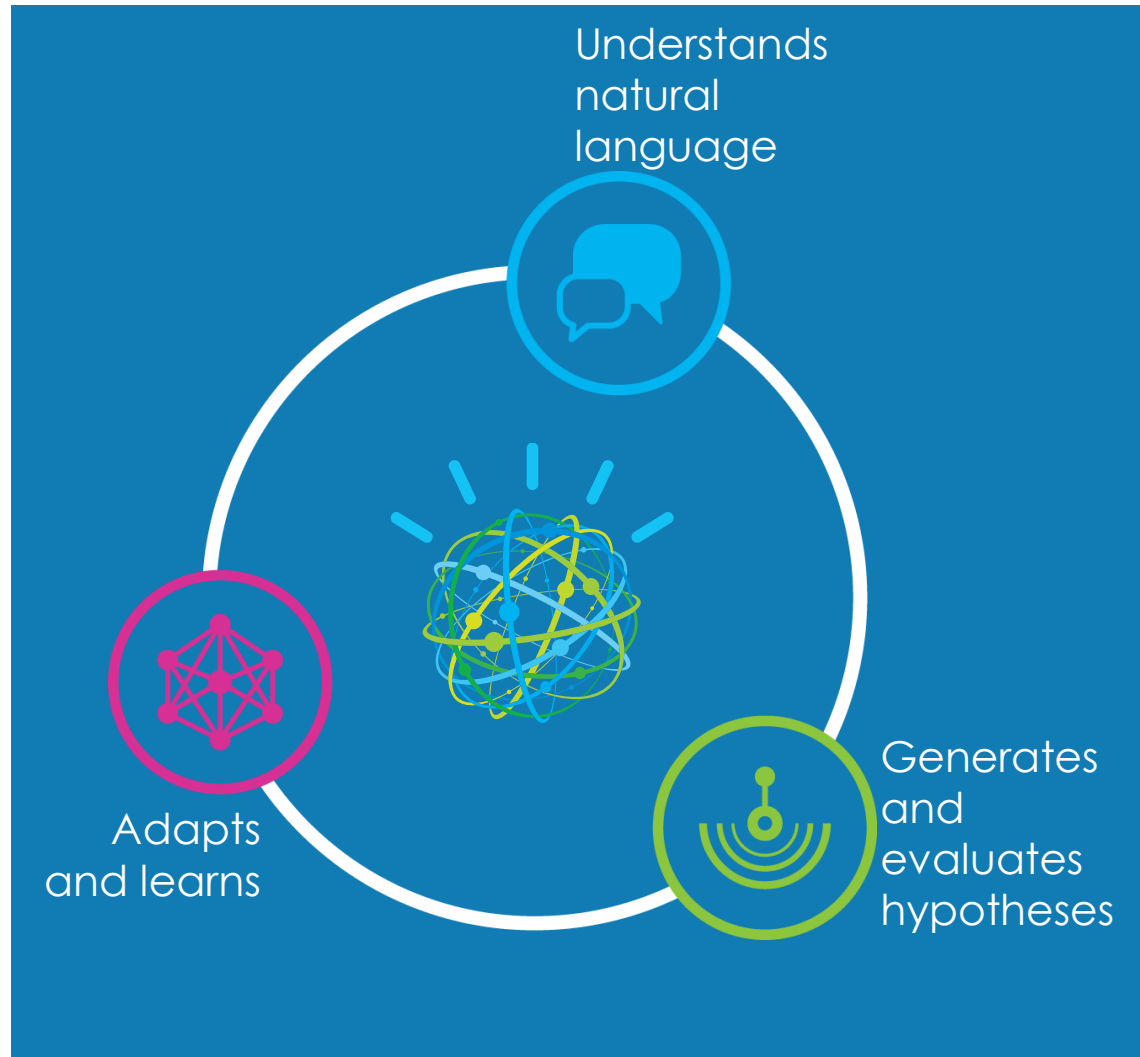
Announcing The Watson family

IBM Watson Solutions

Bespoke solutions designed to meet some of industries most demanding needs leveraging cognitive capabilities

IBM Watson Advisors

IBM Watson Ecosystems

IBM Watson family

Products based on Watson's core attributes and capabilities

The Watson Developer Cloud, Watson Content Store and Watson Talent Hub driving innovation from partners

IBM Watson Cognitive Fabric

IBM Watson Foundations

APIs, tools, methodologies, SDKs, and infrastructure that fuels Watson

Provides the big data and analytics capabilities that fuel Watson

Mobile Adoption Continues to Explode

41% CAGR
Wearable Wireless Devices

1 Trillion
Connected Devices

5.6 Billion
Personal Devices Sold

2013   2014   2015

Mobile Is Changing Interactions And How Work Gets Done

People are transacting on mobile
- The average mobile phone user checks their phone 150 times a day

This data is helping organizations deliver new value
- By 2020, 90% of new passenger cars sold will have some form of vehicle mobile platform, up from 10% in 2012.

But the experience of mobile is not yet meeting expectations
- 80% of apps are used once then deleted

Mobile enterprises leverage this data, putting the right information into the right hands at the right times
- By 2015, 2/3 of the workforce will own a smartphone, and 40% of the workforce will be mobile

Mobile transactions are generating unprecedented amounts of data
- Global mobile data traffic will increase 26-fold between 2010 and 2015, reaching 6.3 exabytes per month by 2015

Four Part Strategic approach to helping our clients set their mobile agendas

(CxO, LOB Exec)

In order to take full advantage of these new mobile opportunities, organizations need **comprehensive business-led strategies** to maximize their return on investment in mobile capabilities.

Transform
the value chain to drive
growth and ROI

(CISO, CIO, IT Exec)

Prioritize mobile infrastructure to support an open, secure and scalable environment while addressing the dynamic demands of the enterprise

