Disciplinas esenciales para una estrategia efectiva DevOps

Enrique Zárraga
Enrique.z@es.ibm.com
IBM Rational Sales Specialist

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Agenda

- Software Innovation and Market Changes
- Software Delivery Challenges
- DevOps
  - Plan and Measure
  - Develop and Test
  - Release and Deploy
  - Monitor and Optimize
- The Business Impact of DevOps

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Business innovation is increasingly being delivered via software

Rapid pace of change and the digitization of business drives the need for agility

Software drives almost **80%** of the automotive industry's functional innovation

An F-35 contains **5.6 million lines of code**

Technology is the **#1** force impacting business today

Robotic surgical systems have the **computational capacity of 7 laptops**

By the year 2020 in the U.S., **90% of financial transactions** will be **cashless**

Customer experience increasingly drives **business priorities**

Market shifts are fundamentally changing the way businesses approach software innovation

Macro Business Environment

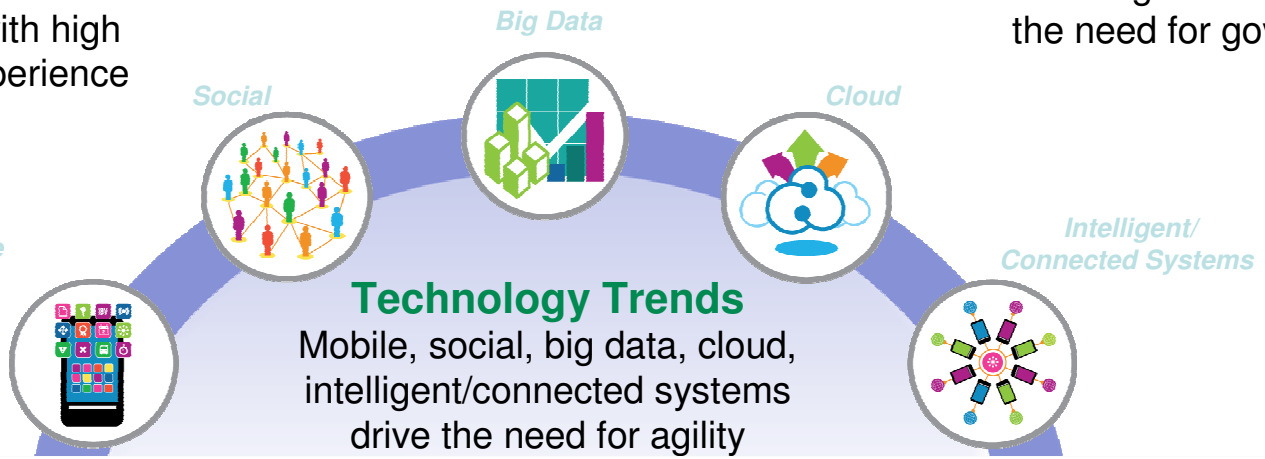
Increasing regulatory environments drive the need to reduce risk

Empowered Users

Consumerization of IT drives the need for apps with high quality customer experience

Multi-sourcing

Increasing outsourcing drive the need for governance



Technology Trends

Mobile, social, big data, cloud, intelligent/connected systems drive the need for agility

Clients are trying to rapidly innovate and become agile with systems of engagement

At the same time need to evolve their systems of records and manage regulatory compliance, reduce costs by outsourcing and provide world class customer experience

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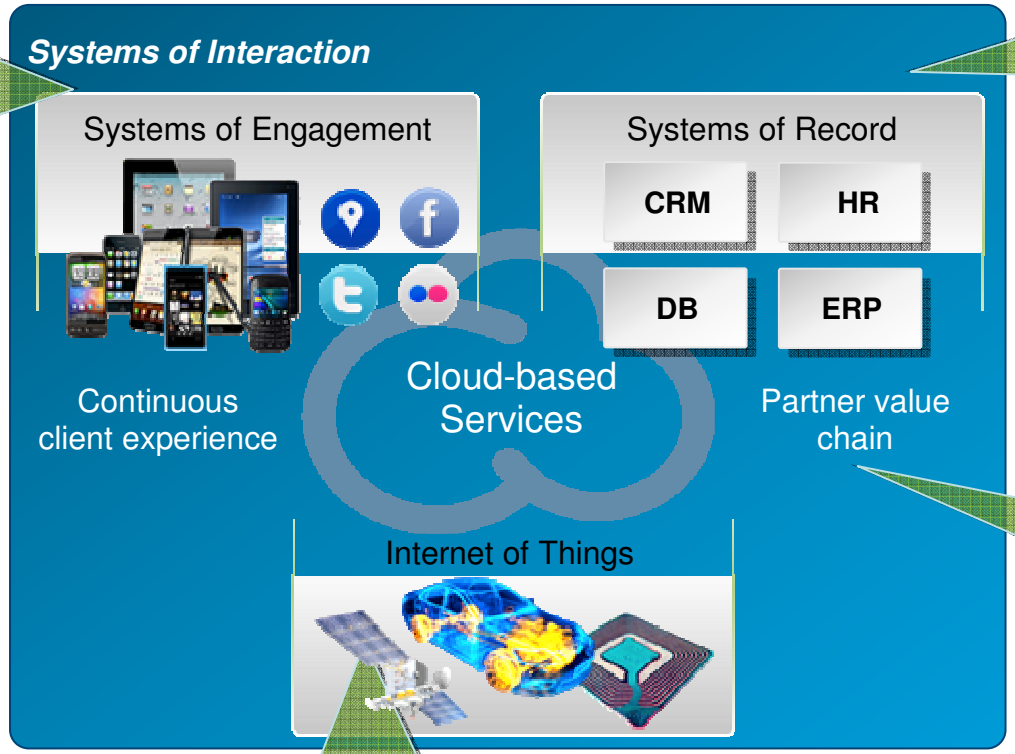
Market Shifts create new demands for software driven innovation

Rapidly deliver differentiating applications and services and provide differentiating client experience to empowered users



Integrate, evolve and maintain stability of services and comply with regulations

Leverage a software supply chain to lower cost and accelerate services

Leverage cloud and smarter infrastructure to enable flexibility and offer new services

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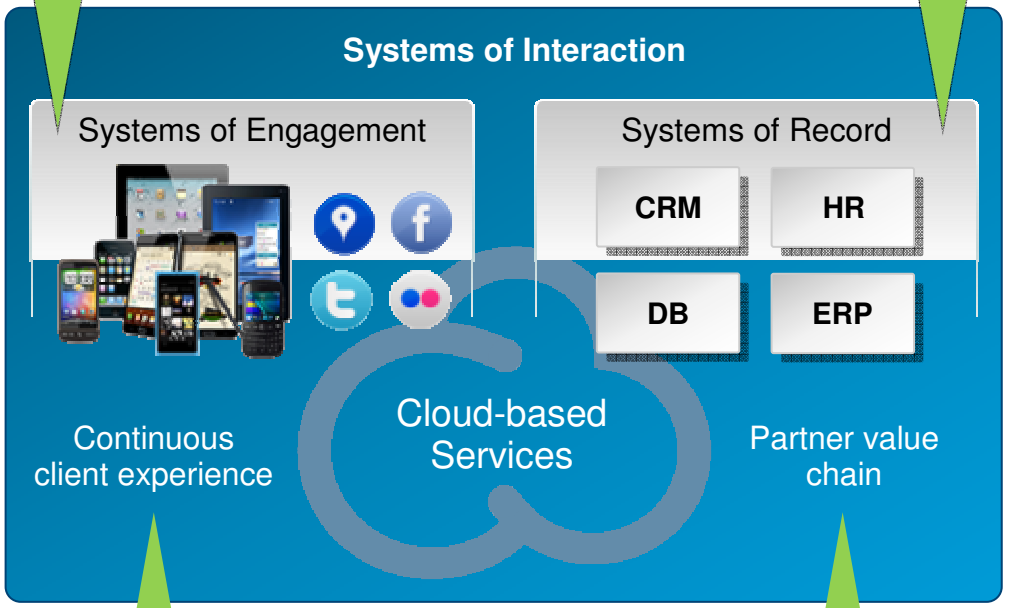
Significant challenges in meeting new demands

