

IBM Software Strategy and Directions

Put your business in motion

Alain Azagury, Director SWG Technical Strategy

Client-driven capabilities

Software Middleware

Software Solutions

Integrated systems



AGENDA

- IBM Software Capabilities
- Software Middleware
- Software Solutions
- Integrated Systems
- Cross SWG Innovation, Optimization and Emerging Technologies
- Questions

What Is Driving IT Demand



Software Investment has Shifted to Higher Value Markets

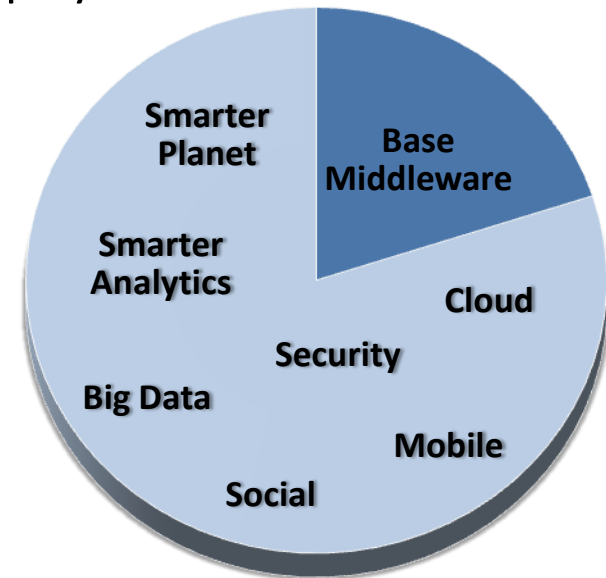
- **Middleware Platforms** that are helping clients manage infrastructure, applications and data



- **Integrated Industry Solutions** that are applying technology to transform front-and back-office processes



Since 2010, nearly 80% of acquisition & development spending has been in growth plays



Software Investment Mix Since 2010

IBM has a rich portfolio of capabilities to help you, our customer, differentiate your business

Need

Capabilities

Need

Capabilities



Engage customers, citizens and employees as individuals

- Commerce
- Enterprise Content Management
- Enterprise Marketing Management
- Procurement
- Smarter City Operations
- Social Collaboration
- Talent and Workforce Management
- Unified Communications
- Web Experience



Speed delivery of new products and services

- Application Infrastructure
- Business Process Management
- Connectivity, Integration and Service-Oriented Architecture
- Application Lifecycle Management
- Product and Systems Development
- Enterprise Modernization
- Expert Integrated Systems



Capitalize on big data to know and act

- Big Data
- Business Analytics
- Data Management
- Data Warehousing
- Information Integration and Governance



Use cloud to drive strategic change

- Asset and Facilities Management
- Cloud and IT Optimization
- Enterprise Endpoint Management



Engage anyone, anytime, anywhere

- Mobile Development and Connectivity
- Mobile Insights and Analytics
- Mobile Management and Security



Protect the brand and future

- Application Security
- Data Protection
- Identity and Access Management
- Infrastructure Protection
- Security Intelligence and Compliance Analytics

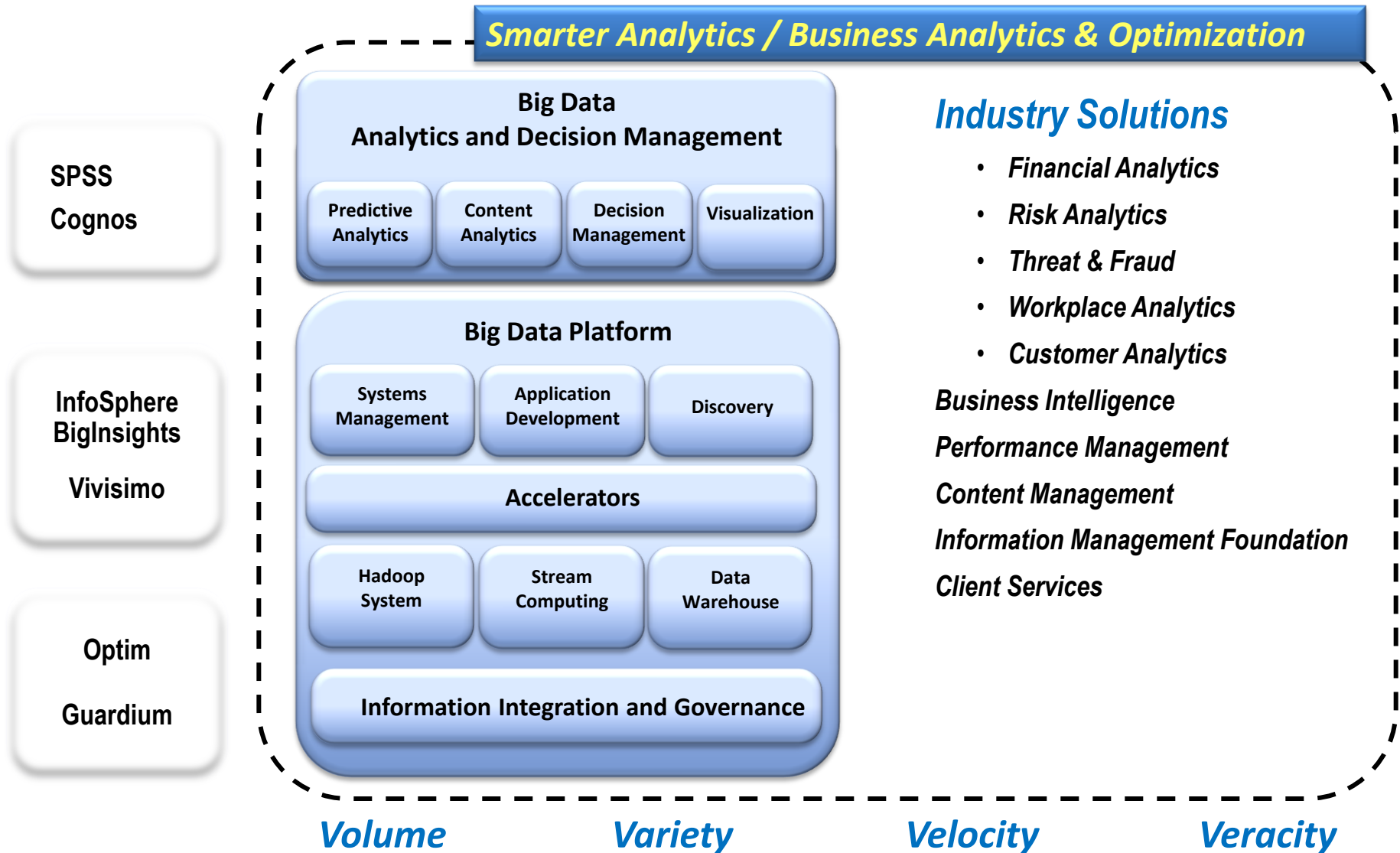
Acquisitions increase the value we offer clients and accelerate our moves into faster-growing markets

| Business Need | Acquisitions since 2010 |
|--|-------------------------|
| <p>Capitalize on big data to know and act</p> | |
| <p>Engage Customers, citizens and employees as individuals</p> | |
| <p>Speed delivery of new products and services</p> | |
| <p>Engage anyone, anytime, anywhere</p> | |
| <p>Use cloud to drive strategic change</p> | |
| <p>Protect the brand and future</p> | |