Protect
and manage the
mobile infrastructure
to optimize
performance

IBM MobileFirst
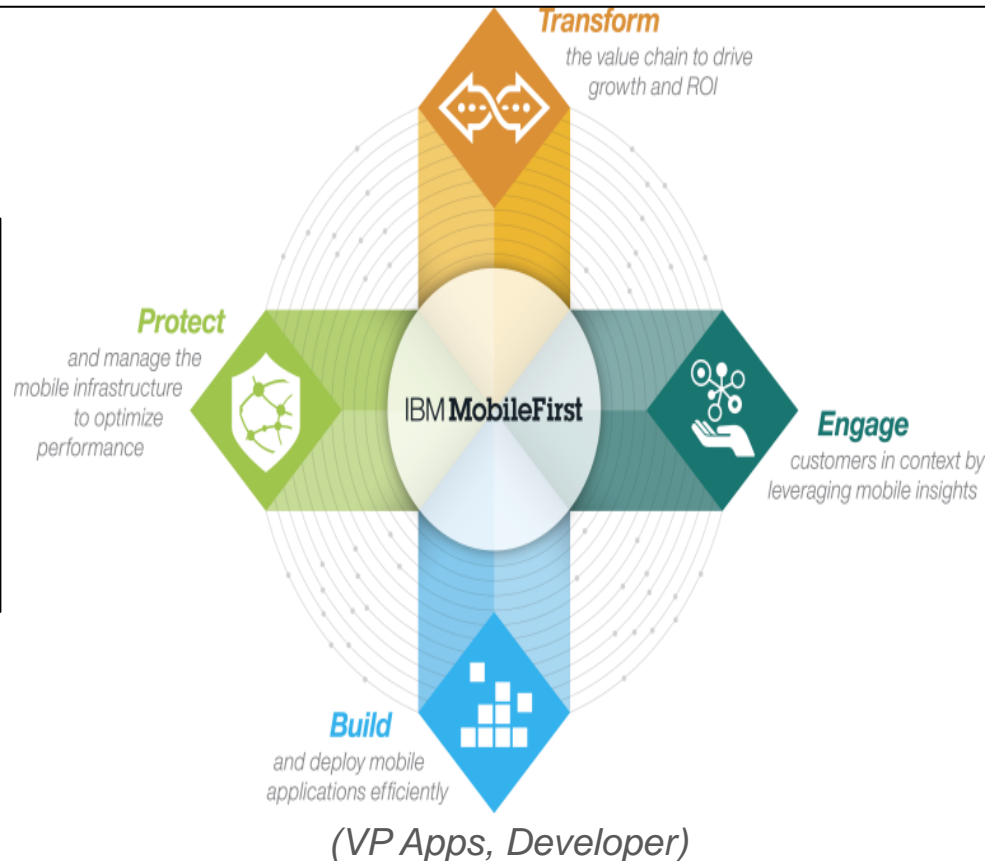
(CMO)

Gain visibility into the customer mobile experience to improve conversions and grow revenue, improving customer service resolution and drive customer loyalty

Engage
customers in context by
leveraging mobile insights

Build
and deploy mobile
applications efficiently

(VP Apps, Developer)

Making mobility the **critical business enabler** for future growth and competitive differentiation

IBM MobileFirst Can Help You Accomplish Your Mobile Goals
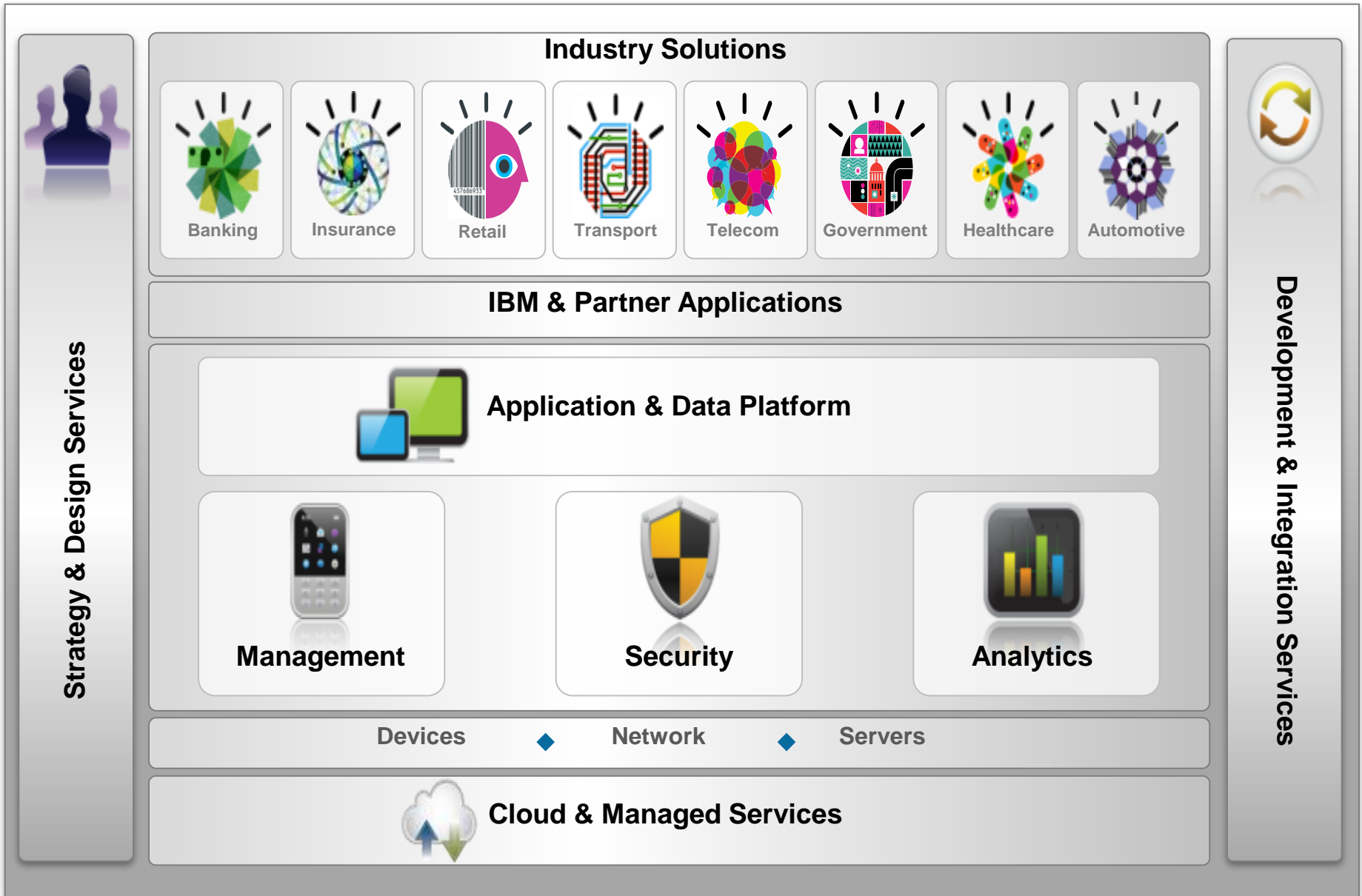
What we announced with Apple

IBM and Apple will collaborate to address these problems with a set of new offerings tailored for the iOS experience
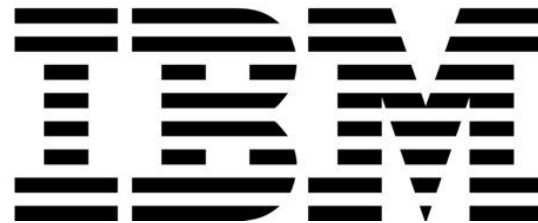