Line-of-business
Takes too long to introduce or make changes to apps and services

Operations
Rapid app releases impacts system stability and compliance

>70%
of resources devoted to maintaining existing systems and products

4-6 weeks
to deliver application changes to customers



>45%
of customers experience production delays

>50%
of outsourced projects fail to meet objectives

Development/Test
Speed mismatch between faster moving front office and slower moving back office systems, delaying time to get feedback

Suppliers
Delivery in the context of agile

Only a few enterprises, who are addressing these challenges are finding success

86%

of companies believe software delivery is important or critical

But only…

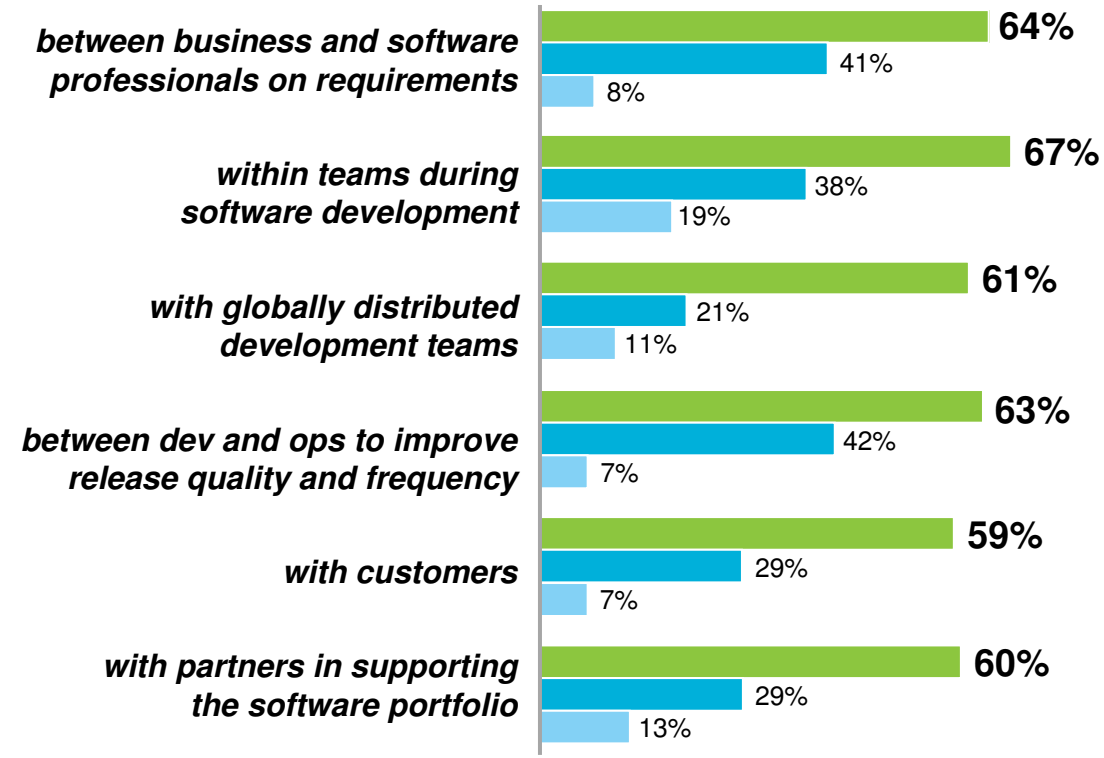
25%

leverage software delivery effectively today

Source: "The Software Edge: How effective software development drives competitive advantage," IBM Institute of Business Value, March 2013

Organizations considered advanced in software delivery strongly leverage **collaboration** across an ***expanded lifecycle***

Software delivery collaboration…



Advanced Organizations

Capabilities Consistently effective

Practices Advanced maturity

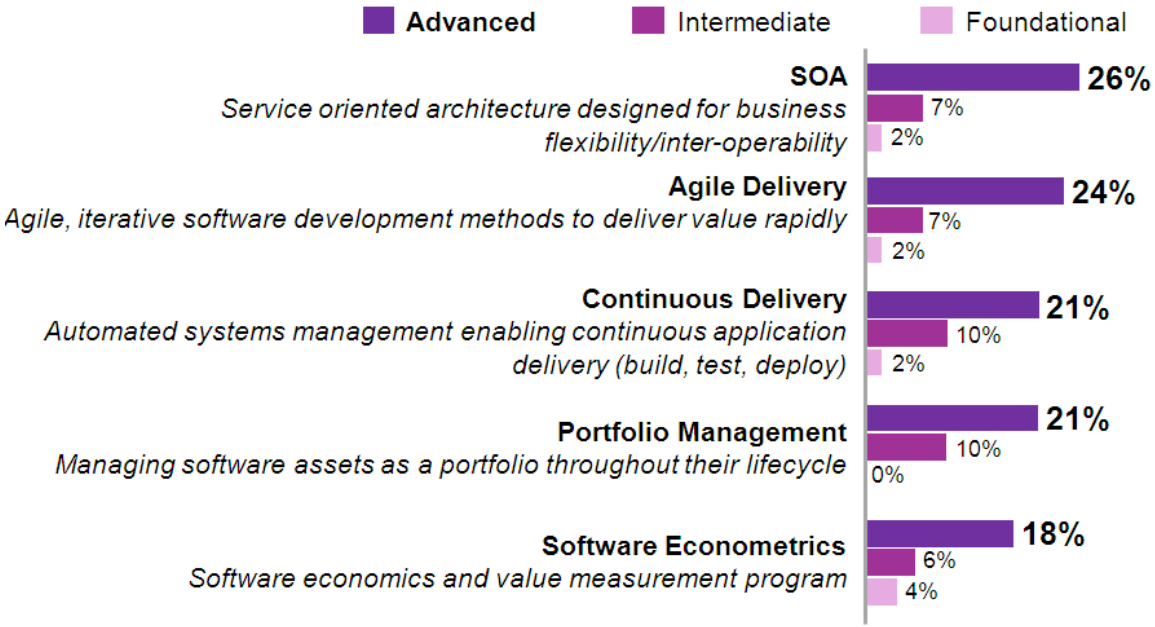
Results Consistently effective, all goals are met

Intermediate Organizations

Foundational Organizations

Source: "The Software Edge: How effective software development drives competitive advantage," IBM Institute of Business Value, March 2013

And they adopt advanced **continuous delivery** practices for business/service flexibility