AGENDA

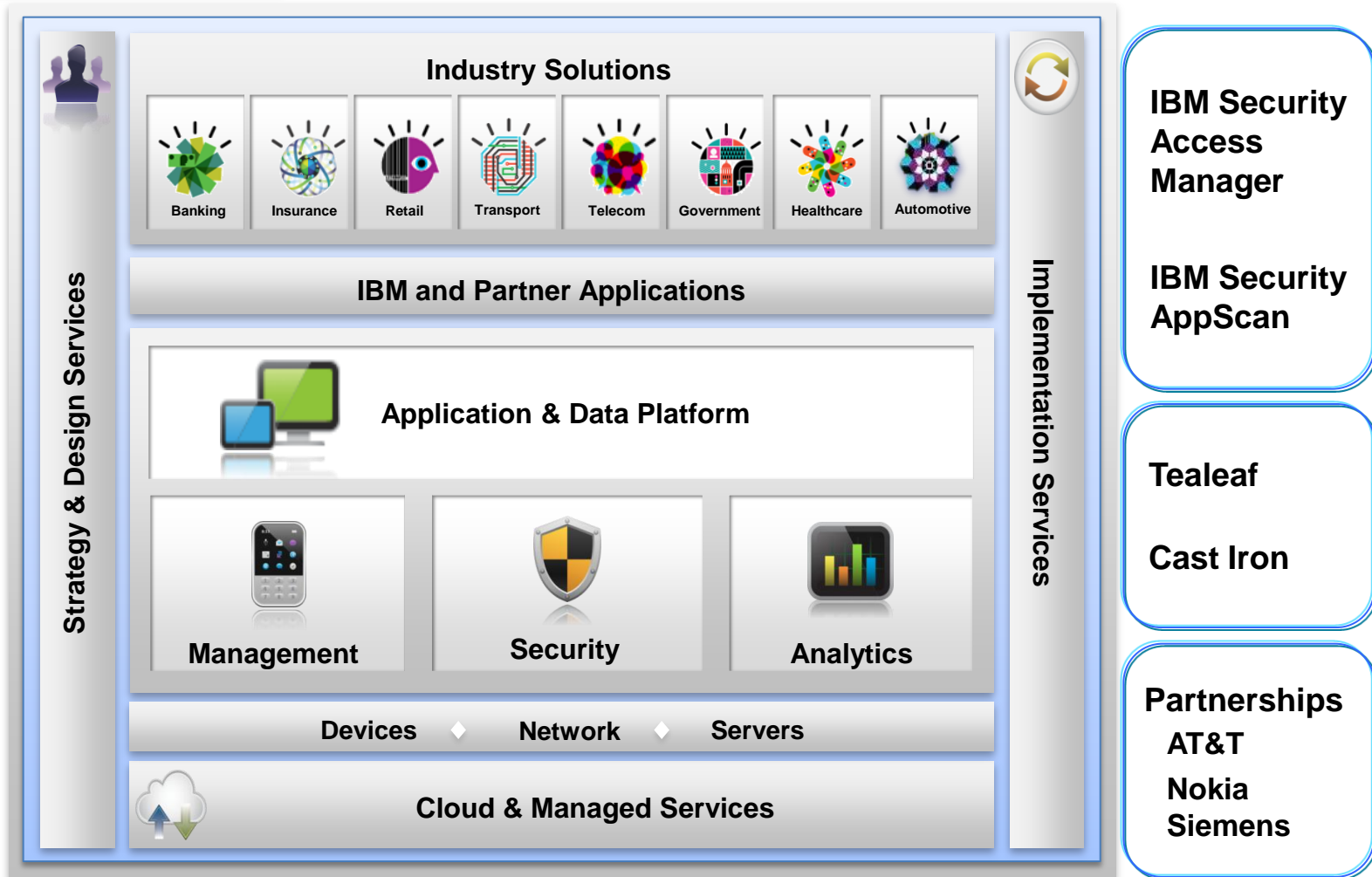
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IBM's Big Data Portfolio

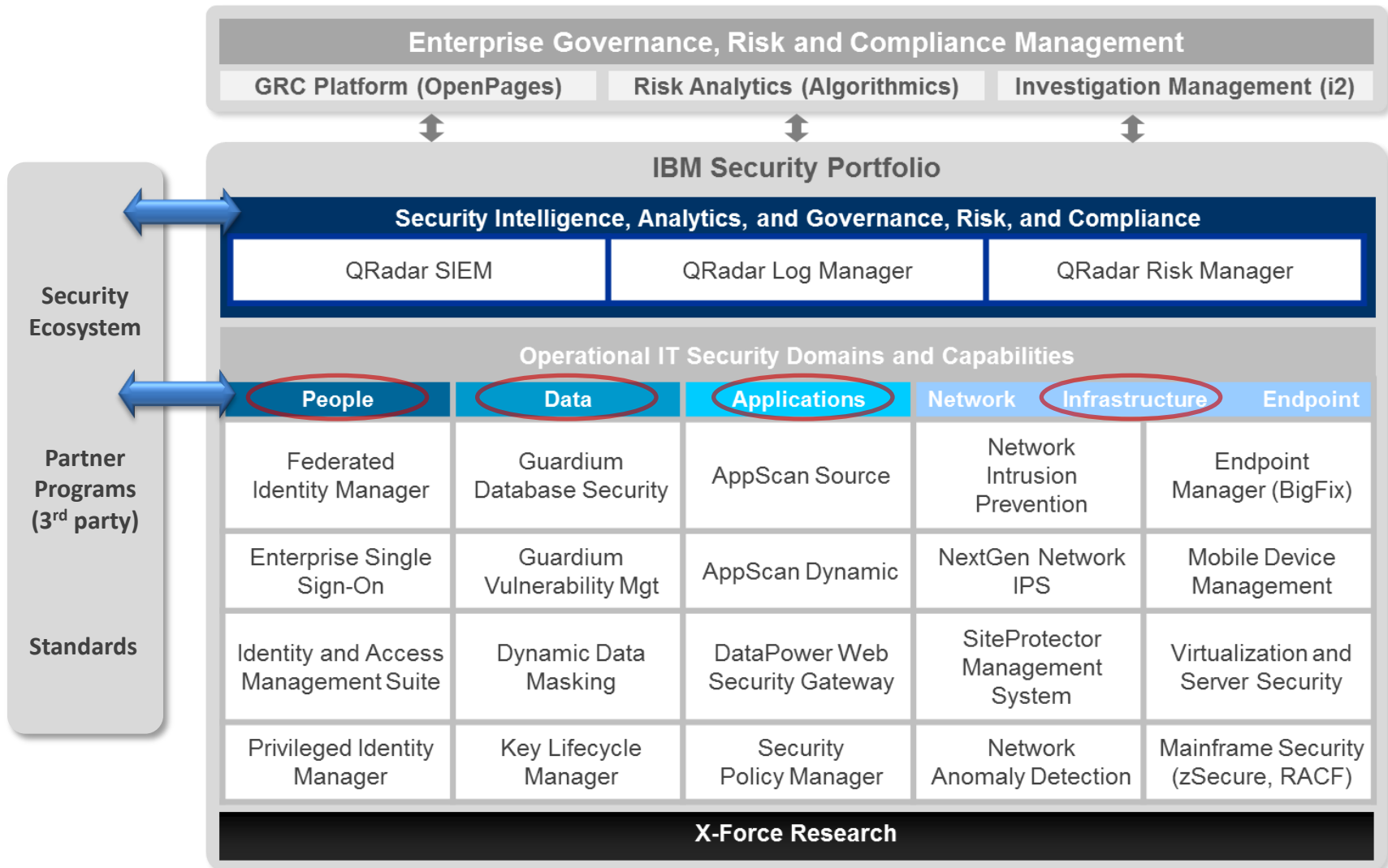


IBM MobileFirst is providing customers with the essential tools to take advantage of new business opportunities enable by Mobile