MobileFirst for iOS
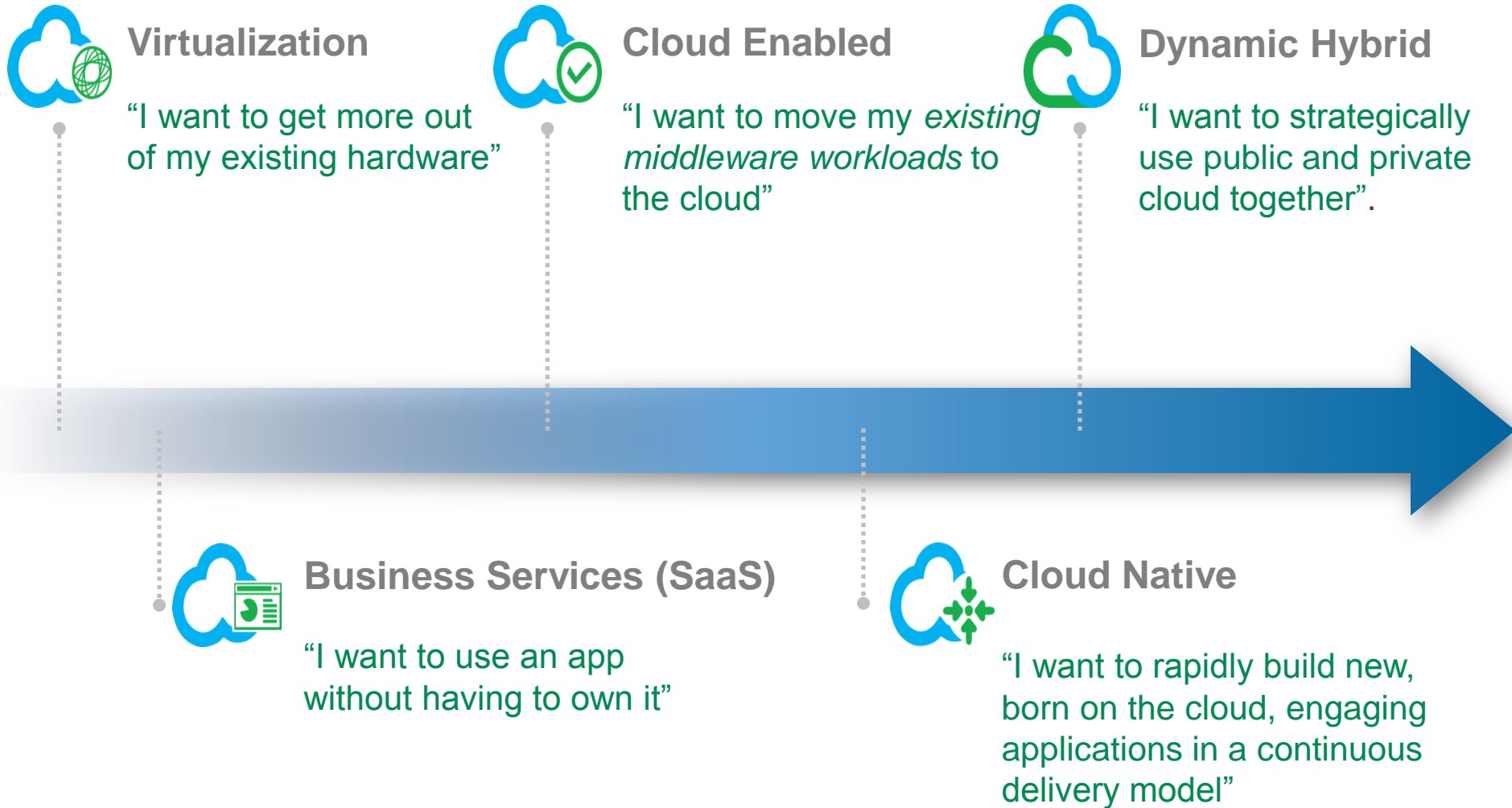
MobileFirst Platform for iOS

AppleCare for Enterprise

MobileFirst Supply and Management

The Evolution of Cloud Technologies

Virtualization
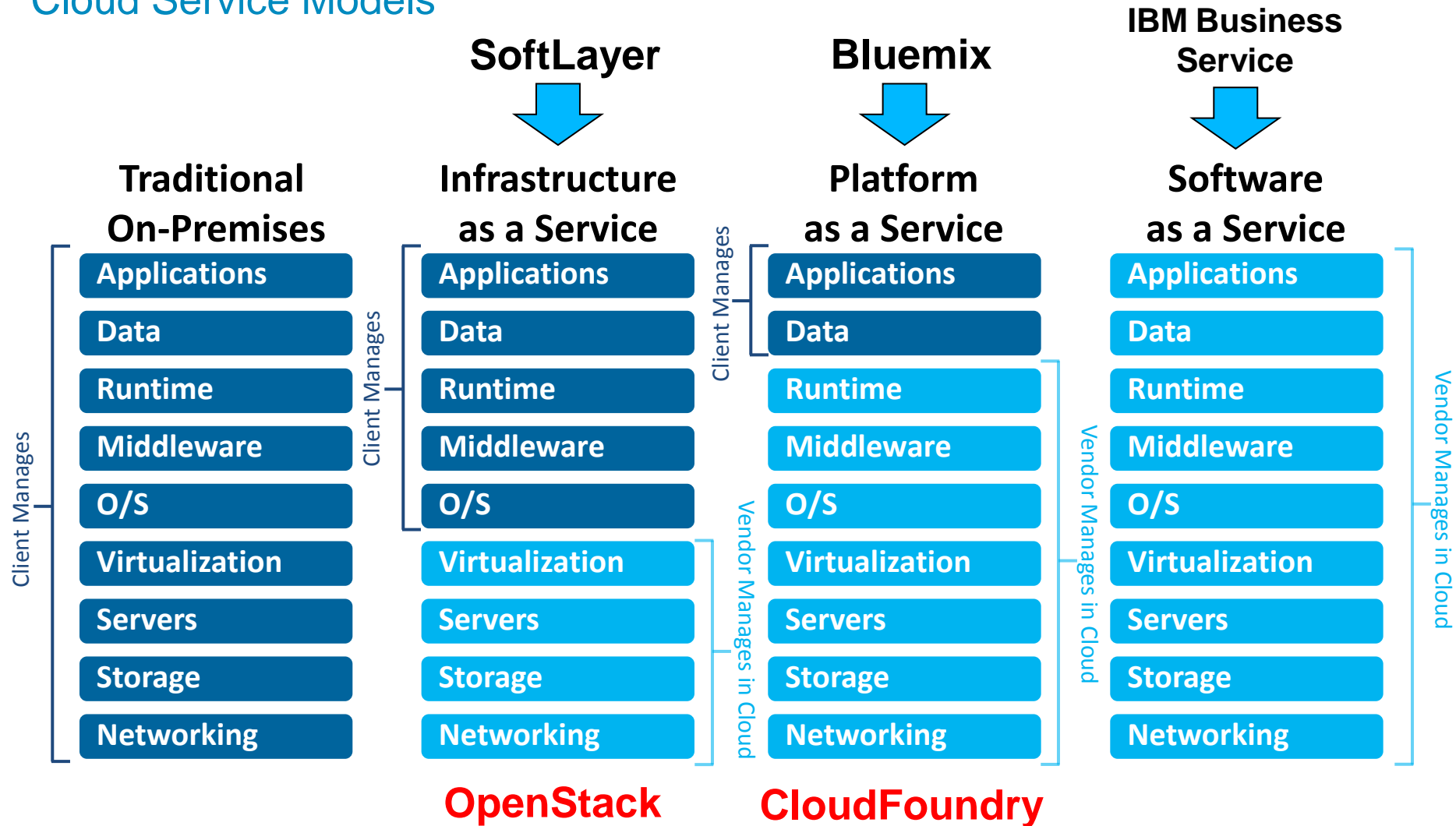
"I want to get more out of my existing hardware"

Cloud Enabled

"I want to move my *existing middleware workloads* to the cloud"

Dynamic Hybrid

"I want to strategically use public and private cloud together".