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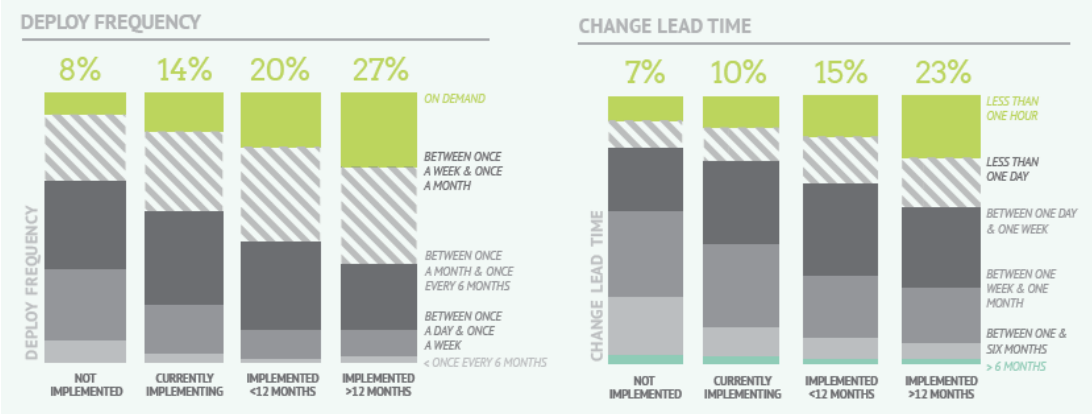
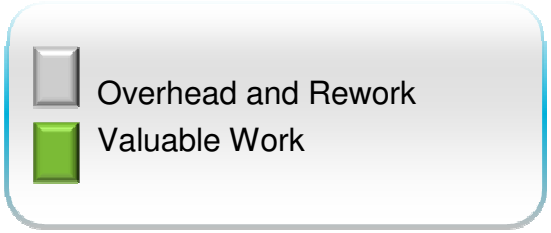
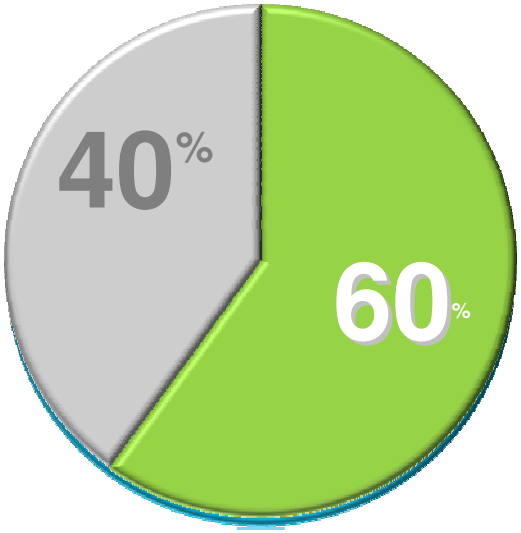


Source: 2013 State of DevOps Report, Puppet Labs, Survey of 4000 IT Operations and Development professionals

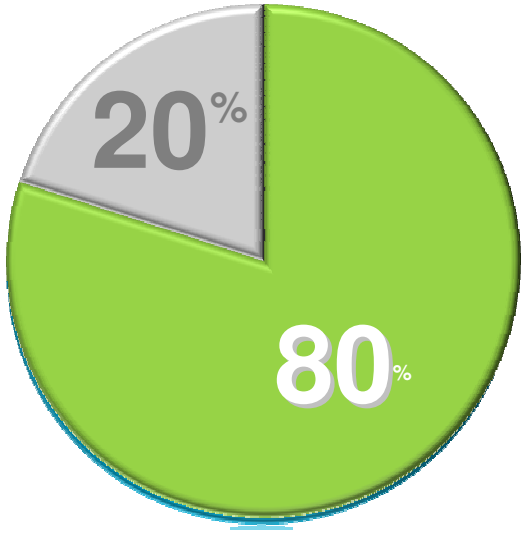
A new approach has emerged: DevOps

Enterprise capability for **continuous software delivery** that enables enterprises to seize market opportunities and reduce time to customer feedback





1. Get ideas into production fast
2. Get people to use it
3. Get feedback



Applying Lean Principles to Software Innovation and Delivery to seize market opportunity:

- Eliminate any activity that is not necessary for learning what customers want.
- Eliminate wait times and delays caused by manual processes and reliance on tribal knowledge
- Enable business users, developers, testers, and operations to focus on creative activities

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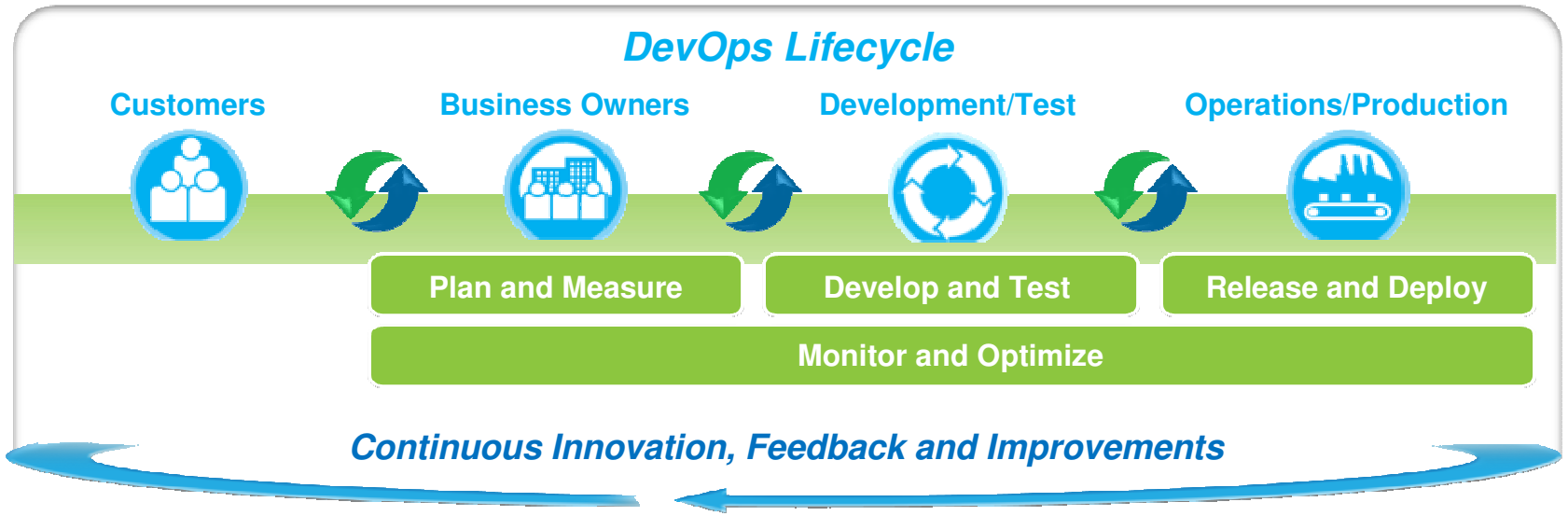
DevOps Defined

DevOps - Enterprise capability for continuous service delivery that enables clients to seize market opportunities 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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DevOps: Starting points and adoption paths