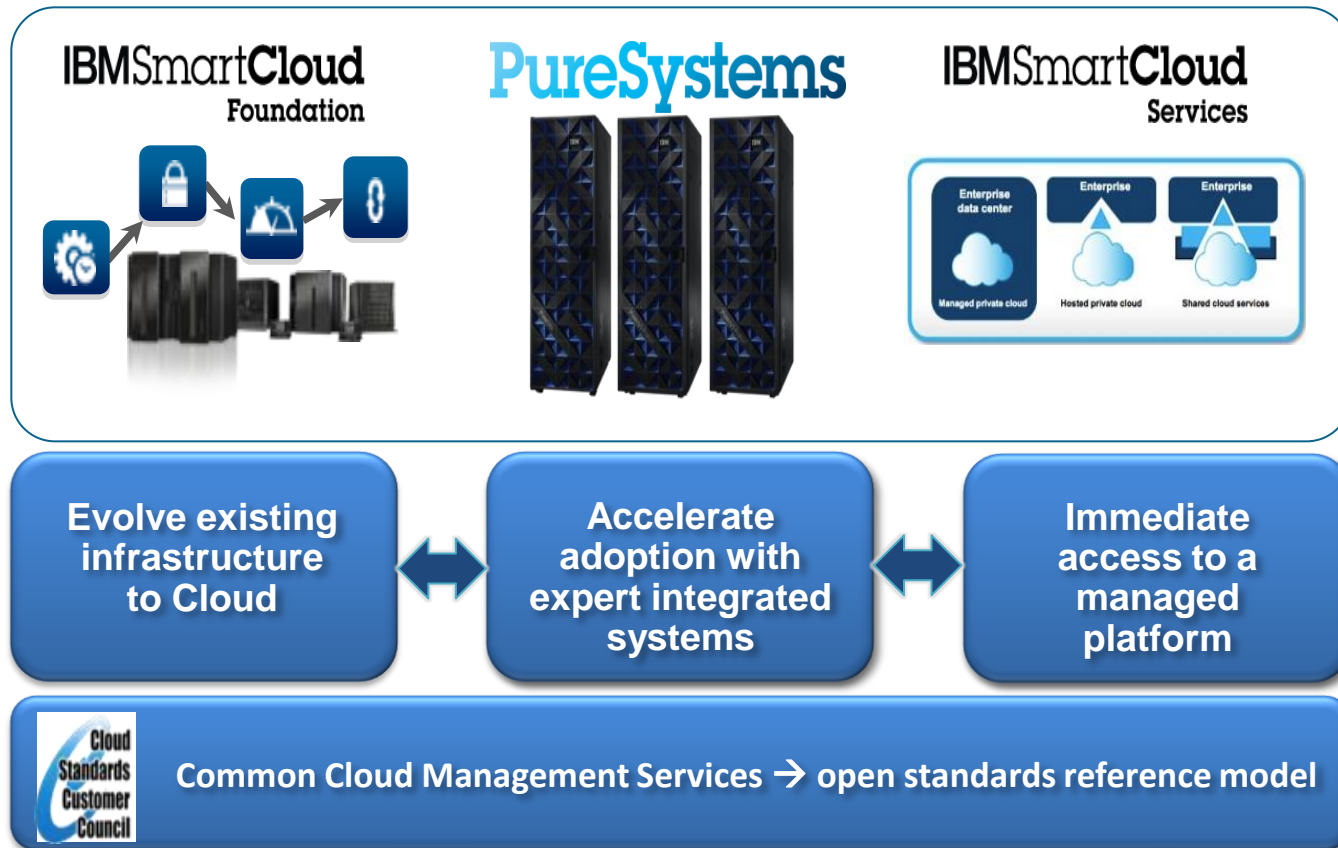
IBM MobileFirst



Security is a complex, four-dimensional puzzle

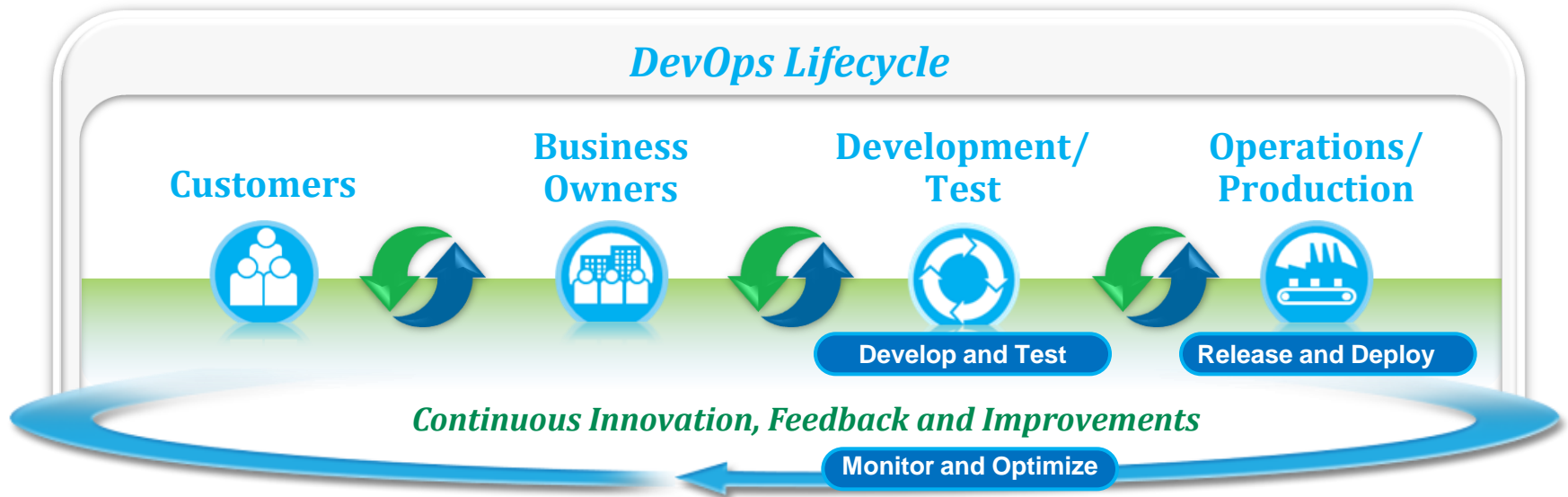


IBM Cloud Solutions deliver flexibility in consuming & integrating hybrid clouds



DevOps

Enterprise capability for continuous software development that enables clients to seize market opportunity and reduce time to customer feedback



Accelerate Software Delivery

Expanding collaboration to include customers, LOB and others to eliminate organization silos

Balance speed, cost, quality and risk

Automating manual processes across delivery lifecycle to eliminate waste/delays and compliance tracking