Business Services (SaaS)

"I want to use an app without having to own it"

Cloud Native

"I want to rapidly build new, born on the cloud, engaging applications in a continuous delivery model"

It is estimated that by 2016 more than one-fourth of the world's applications will be available in the cloud, and **85% of new software** is now being built for cloud deployment.

Application Aware

Service Driven

Resource Smart

Composable Business

On or Off Premise
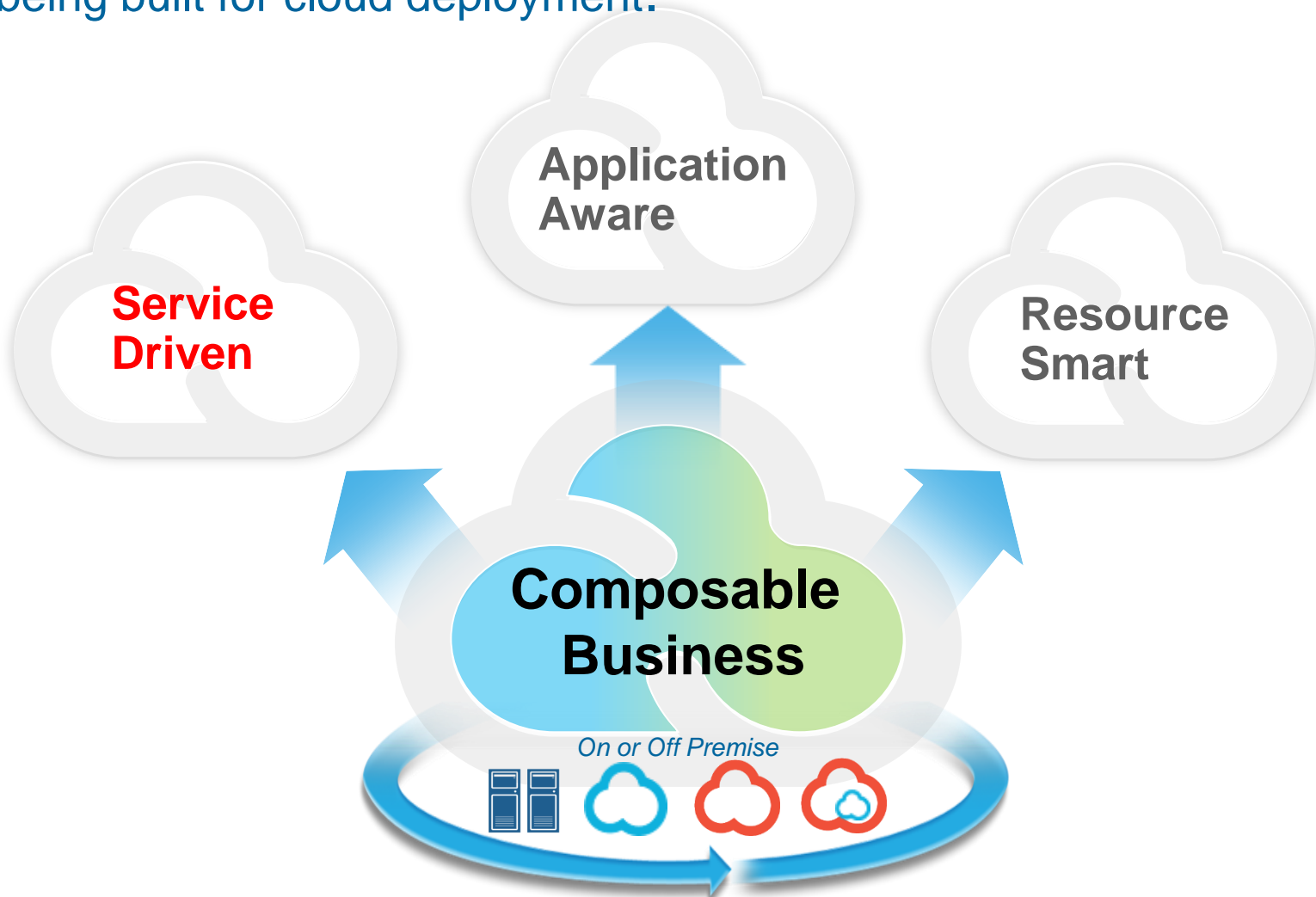
The Composable Business is built on the "as a Service" environment…with a goal of enabling the API economy

Cloud Service Models

	SoftLayer	**Bluemix**	**IBM Business Service**

Traditional On-Premises	**Infrastructure as a Service**	**Platform as a Service**	**Software as a Service**
Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking

Traditional On-Premises: Client Manages (all layers)

Infrastructure as a Service: Client Manages (Applications, Data, Runtime, Middleware, O/S); Vendor Manages in Cloud (Virtualization, Servers, Storage, Networking)

Platform as a Service: Client Manages (Applications, Data); Vendor Manages in Cloud (Runtime, Middleware, O/S, Virtualization, Servers, Storage, Networking)

Software as a Service: Vendor Manages in Cloud (all layers)