Angela
Business
User

Rick
PMO/Manager

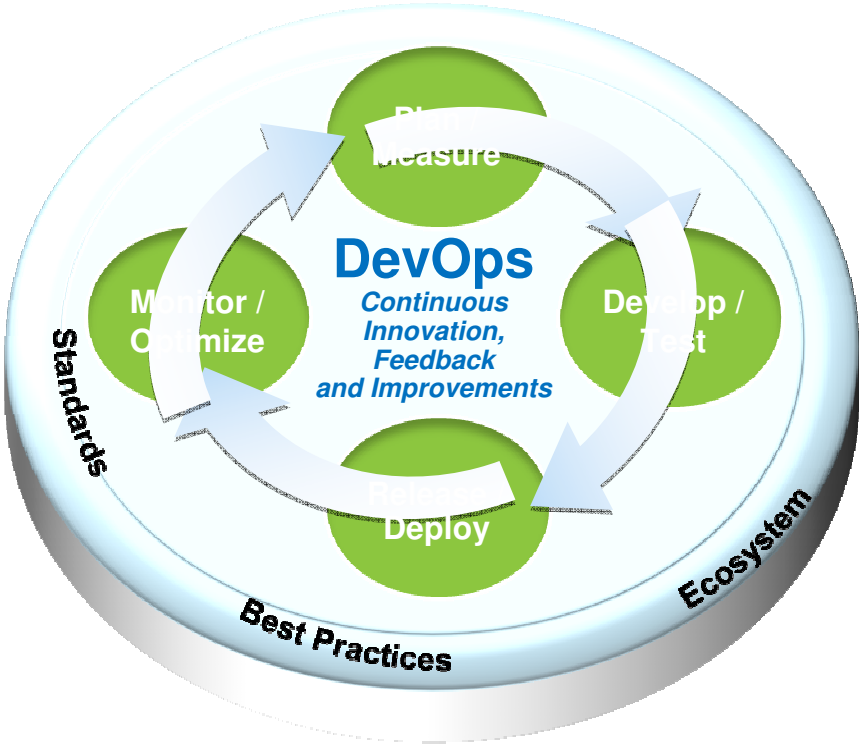
Dave
Business
Developer /
Data Analyst

Jane
Domain
Specialized
Developer, Tester

Bob
Backend
Service
Developer

Fred
Platform
Operations

Andrew
Infrastructure
Operations



"*Continuous delivery results in a closer business-IT relationship and generates more value by increasing the velocity of the feedback loop between customers and companies that serve them*" - *Forrester*

Improve client experience - By speeding the customer feedback loop
Accelerate software delivery - By enabling collaboration across software supply chain
Balance speed, cost, quality & risk- By eliminating waste & automating manual processes

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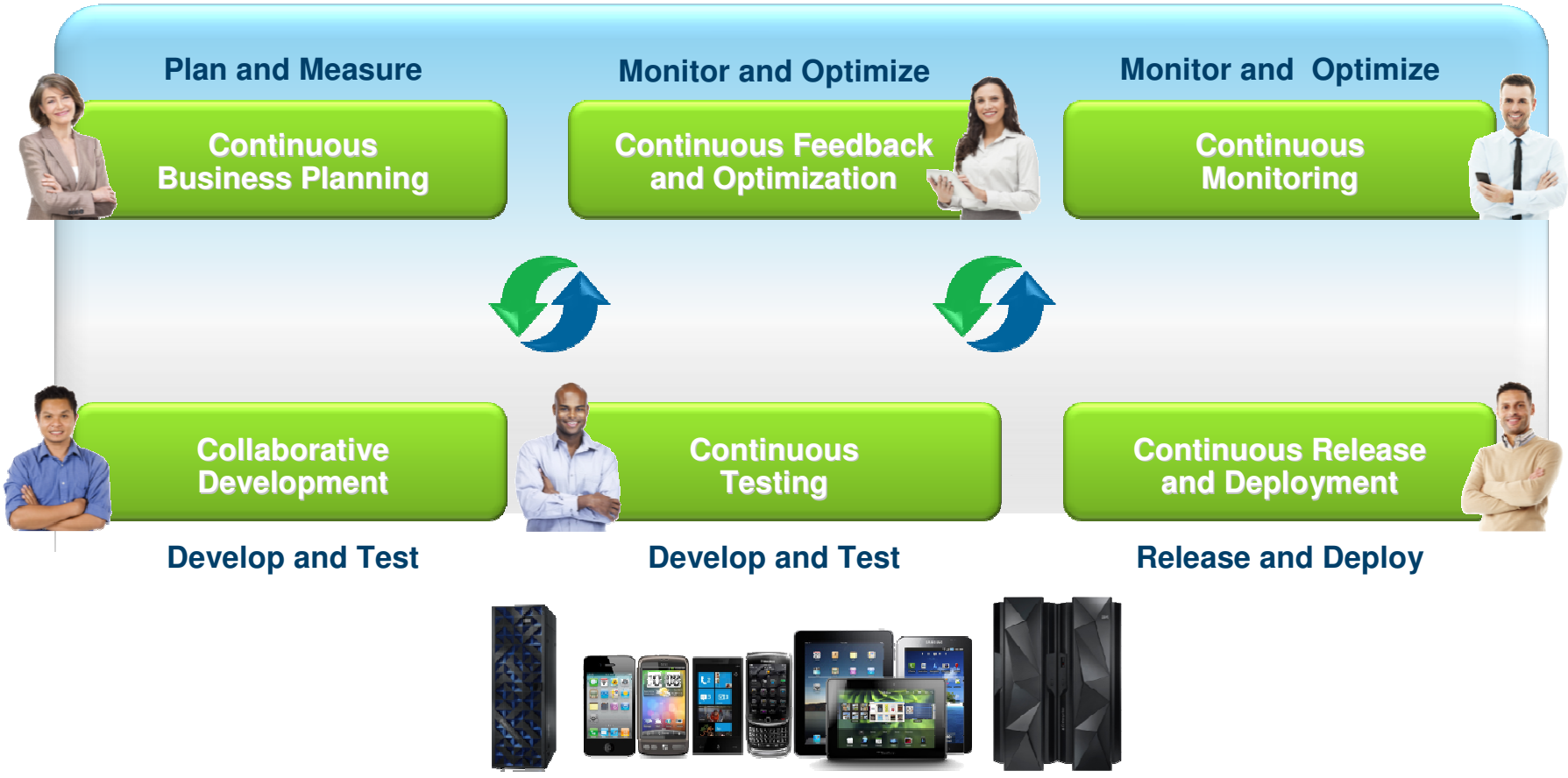
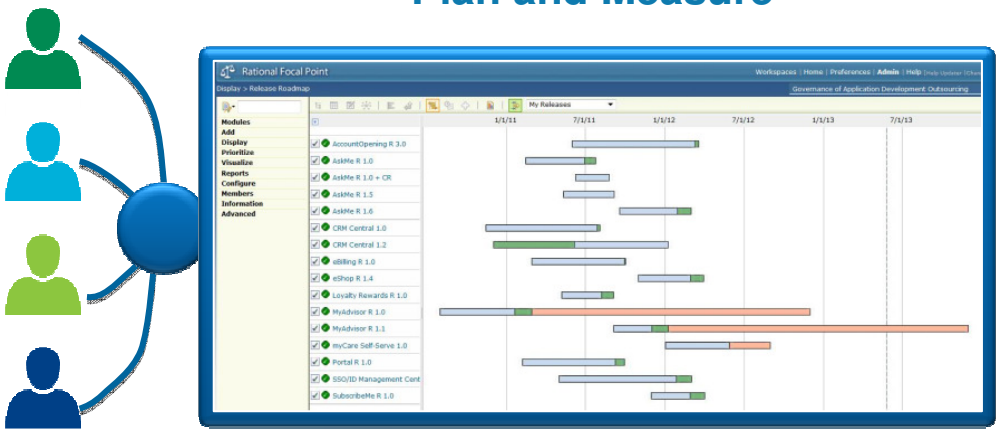
Capabilities to enable a DevOps approach



Continuous Business Planning

Plan and Measure



Requirements, priorities & status

Develop and Test

Release and Deploy

Define scope & view status

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Continuous Business Planning

Bring business strategy, customer feedback into development lifecycle

What's new

- End-to-end business release planning
- Improved business and IT collaboration
- Early validation of business requirements

- IBM Rational Governance of Application Development Outsourcing Solution
- IBM Rational Focal Point
- IBM Rational Requirements Composer

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Starting Point: Plan and Measure

Do the right things right

- Attack the high value and high risk items first
- Predict and quantify the outcomes and resources
- Measure honestly with distributions of outcomes
- Learn what customers really want and steer with agility

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"We've achieved a 1600% increase in delivery velocity, in 7 months, using a DevOps approach."