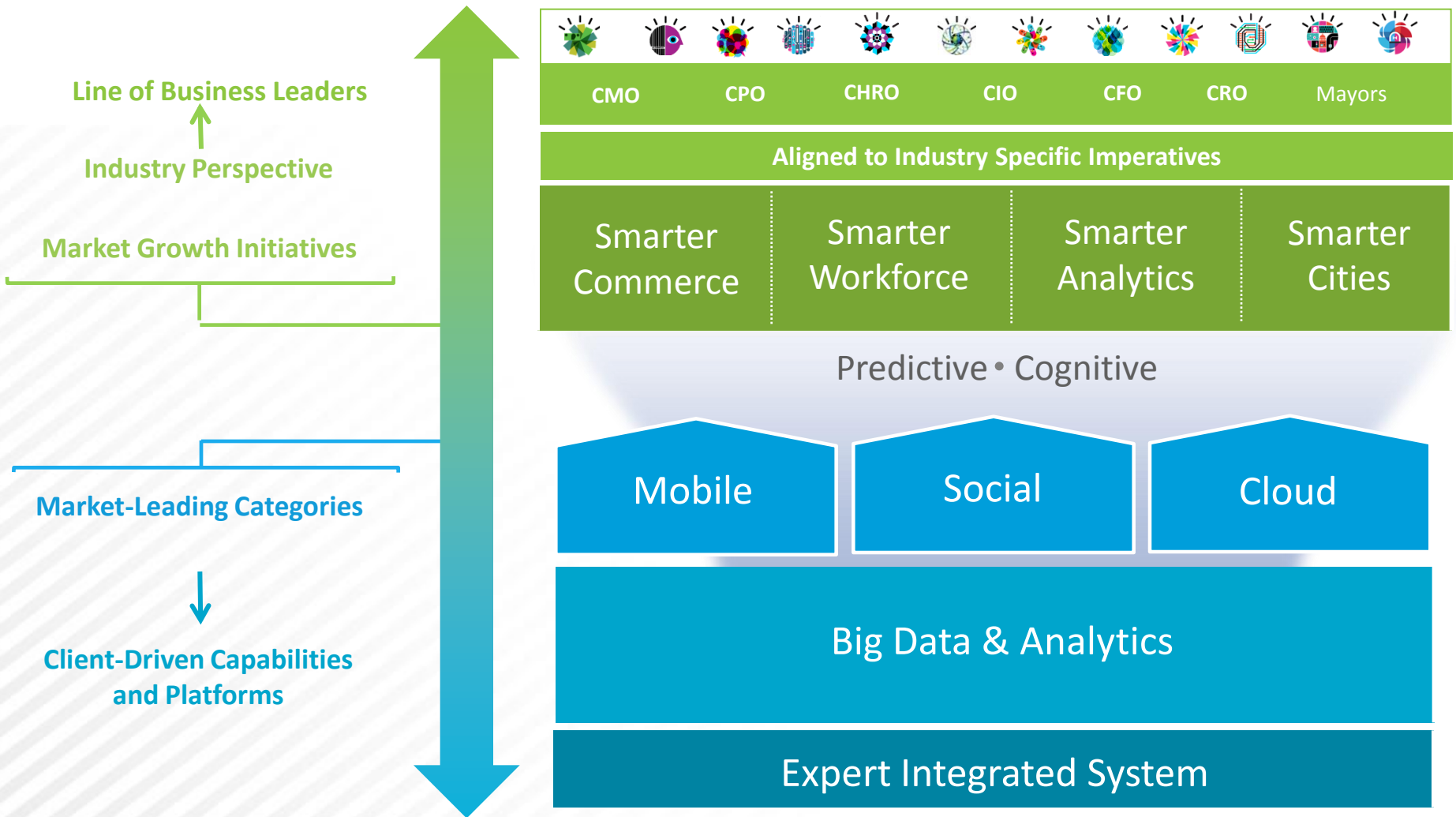
Reduce time to customer feedback

Enabling a customer feedback loop for continuous improvement

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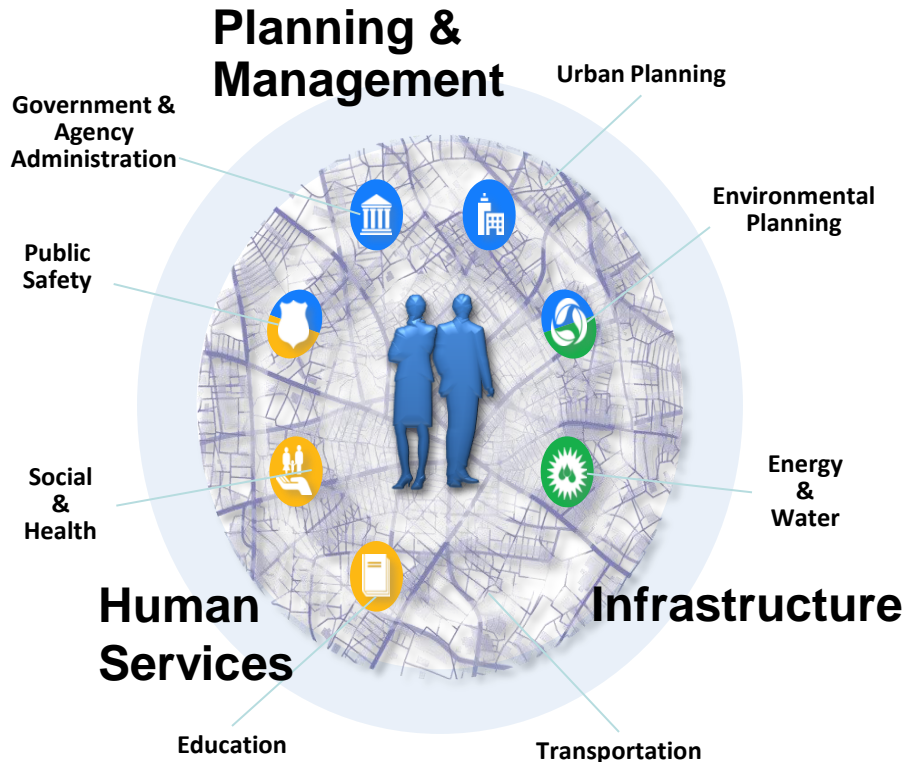
Our approach is to build on market leading capabilities to create value for LoB buyers through domain and industry focused solutions



We're Weaving Intelligence Into the Fabric of Organizational Processes to Help Clients Build Smarter Businesses



Smarter Cities: Helping City Leaders Optimize Complex Systems



Smarter Cities helps city leaders connect and **instrument complex systems of systems**

Enables municipalities to realize their potential while efficiently running daily operations

Improves the delivery of fundamental human services such as Social and Healthcare, Public Safety and Education

Leverages integrated solutions for Government Administration, Urban Planning and Environmental Planning



Social Business: Re-thinking People-centric Processes, Inside and Out



Social Networking Social Content Social Analytics



Social Business enables clients to fundamentally **transform the front office**

Integrates capabilities across mobile, big data, analytics, content, security, compliance & more

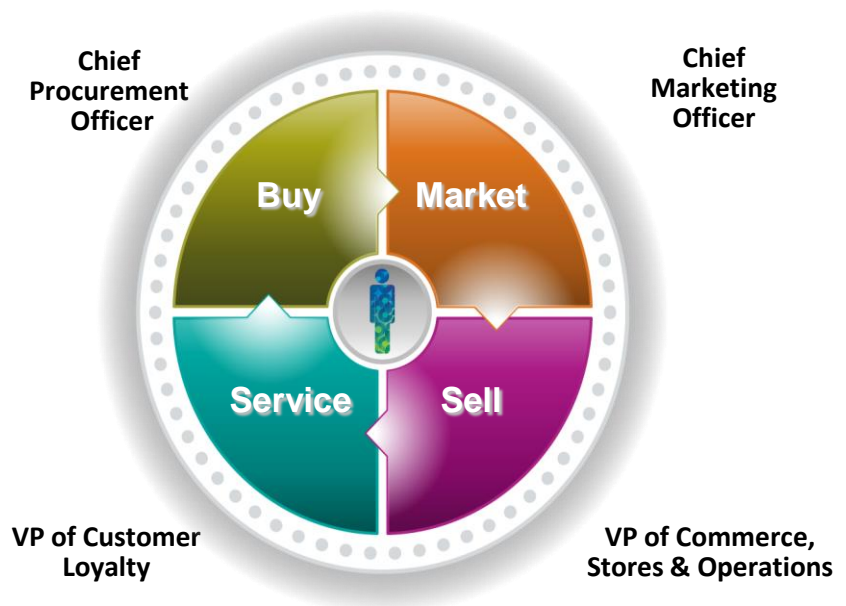
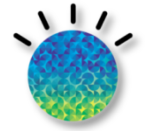
Recognized **leader in enterprise social platforms** for third consecutive year (IDC)

Kenexa unlocks a new client conversation about **building a smarter workforce**

New client capabilities added in 2012:

- Kenexa for smarter workforce
- StoredIQ for safe data disposal

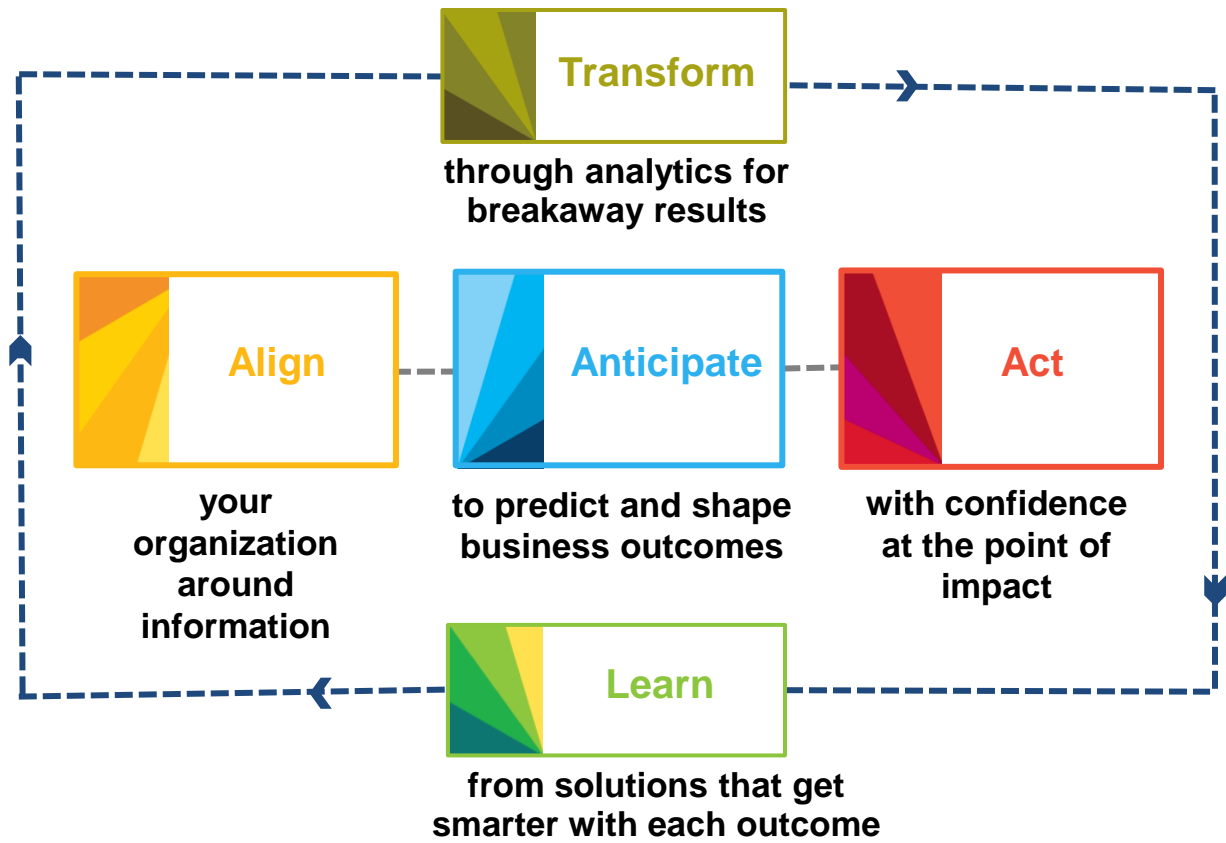
A Smarter Approach to the Commerce Cycle



- Smarter Commerce targets new buyers at across the buy, market, sell and service cycle
- Complements organic portfolio with **more than \$3B invested** since 2010 in acquisitions to add new client-focused capabilities
- Doubled GBS practice to **2,000 dedicated consultants** across the globe
- New client capabilities added in 2012:
 - Emptoris for procurement
 - DemandTec for pricing & promotion
 - Tealeaf for customer experience



Smarter Analytics: Evolving from initiative to imperative





- Delivers deep capabilities in Business Intelligence; Financial Performance Management; Predictive Analytics; Governance, Risk and Compliance
- Features new Signature Solutions for Customer Interaction, CFO Performance and Claims Fraud Management
- Extends IBM's leadership via organic and inorganic investments in new capabilities
- Unmatched experience based on more than 20,000 analytics client engagements



The Roadmap to Deliver IBM Watson at Scale

Meeting client demand for next generation cognitive systems



| Establish | Extend | Embed |
|---|--|---|
| <p>High Value</p> <h2>Watson Healthcare Advisors</h2> <ul style="list-style-type: none"> • Transform patient research, engagement, diagnosis and treatment • Launched first commercial offerings: <ul style="list-style-type: none"> ✓ Interactive Care Insights for Oncology ✓ WellPoint Interactive Care Guide and Interactive Care Reviewer <div style="display: flex; justify-content: space-around;">   </div> | <p>High Volume</p> <h2>Watson Client Engagement Advisors</h2> <ul style="list-style-type: none"> • Deliver superior client experiences across high volume engagements • Ensure each engagement delivers the best possible recommendations • Initial focus on healthcare, financial services and telecommunications | <p>Synergy</p> <h2>Watson Integration Across the Portfolio</h2> <ul style="list-style-type: none"> • Leverage synergies across IBM's entire Smarter Planet portfolio • Initial focus on key growth areas including Social Business, Smarter Cities, Smarter Commerce, Smarter Care and Smarter Workforce |

Delivering the Platform at Scale

High Scale

- Scalable, higher throughput model that's 2.5x faster and 1/4th the original size
- Improved, easier to use tool set and learning models being delivered in future versions
- Able to run on a single server and be deployed as an appliance or via Cloud



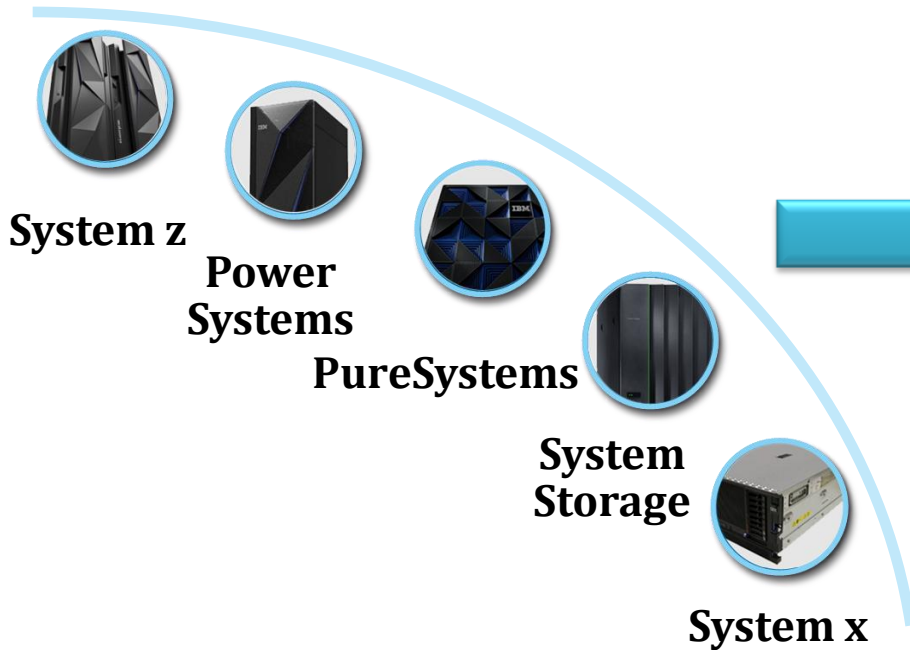
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IBM's range of systems are optimized for specific workloads.