OpenStack   **CloudFoundry**

Customization; higher costs; slower time to value

Standardization; lower costs; faster time to value

IBM Cloud marketplace features IBM and Business Partner cloud services

and click on **Marketplace**
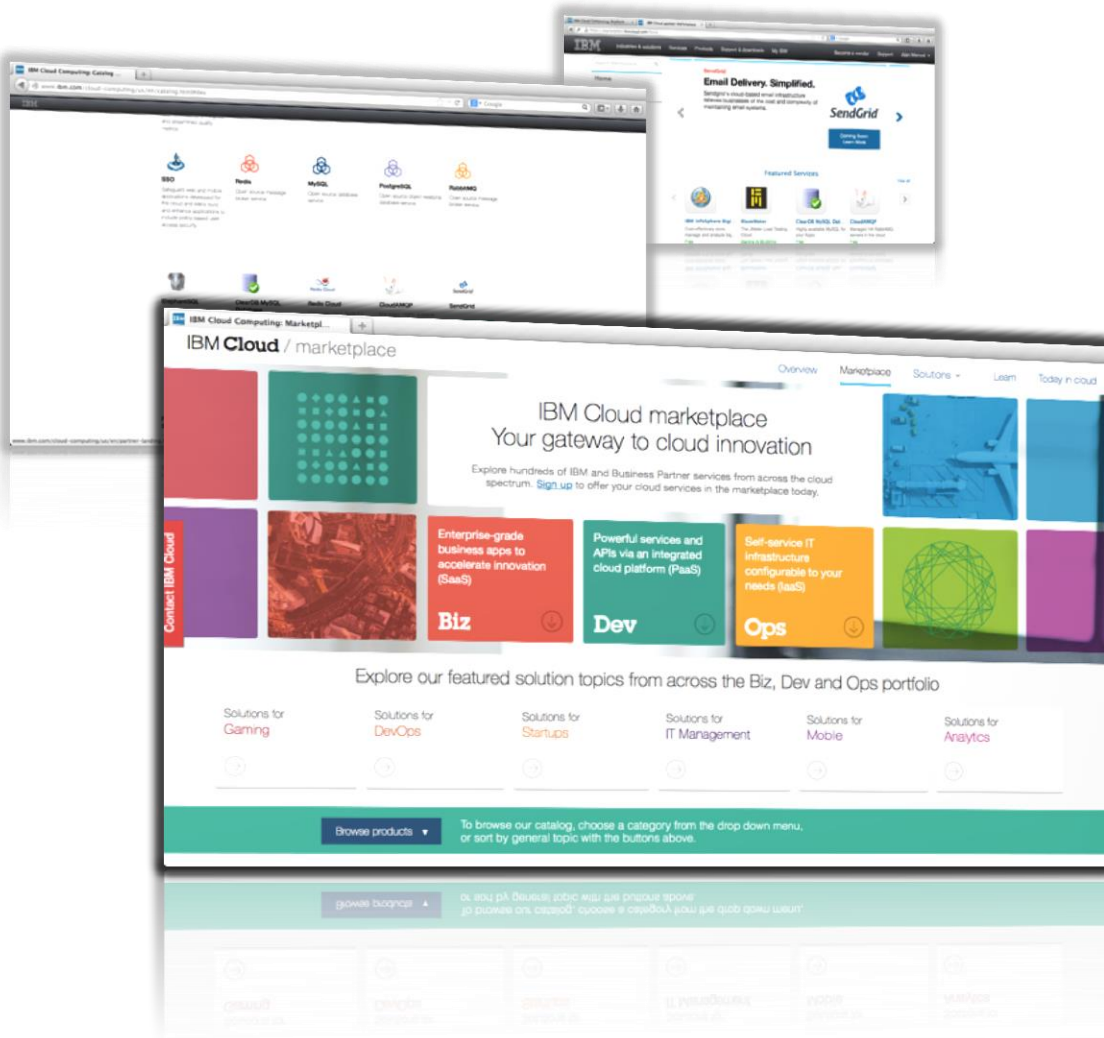
- Comprehensive catalog including both IBM and 3rd party offerings and supported by multi-billion dollar investments:
  - **Biz** (line of business) features IBM's world class SaaS portfolio
  - **Dev** (developer) supports traditional application styles (patterns) and new application styles (composable services / Bluemix)
  - **Ops** (IT operations) features SoftLayer's high performance infrastructure services
- Purpose built Solutions (e.g., Mobile, DevOps) help you navigate the catalog
- Enables IBM customers to discover and experiment with a broad portfolio of offerings in a consistent way

SoftLayer provides access to unique capabilities

Self-service IT infrastructure configurable to your needs (IaaS)

Ops

Infrastructure as a Service

Enterprise class, optimized infrastructure
Built using open standards

| Compute | Storage | Networking |

SOFTLAYER®
an IBM Company

Performance

| Web | Mobile | API |

Common user interface and application programming interface

Flexibility

Bare Metal Servers | **Virtual Server Instances** | **Private Clouds**

Automation

Triple Network Architecture
seamless communication across distributed environments

Infrastructure Management System
provides orchestration and automation

Gaming and entertainment

HOTHEAD

Marketing and digital media

struq

Enterprise

REPSOL

IBM Bluemix

A composable services development environment accessible from marketplace
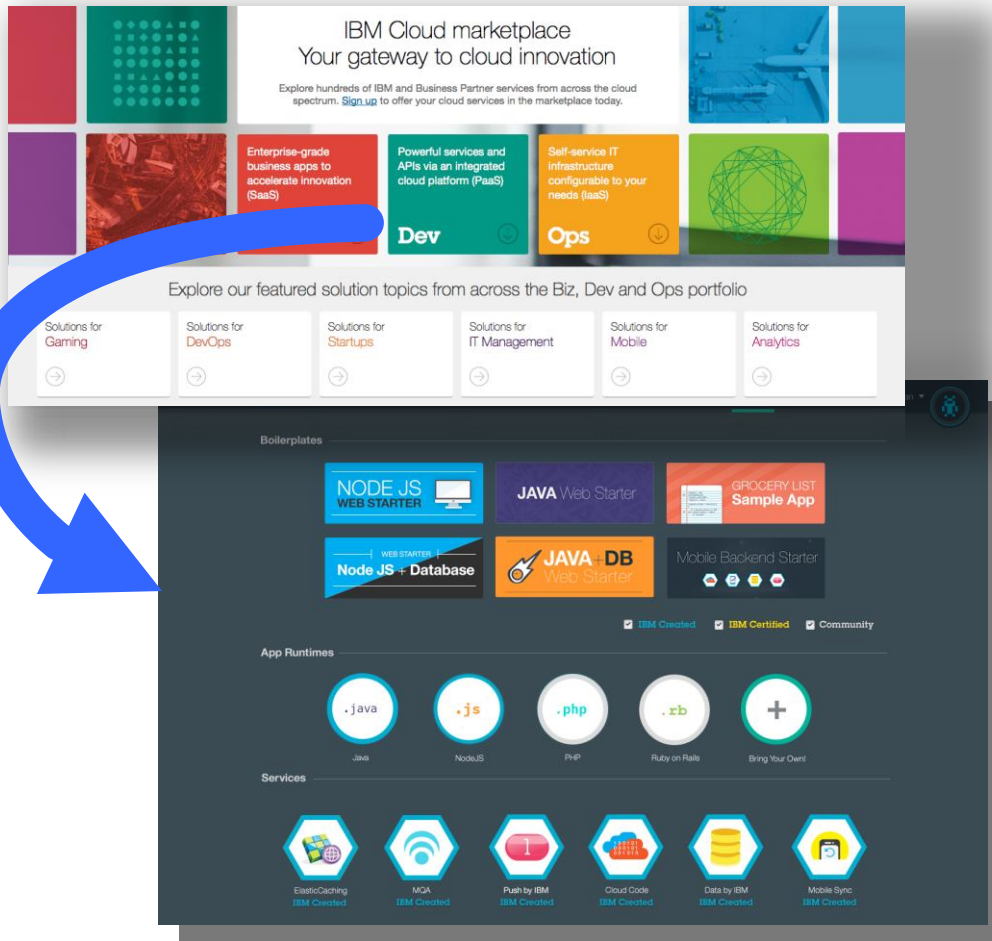
Run Your Apps

The developer can chose any language runtime or bring their own. Just upload your code and go.

DevOps

Development, testing, monitoring, deployment and logging tools allow the developer to run the entire application

APIs and Services

A catalog of open source, IBM and third party APIs services allow a developer to stitch together an application in minutes.

Cloud Integration

Build hybrid environments. Connect to on-premises systems of record plus other public and private clouds. Expose your own APIs to your developers.