John Kosco
Director of IT Operations

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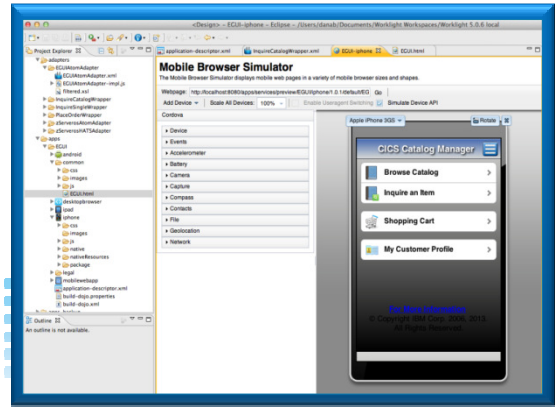
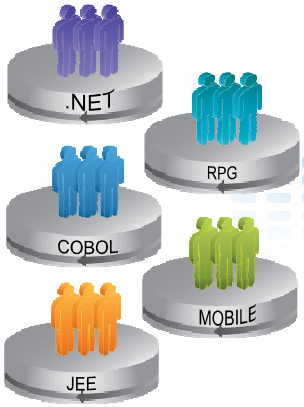
Collaborative Development

Develop and Test





Continuous Delivery

Open Lifecycle and Service Management Integration Platform

Bridge Mainframe and Mobile Skills

Link Systems of Record to Systems of Engagement

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Collaborative Development

Develop and Test

Single, integrated platform for comprehensive development nee

What's new

- CLM delivered continuously
- Lifecycle integration adapters
- Best-in-class IDE's
- Enhanced COBOL compiler

- IBM Rational solution for Collaborative Lifecycle Management
- IBM Rational Lifecycle Integration Adapters
  - *CA Clarity and direct Rational Requirements Composer to HPQC synchronizer*
- IBM Rational Developer Family including Worklight Studio
- IBM Enterprise COBOL for z/OS

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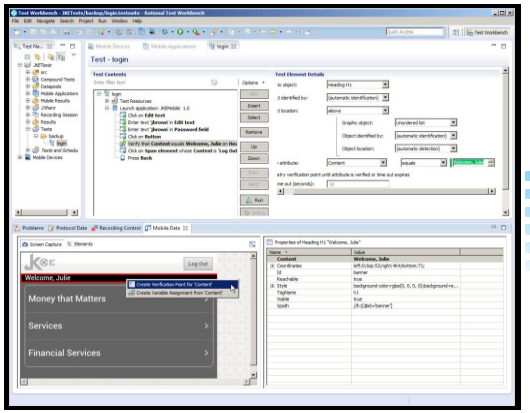
Continuous Testing

Develop and Test



Multiplatform Application Testing

Mobile

Application Server

Mainframe Test Environment

Mainframe Applications

Databases

SOA / REST

Third-party Services

Comprehensive test automation solution

Multichannel, multi-tiered test execution

Virtualized services remove test bottlenecks

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Continuous Testing

Deliver software quality at the speed your business demands

What's new

- Accelerate multi-channel testing
- Integrate mobile app testing earlier
- Enhanced integration for web app testing
- Expanded develop and test environment for System z

- IBM Rational Test Workbench
- IBM Rational Test Virtualization Server
- IBM Rational Performance Test Server
- IBM Rational Quality Manager
- IBM Rational Development and Test Environment for System z

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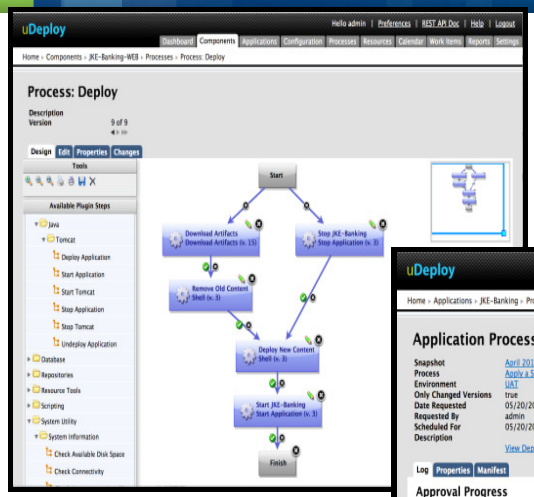
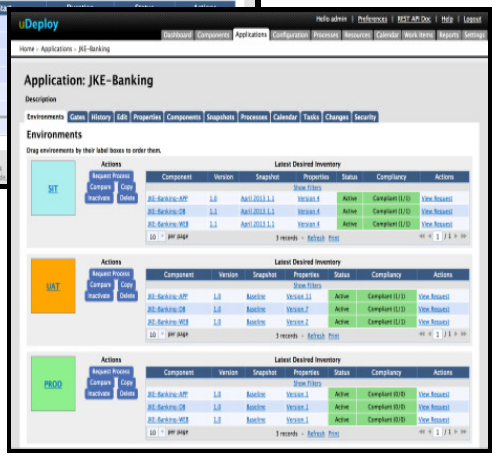
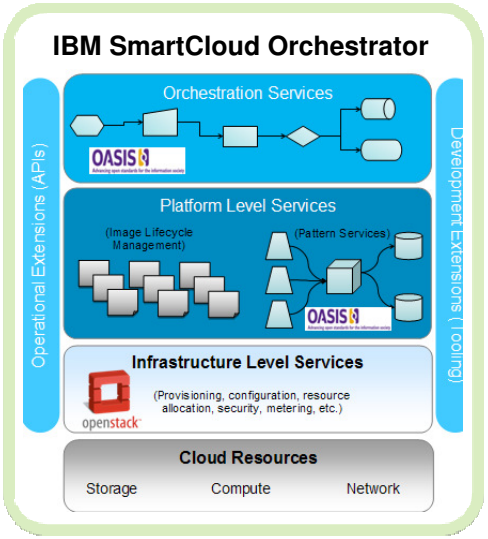
Continuous Release and Deployment







urban{code}
An IBM company

Continuous Release and Deployment

Accelerate delivery of mobile, cloud, big data and traditional applications with automation

What's new

- End-to-end automation for your entire application from development to production
- Self-service, visibility, traceability, and complete audit trails for deployments
- Integration with MobileFirst platform