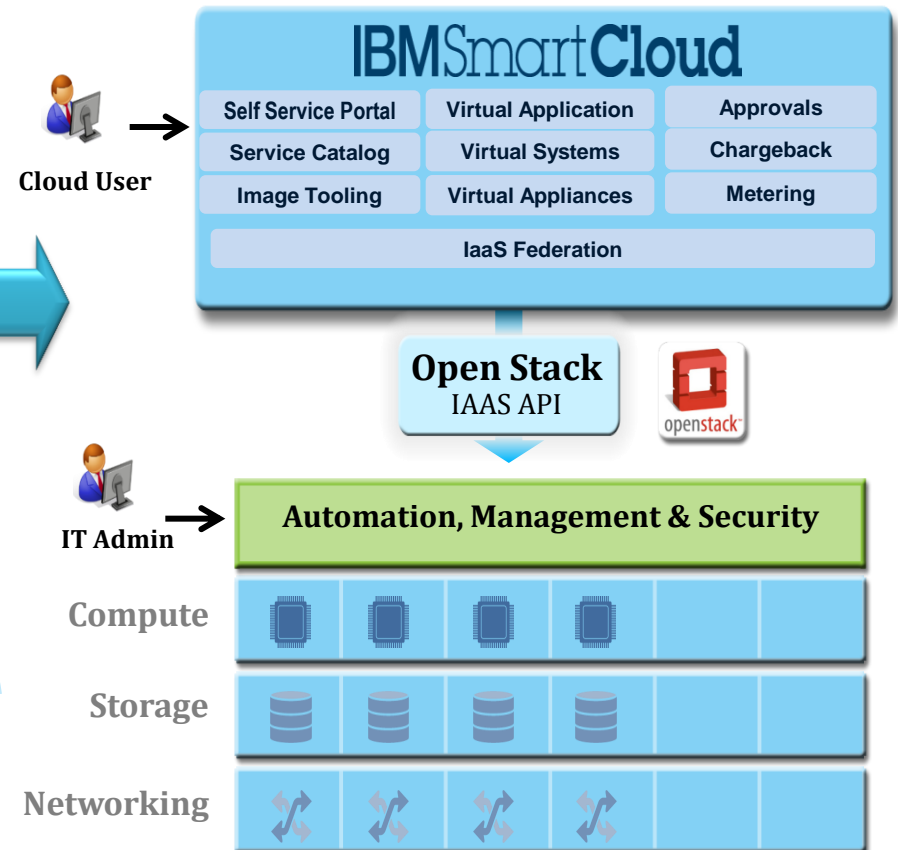
Workload Optimized Systems

System design and configuration matched to workload



Software-defined Environment

Hardware configuration where infrastructure is virtualized and delivered as a service



PureSystems deliver greater simplicity, speed & lower cost



PureFlex

Infrastructure:
Integrated infrastructure, flexibility to run your choice of applications and middleware



PureApplication

Application Platform:
A platform system that simplifies lifecycle deployment and management of applications



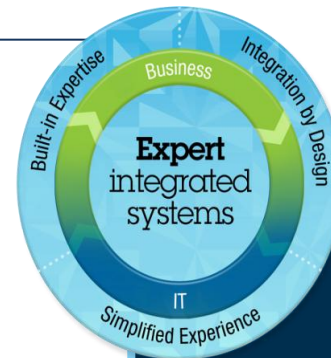
PureData

Data Platform:
Optimized exclusively for transactional and analytical data services

PureData
for Transactions

PureData
for Analytics
powered by Netezza technology

PureData
for Operational Analytics



Addressing Key Client Initiatives

Consolidate application infrastructure to help reduce operating costs

Optimize existing applications for improved performance and stability

Innovate for competitive advantage by deploying new applications to meet changing business requirements

Accelerate cloud adoption to help quickly deploy new services and solutions

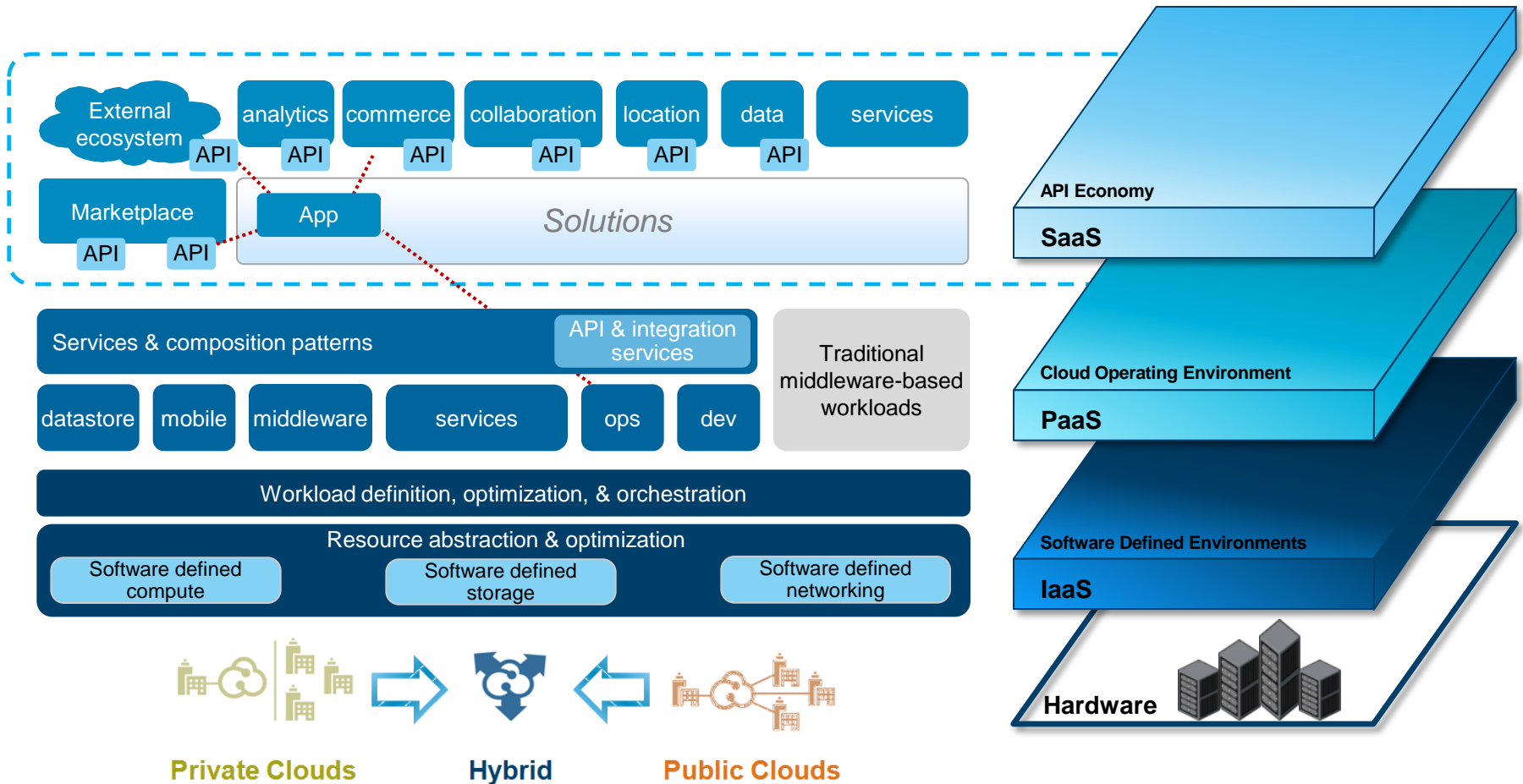
Enable analytics to create actionable insight and improve your business