Extend SaaS Apps

Drop in SaaS App SDKs and extend to new use cases (e.g,. Mobile, Analytics, Web)

IBM Cloud Capabilities – includes 100+ SaaS offerings , expanding fast

Enterprise-grade business apps to accelerate innovation (SaaS)

Biz

Business Process as a Service

Enabling business transformation

Business process solutions:
| Application | Application | Application | Application | Application |

Software as a Service

Marketplace of high value consumable business applications

| External ecosystem | Industry | Collaboration | Human resources | Big Data & analytics | Commerce | Marketing | IT Management |

Accelerate Business Process Innovation

- E-commerce
- Customer self-service
- Public safety
- Service delivery

Deliver Business Analytics at Point of Impact

- Digital marketing optimization
- Pricing, promotion, product mix analytics
- Procurement analytics
- Business insights
- Intelligent city operations

Connect People with Collaborative Business Networks

- Employee and partner collaboration
- Strategic supply management
- Product planning and development
- Talent management

CORE METRICS · xtify · SILVERPOP · DemandTec · SPSS · COGNOS · Kenexa · Sterling Commerce · Emptoris

Today, the social media revolution has sparked another transformation, forever changing the way people interact and share information

>1.5 billion social networking users globally

25% of search results for the world's top 20 largest brands are links to user-generated content

50% of users access the internet with their mobile device
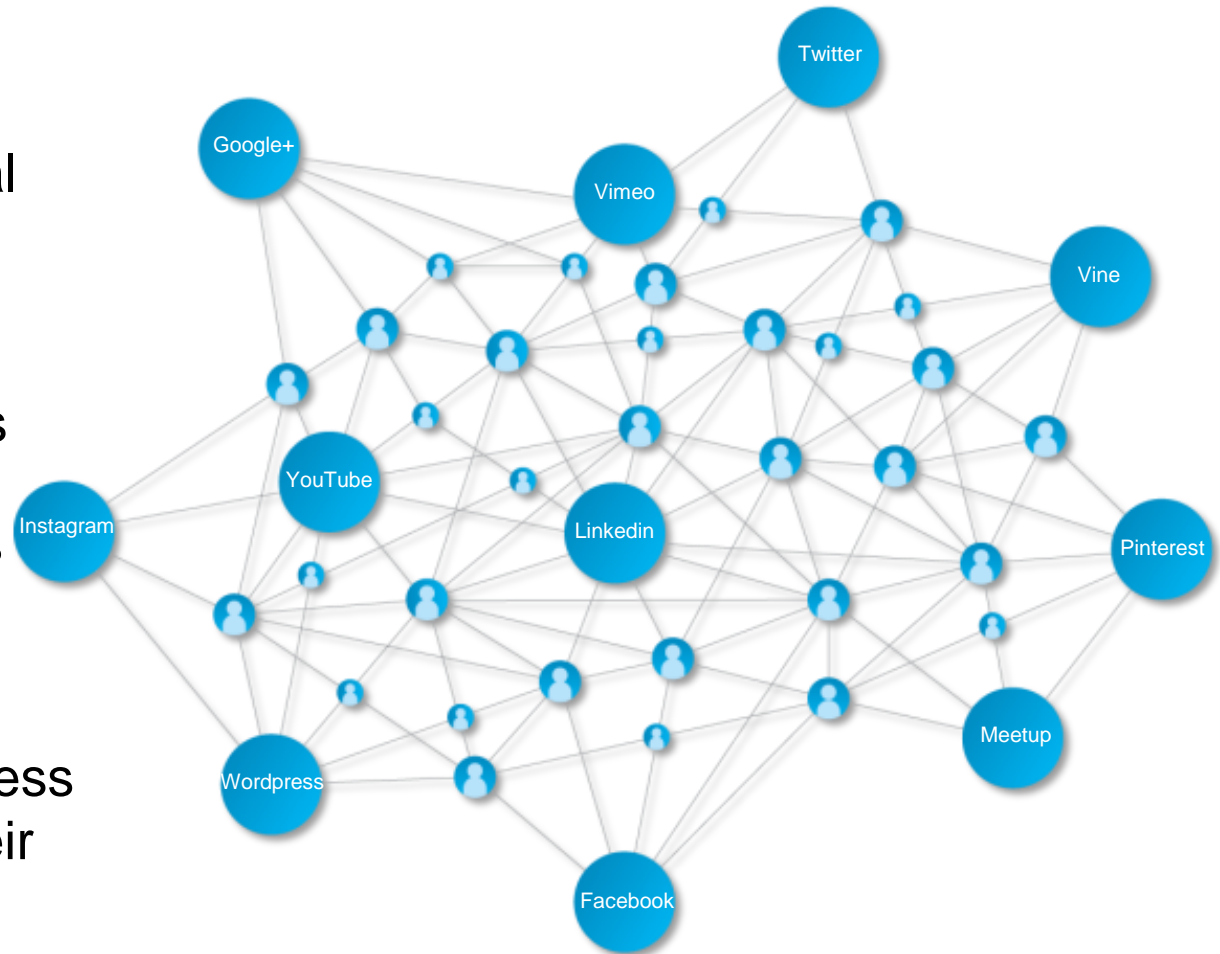
A new era of **human influence** *is upon us*

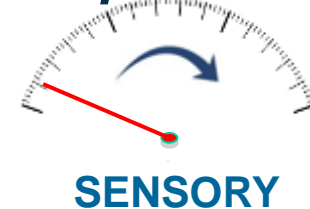## New social technologies are amplifying the innate desires of people to …

Engage, share knowledge and build relationships

ENGAGEMENT

Consume and understand complex information

COGNITION

Learn from human sensory & instrumented experiences

SENSORY

Integrating social into core business functions is creating new opportunities for competitive advantage

Customer Service

Can achieve 5% reduction in customer defection rate increasing profits by up to 68%. [2]

Sales

Can increase sales manager revenue by 40% and improve efficiency by up to 50%. [1]

HR

Can save $2M in recruiting costs. [5]

Product Development

Can develop and bring new products to market in 1/3 time. [3]

Marketing

Can achieve 100% increase in market exposure. [4]

Source 1: VCC case study, Source 2:Bain & Co , Source 3: Cemex case study, Source 4. Amadori case study; Source 5: Apollo Group case study

IBM has a market leading portfolio of technology and services to help clients become social businesses

SOCIAL BUSINESS SOLUTIONS

Smarter Workforce
IBM Employee Experience Suite
Kenexa Talent Management Suite
attract . empower . motivate . deliver

Exceptional Customer Experience
IBM Customer Experience Suite

IBM Platform for Social Business

Social Networking
IBM Connections
IBM Notes & Domino Social Edition
IBM Sametime

Social Analytics
IBM Social Analytics Suite

Social Content
IBM Enterprise Content Management

Social Integration
IBM WebSphere Portal
IBM Web Content Manager

IBM SmartCloud   Dedicated Private Cloud   On Premises   Hybrid

DEPLOYMENT OPTIONS

A new security reality is here

Sophisticated attackers break through conventional safeguards every day

61% of organizations say **data theft and cybercrime** are their greatest threats