- IBM UrbanCode Deploy
- IBM UrnabCode Release
- IBM SmartCloud Orchestrator

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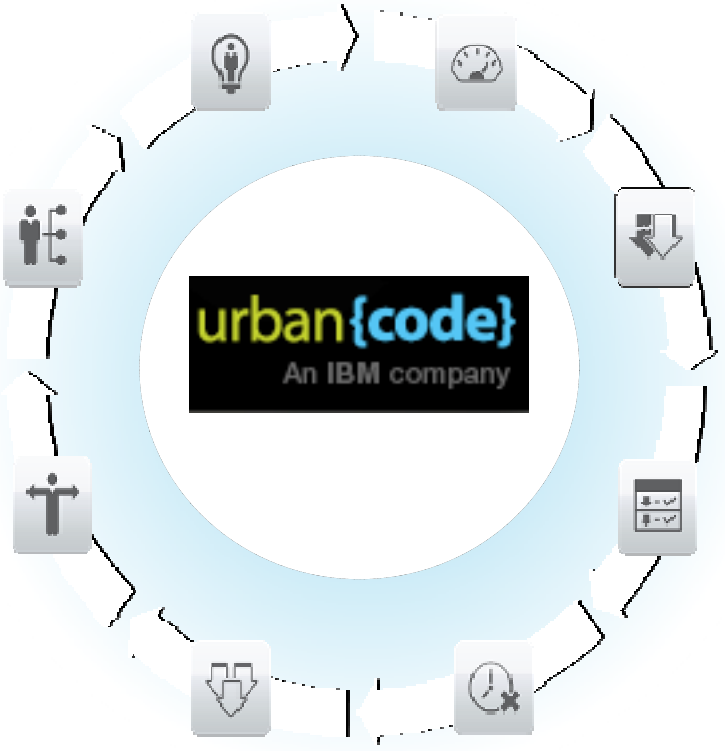
IBM UrbanCode delivers DevOps

Enabling clients to more rapidly deliver mobile, cloud, big data analytics and traditional applications with complementary DevOps capabilities

New!

- **Drive down costs**
  - Reduce the amount of manual labor, resource wait-time, and rework
- **Speed time to market**
  - Increase frequency of software delivery
- **Reduce risk**
  - Deliver higher quality application releases with increased compliance



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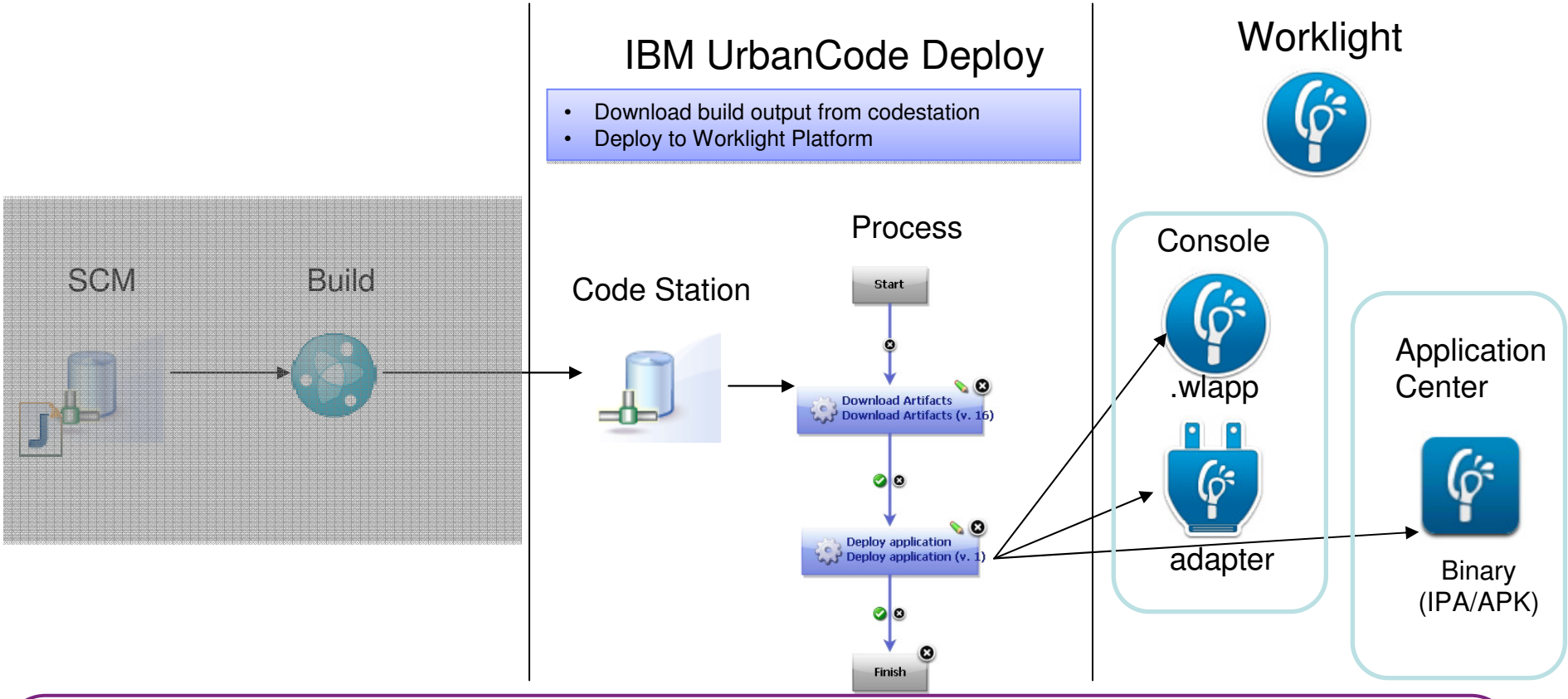
Automate deployment to IBM MobileFirst Platform (Worklight)