Built for Cloud

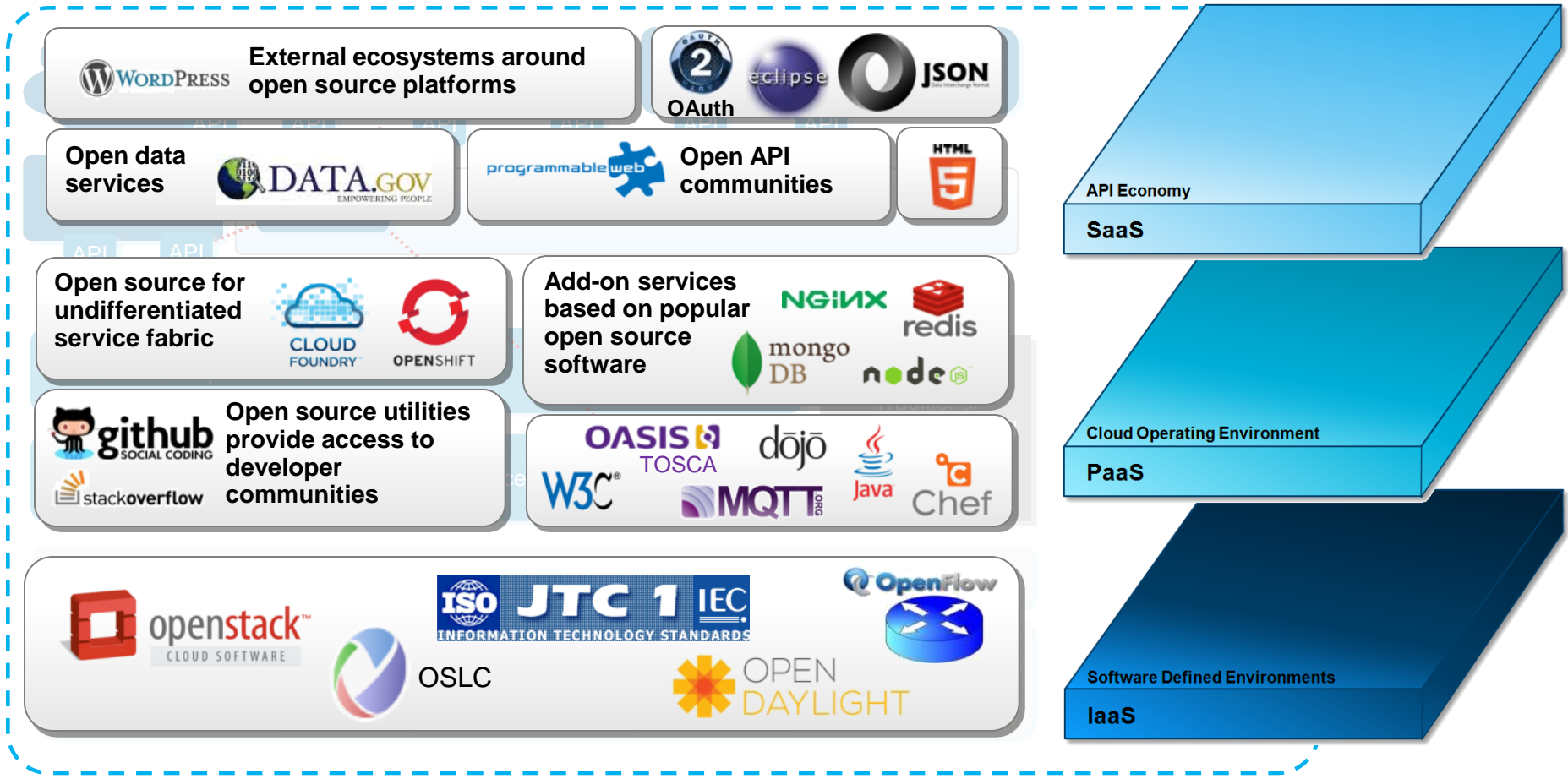
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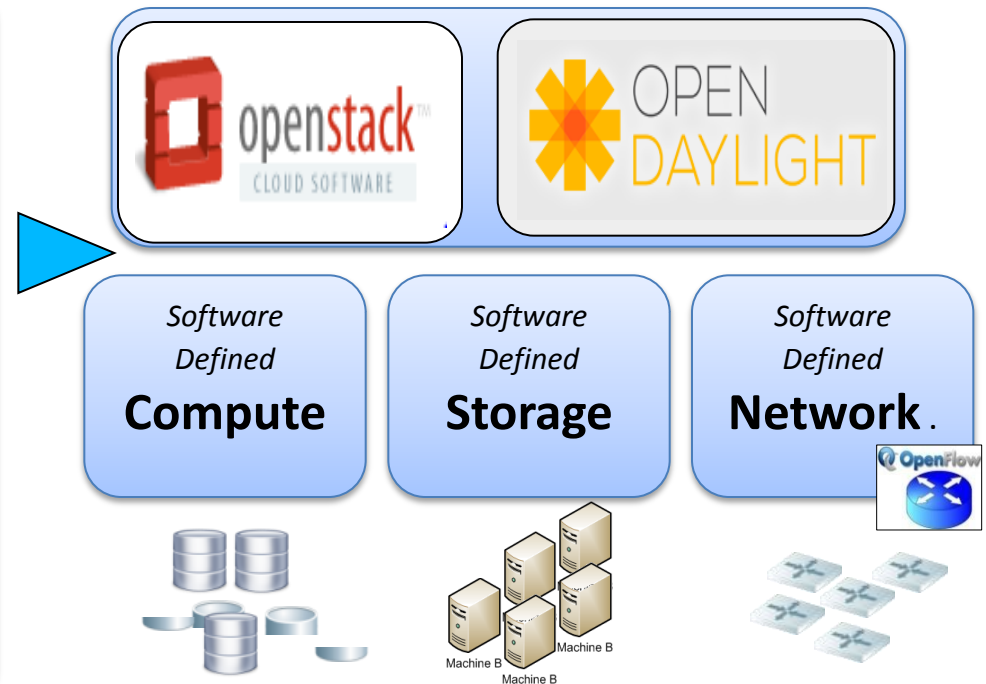
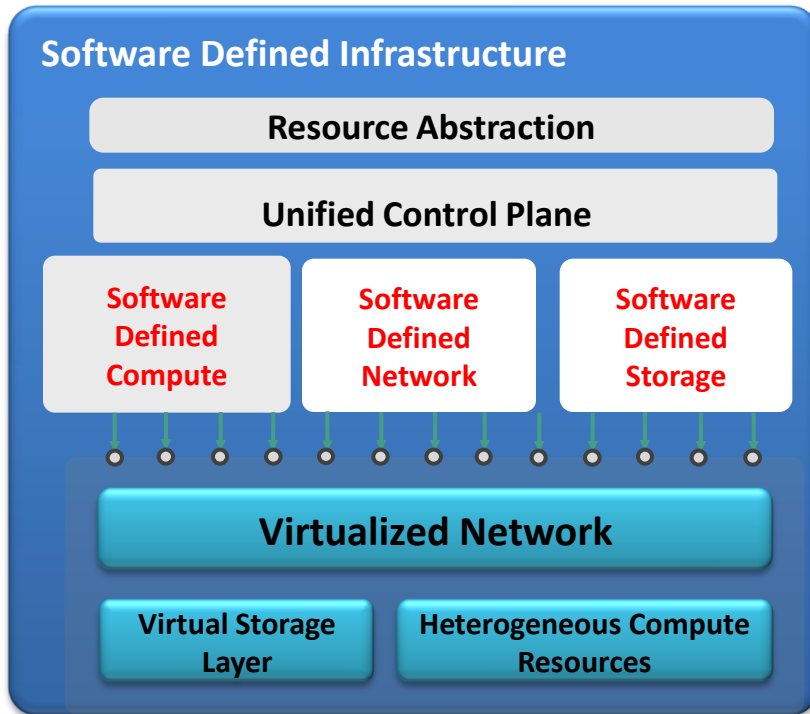
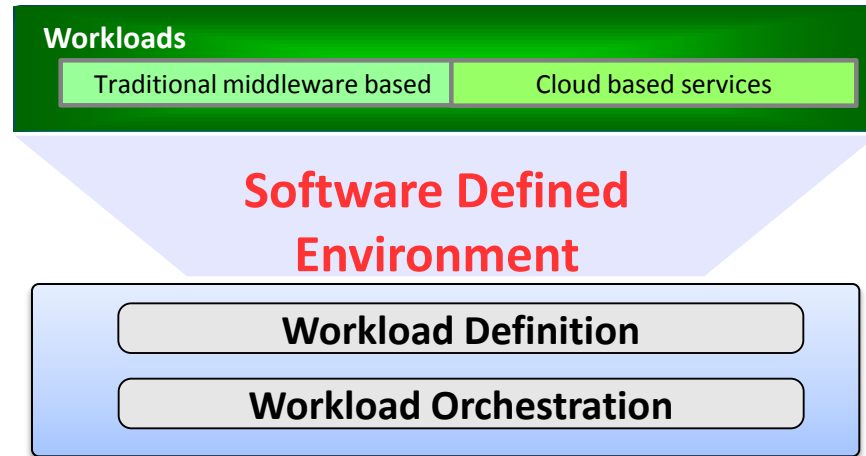
An open cloud architecture is emerging