2012 IBM Global Reputational Risk & IT Study

$3.5M

Average cost of a **data breach**

2014 Cost of Data Breach, Ponemon Institute

Cloud, mobile, social and big data drive unprecedented change

70% of security executives have **cloud and mobile security** concerns

2013 IBM CISO Survey

614%

Mobile malware growth in just one year

2012 - 2013 Juniper Mobile Threat Report

Yesterday's security practices are unsustainable

83% of enterprises have difficulty finding the **security skills** they need

2012 ESG Research

85 **security tools** from

45 **vendors**

IBM client example

Security is a board room discussion, and security leaders are more accountable than ever before
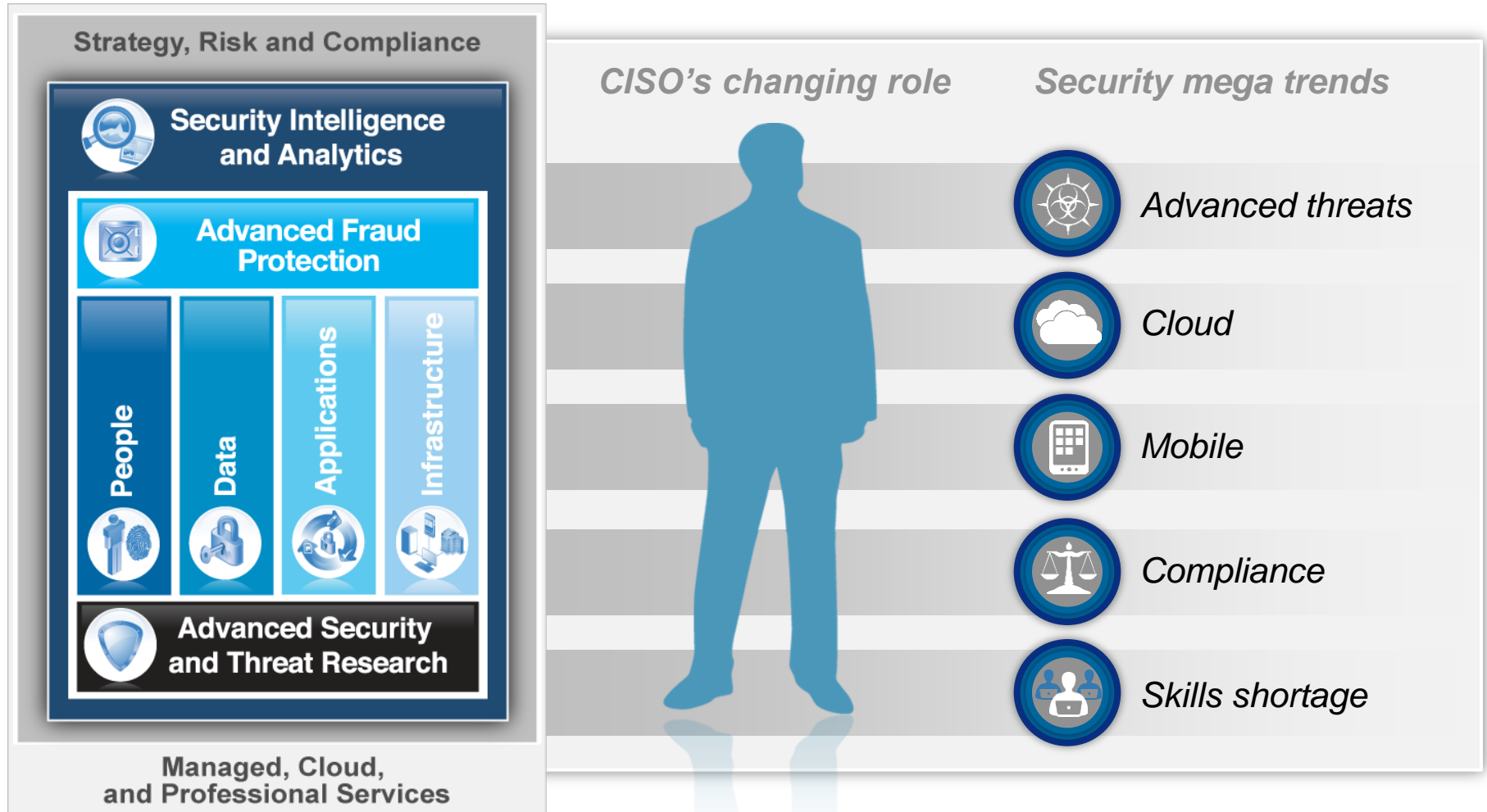

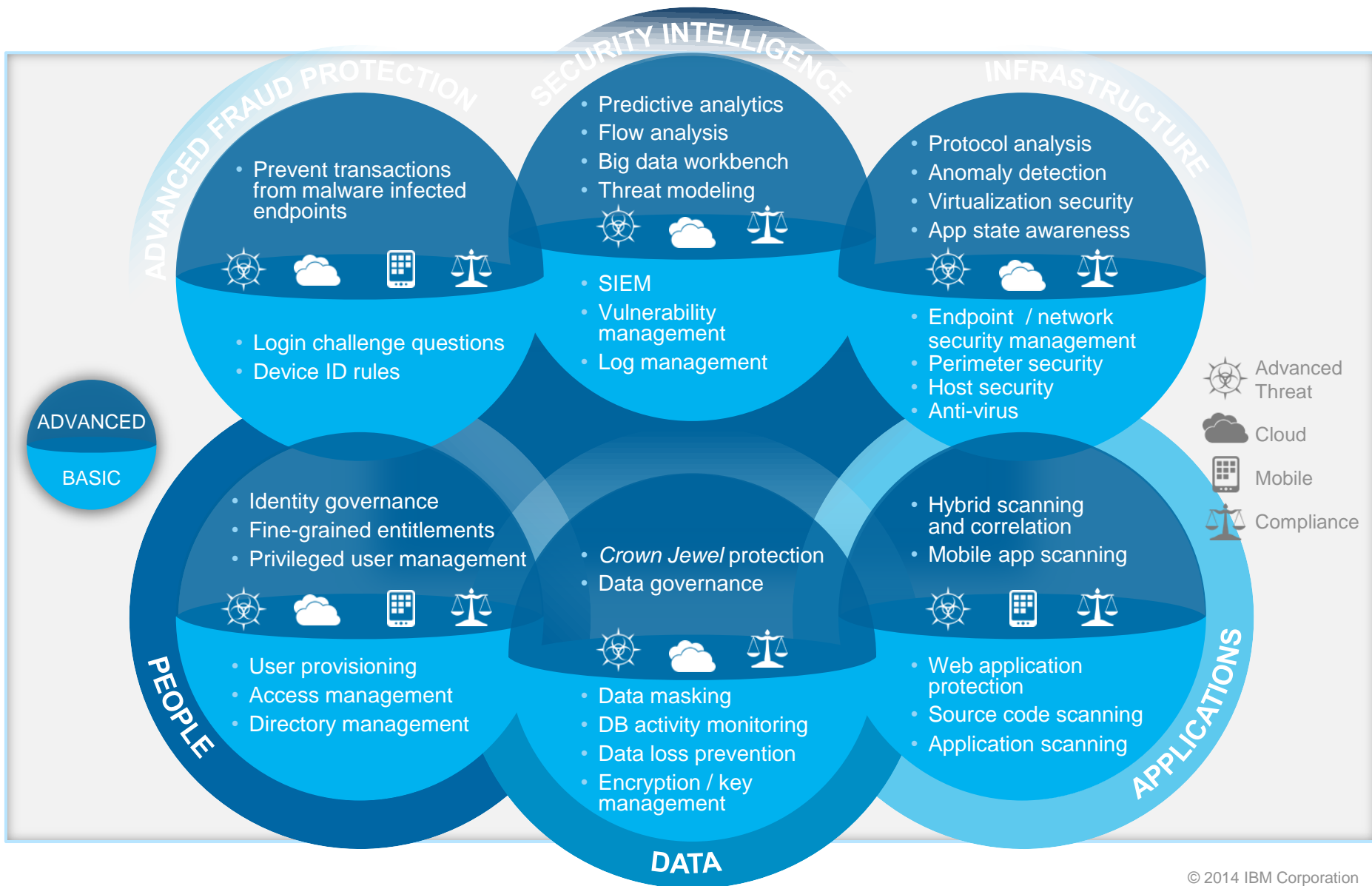| CEO	CFO/COO	CIO	CHRO	CMO
Loss of market share and reputation Legal exposure	Audit failure Fines and criminal charges Financial loss	Loss of data confidentiality, integrity and/or availability	Violation of employee privacy	Loss of customer trust Loss of brand reputation