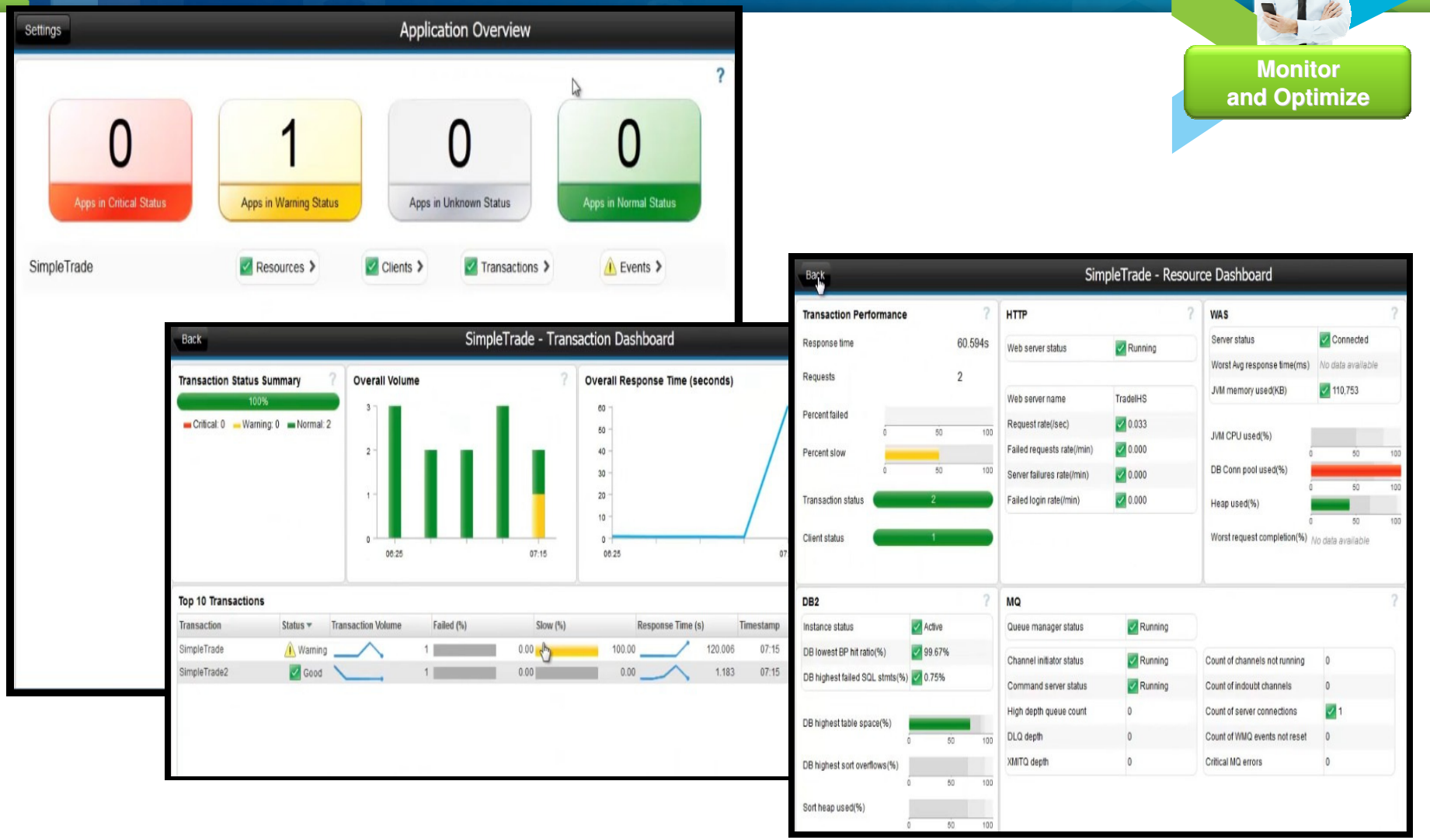


Automatically deploy Worklight applications as part of your deployment process
The plugin supports:

- ✓ deploying Worklight **adapter and application components** to the Worklight Server
- ✓ deploying Worklight **mobile application binaries** to the Worklight Application Center for distribution and management

Continuous Monitoring

Monitor and Optimize



Continuous Monitoring

Monitor and Optimize

Accelerate problem and product defect isolation and resolution

What's new

- Lightweight cloud application monitoring
- Easily embed monitoring during development
- Holistic application health dashboards

- IBM SmartCloud Application Performance Management
- IBM SmartCloud Control Desk
- IBM SmartCloud Monitoring – Application Insight

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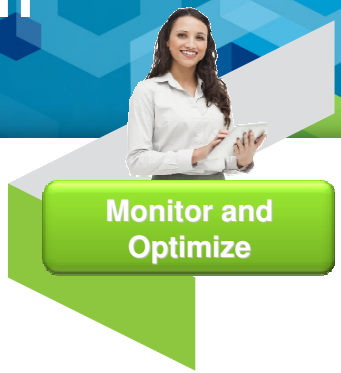
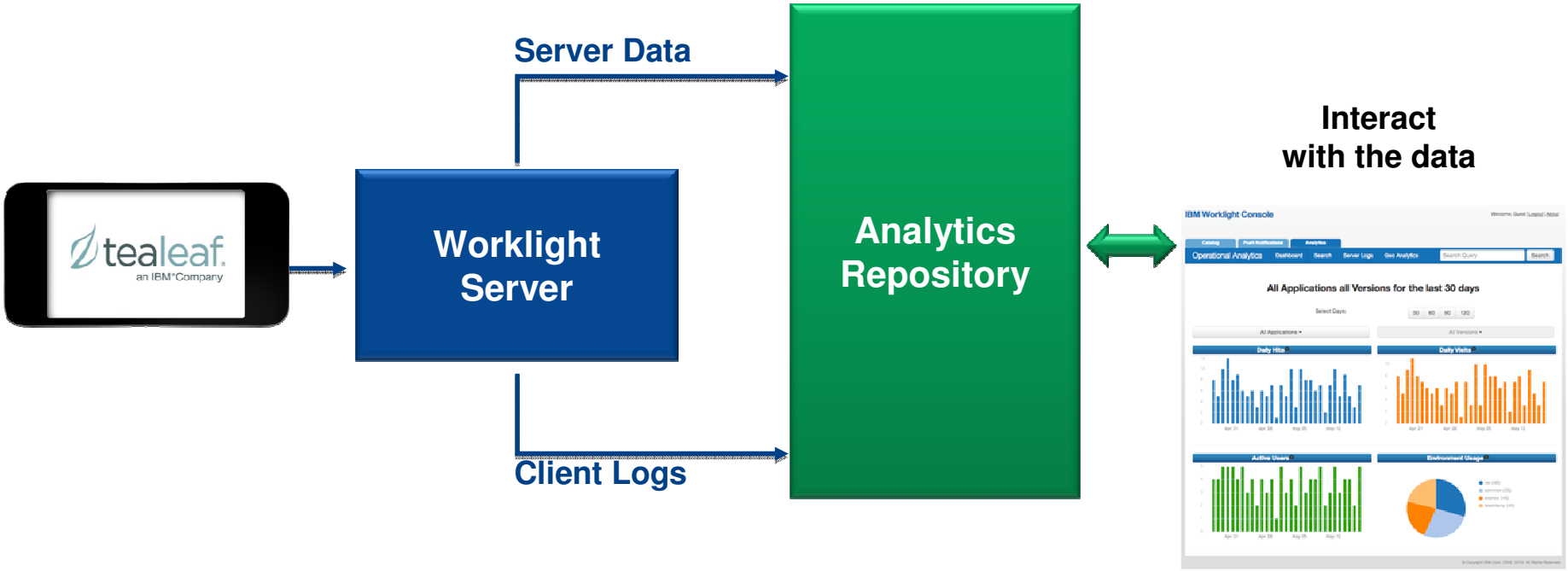
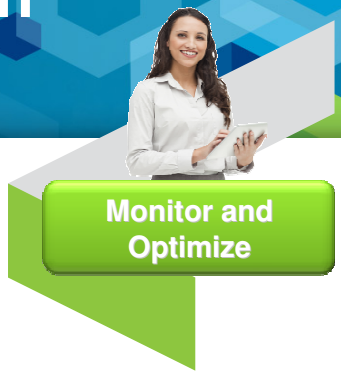
Continuous Feedback and Optimization