Building the next generation of Cloud architecture on Open technologies



Software Defined Environments (SDE) built on an open Ecosystem

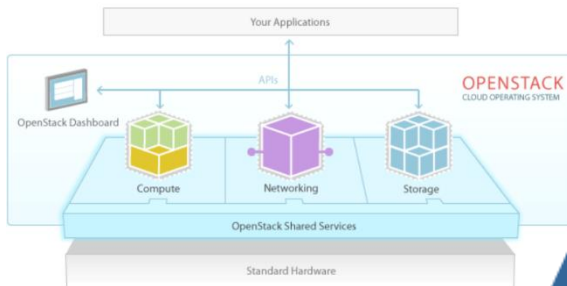


OpenStack Foundation: Poised to lead the way to open cloud computing



- OpenStack is a global collaboration of developers that seek to produce an **open IaaS open source cloud computing platform** for public & private clouds
- OpenStack has the largest active open source, cloud project community

| | |
|----------------------------------|--|
| Developer Growth | Over 480 contributors to Grizzly, a 45% increase from Folsom release |
| Top Contributors by Employer | Red Hat, Rackspace, IBM, HP, Canonical, Nebula, eNovance, Intel, DreamHost |
| Number of Features | Approximately 230 blueprints completed |
| Attracting New Plugins & Drivers | 5 new networking plugins and 10 total block storage drivers |
| Patches Merged | 7,620 |
| Testing | On average, we deploy a complete OpenStack cloud for testing 700 times per day |



The Cloud Standards Customer Council (CSCC) is the premier open, end-user advocacy group for cloud standards, best practices & interoperability

- Providing customer-lead guidance to the multiple cloud standards & open source defining bodies
- Establishing criteria for interoperable cloud computing that address customer pain points

“CSCC forms new Security Working Group”

- Established Feb 2012; Co-chairs: The Kroger Co. & Boeing

“CSCC forms new SLA Working Group”

- Established Feb 2012; Co-chairs: Boeing & IBM

Platinum Sponsors



Gold Sponsors



2011 Deliverables
 Practical Guide to Cloud
 Cloud Computing Use Cases

2012 Deliverables
 Practical Guide to Cloud SLAs
 Security for Cloud Computing

TODAY

50 Sponsors

8,900+ Individual Members
 189+ Orgs

400+ Organizations participating





The Topology & Orchestration Specification for Cloud Applications (TOSCA) enables compose once & play anywhere management of cloud infrastructure topologies.

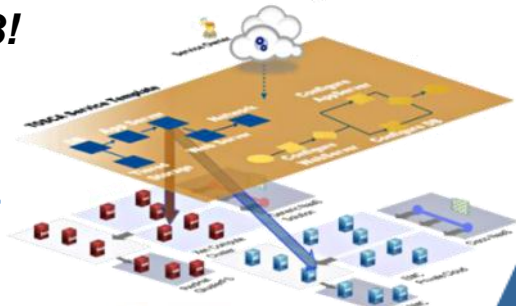
TOSCA provides:

- A packaging specification for cloud services & related artifacts
- A structural model for cloud services, components & relationships
- A process model for build & management plans

“OASIS Forms TOSCA Technical Committee to Advance Open Standard for Cloud Portability ”

• Established Jan 2012; Co-chairs: CA Technologies & IBM

New!
TOSCA Specification v1.0 Published
March 2013!



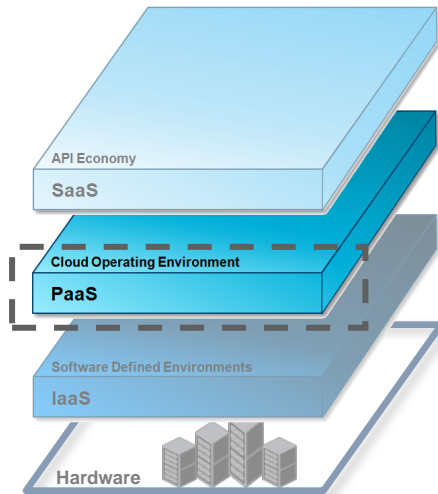
Patterns of Expertise: Proven best practices and expertise learned from decades of client and partner engagements

- Pre-defined architecture of an application or Cloud service
- Captures best practices for complex tasks
- Optimized into a deployable form
- Repeatable deployment with full lifecycle management

“...Secret sauce for ibm is "built-in expertise" in the form of capturing not just code but patterns..”

Melinda Ballou, IDC

Accelerating open cloud innovation with Cloud Foundry



Cloud Operating Environment

Cloud Foundry is an **open platform as a service**, providing a choice of clouds, developer frameworks and application services. Cloud Foundry makes it faster and easier to build, test, deploy and scale applications.

”IBM and Pivotal to Accelerate Open Cloud Innovation with Cloud Foundry”

On July 24, 2013, IBM and Pivotal announced that the two companies will collaborate on further development of the Cloud Foundry™ platform and open source project, and work towards establishing an open governance model for the community.



The Wall Street Journal: IBM Backs Cloud Counter Weight to Amazon

July 24, 2013 - <http://blogs.wsj.com/digits/2013/07/24/ibm-backs-cloud-counterweight-to-amazon/>

“At stake in efforts by Pivotal, IBM and others is control over the future of the country’s technology backbone.”



The Register: IBM pours WebSphere tech into Cloud Foundry cauldron

July 24, 2013 - http://www.theregister.co.uk/2013/07/24/ibm_pivotal_cloud_foundry/

“IBM is one of the few tech companies that has any experience adapting to massive technological transitions, and when Big Blue combines Cloud Foundry with OpenStack... we think we can discern a strategy that will see IBM... develop products [for] the new wave of cloud technologies.”



TechCrunch: IBM Standardizes on Cloud Foundry, The Open-Source Developer Platform

July 23, 2013 - <http://techcrunch.com/2013/07/23/ibm-standardizes-on-cloud-foundry-the-open-source-developer-platform/>

“The fuller picture for the partnership is in the community focus. IBM is a governance shop. A core value to customers is providing technology to large companies that have to pay close attention to compliance issues. As part of the partnership, the companies are advocating for an “open governance” model for application development in the cloud.”

Twitter Reach

8.7 million e impressions from 1,522 Twitter mentions by 1,071 users

81.9%
Twitter

15.0%
News

3.0%
Blogs

0.1%
Forums



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