Your Board and CEO demand a strategy

IBM Security strategy

Delivering intelligence, integration and expertise across a comprehensive framework
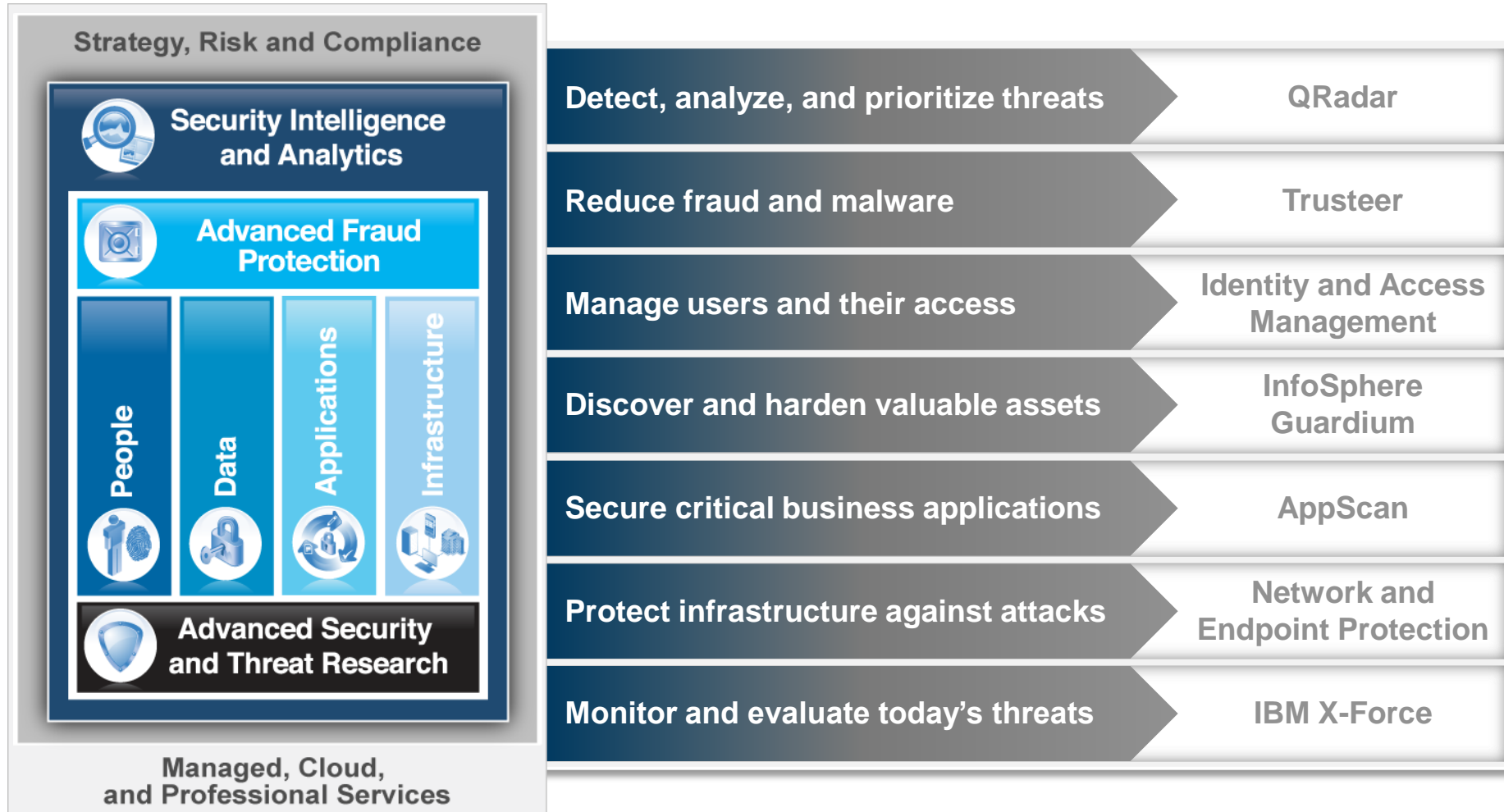
The IBM Security Framework

IBM Security capabilities to help reach security maturity

ADVANCED FRAUD PROTECTION

- Prevent transactions from malware infected endpoints
- Login challenge questions
- Device ID rules

SECURITY INTELLIGENCE

- Predictive analytics
- Flow analysis
- Big data workbench
- Threat modeling
- SIEM
- Vulnerability management
- Log management

INFRASTRUCTURE

- Protocol analysis
- Anomaly detection
- Virtualization security
- App state awareness
- Endpoint / network security management
- Perimeter security
- Host security
- Anti-virus

PEOPLE

- Identity governance
- Fine-grained entitlements
- Privileged user management
- User provisioning
- Access management
- Directory management

DATA

- *Crown Jewel* protection
- Data governance
- Data masking
- DB activity monitoring
- Data loss prevention
- Encryption / key management

APPLICATIONS

- Hybrid scanning and correlation
- Mobile app scanning
- Web application protection
- Source code scanning
- Application scanning

ADVANCED
BASIC

- Advanced Threat
- Cloud
- Mobile
- Compliance

IBM Security

Integrated capabilities delivered across a comprehensive security framework

The IBM Security Framework

Detect, analyze, and prioritize threats	QRadar
Reduce fraud and malware	Trusteer
Manage users and their access	Identity and Access Management
Discover and harden valuable assets	InfoSphere Guardium
Secure critical business applications	AppScan
Protect infrastructure against attacks	Network and Endpoint Protection
Monitor and evaluate today's threats	IBM X-Force

Next : IBM Cloud Orchestrator Demonstration

Two Offerings

*Cloud Orchestrator
On Premise*

*Cloud Orchestrator
On Cloud*

- Need of deep customization and integration into the enterprise
- Need to control the management infrastructure
- Choice of Managed Cores and Managed Virtual Server pricing, perpetual or fixed term licensing
- Manages to on-prem and off-prem resources

- Organizations looking for a low CAPEX solution
- Cost sensitive organizations requiring an agile pricing model – monthly pricing per managed virtual server
- Need to gain early access to new capabilities
- Manages to on-prem and off-prem resources

Total Flexibility – start where you want and
move when you want to the other model.