Collect, compress and stream important information



Continuous Feedback and Optimization



Analyzing the customer experience and their challenges

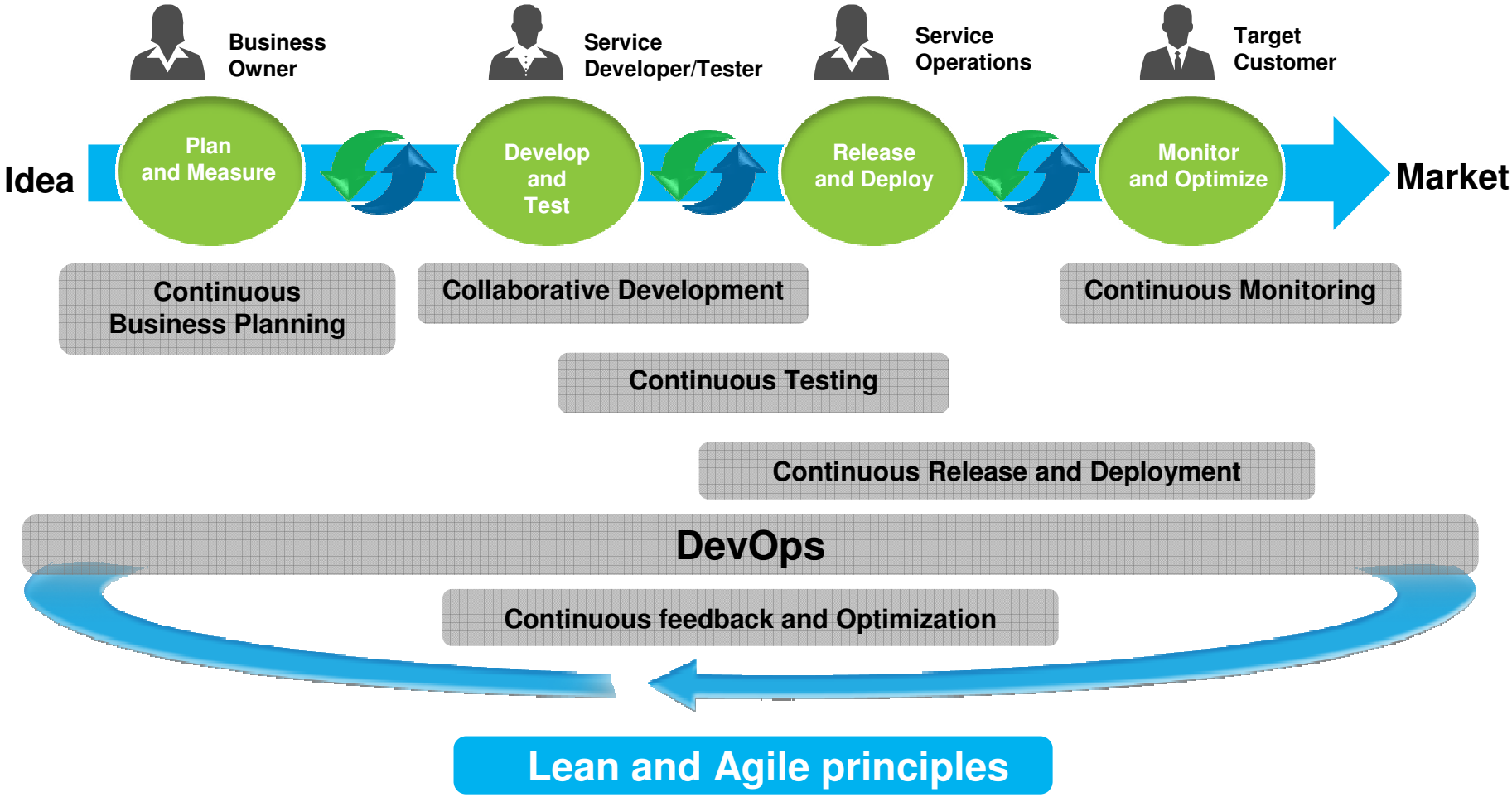
What's new

- Visibility into actual customer experience
- Quick diagnosis and resolution of issues
- Quantify business impact
- Real-time customer analytics

- IBM Tealeaf – CX Mobile
- IBM Digital Analytics – Marketing Center

DevOps takes a closed-loop approach to application delivery

Extending Lean and Agile practices across the entire software value chain



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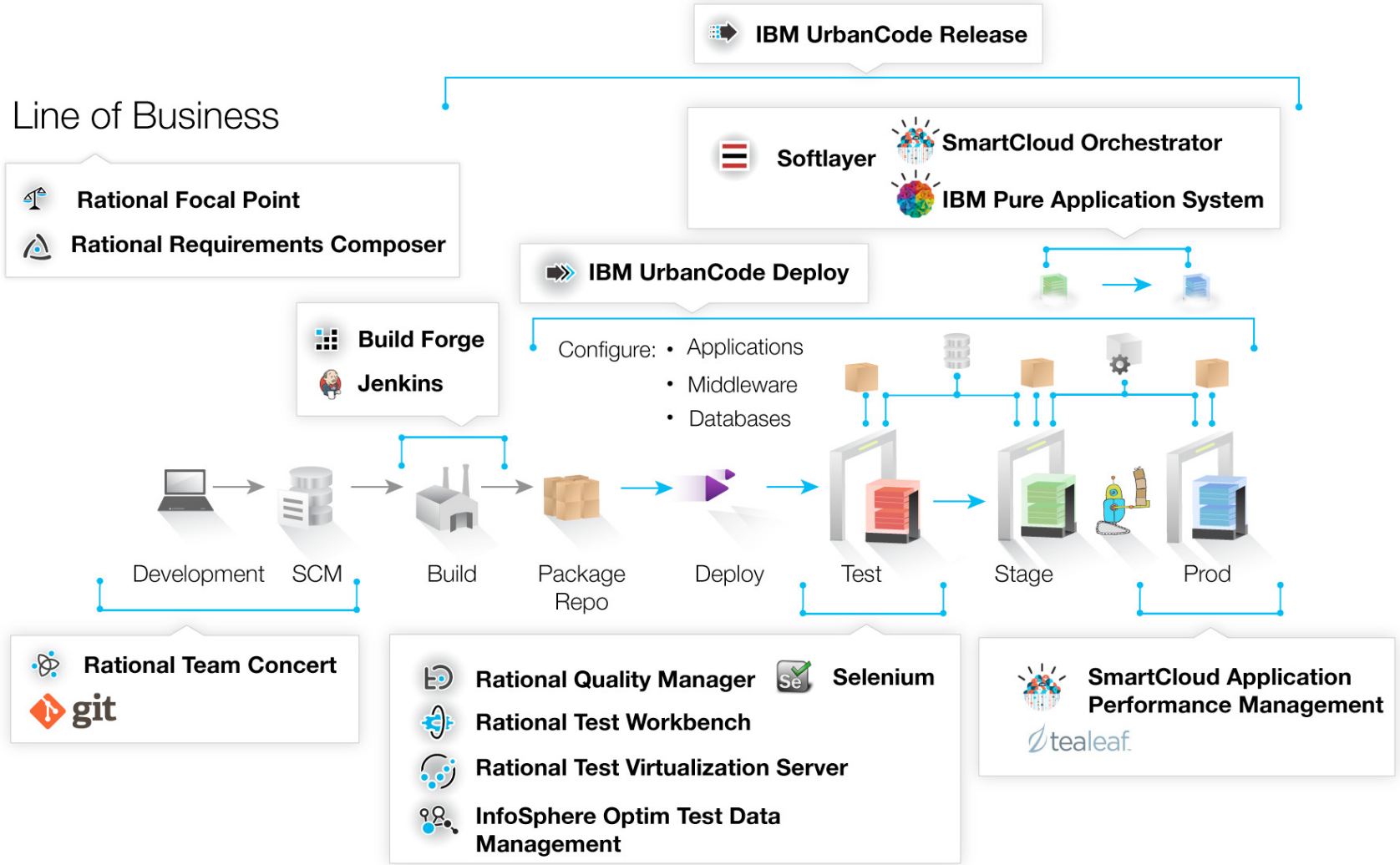
DevOps Adoption Path and Tool Chain



The IBM DevOps Approach

Differentiated and engaging customer experiences

Quicker time to value

Increased capacity to innovate

The Business Impact of DevOps – Closing Thoughts

- This is a **business approach**, driven by the market, enabled by technology (not a pure technology play)
- "**Continuous**" is IBM's strategy (integration, test, deployment, optimization, etc.)
- **DevOps is a journey** – not a big bang
  - Recommended best practice is to build a roadmap and select entry points with short to mid-term ROI
- A successful DevOps program requires:
  - **Sponsorship** at a executive level measured by end to end delivery
  - **In combination with** from key stakeholders: LOB, Dev, Test and IT Operations

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