IBM DevOps Solution: Collaborative Development to Spark Innovation and Integration Among Teams

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14626
We Are at An Inflection Point in the Industry

**MOBILE CUSTOMER TARGETING**
Card swipe in one store attracts coupons from nearby store – resulting in 109% incremental sales lift

**JUST-IN-TIME MAINTENANCE**
Global aircraft engine manufacturer increases service revenue by 12% in one year using real-time monitoring and proactive fault detection

**FAST BIG DATA ANALYSIS**
Global stock exchange cuts response times of market surveillance algorithms by 99% while lowering IT resources by 35% using a big data analysis platform
CEOs identify technology as the most important external force impacting their organizations – again

- External forces that will impact the organization

CEOs Studies 2004–2013

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Technology Factors
- Market Factors
- Macro-economic Factors
- People Skills
- Regulatory Concerns
- Socio-economic Factors
- Globalization
- Environmental Issues
- Geopolitical Factors

Source: IBM Institute for Business Value, The Global CEO Study 2013. Question: “What are the most important external forces that will impact your organization over the next 3 to 5 years?”

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Software delivery is at the heart of today’s top technology trends

**Big Data**
Insights on new products by more efficiently interpreting massive quantities of data

**Cloud**
Demand for apps requires fast, scalable environments for dev and test, as well as production

**Social Business**
Broader set of stakeholders collaborates to deliver continuous innovation and value

**Mobile**
Modern workforce expects constantly updated software to connect to enterprise systems

**Instrumented Products**
Industry requirements demand faster response to regulations and standards, with traceability and quality

**Intelligent/Connected Systems**
Software component in smart products driving increased value and differentiation

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A lack of continuous delivery impacts the entire business enterprise in the new reality of “Systems Of Interaction”

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

- **Operations**
  Rapid app releases impact system stability and compliance

- **>70%**
  of budgets devoted to maintenance and operations

- **4-6 weeks**
  to deliver even minor application changes to customers

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

- **Suppliers**
  Delivery in the context of agile

- **>45%**
  of customers experience production delays

- **>50%**
  of outsourced projects fail to meet objectives

**Systems of Interaction**

- **Systems of Engagement**
- **Systems of Record**
  - CRM
  - HR
  - DB
  - ERP

**Continuous client experience**

**Cloud-based Services**

**Partner value chain**
DevOps takes a closed-loop approach to application delivery
Extending Lean and Agile practices across the entire software value chain
IBM DevOps point of view
Enterprise capability for continuous software delivery that enables clients to seize market opportunities and reduce time to customer feedback

Accelerate software delivery – for faster time to value
Balance speed, cost, quality and risk – for increased capacity to innovate
Reduce time to customer feedback – for improved customer experience
DevOps Adoption Paths and Practices: Develop and Test

- Continuous Business Planning
- Plan and Measure
- Continuous Innovation, feedback and improvements
- Develop and Test
- Release and Deploy
- Continuous Customer Feedback and Optimization
- Continuous Monitoring
- Continuous Release and Deployment
- Best Practices
- Standards
- Ecosystem

Collaborative Development
Continuous Testing

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Realities can stall software-driven innovation

Complexities in software delivery compounded by market pressures

- Complex, Multi-platform Systems and Applications
  - 62% of companies have agile projects requiring integration with legacy systems

- Increasing Mandates
  - 2010 Spending in U.S. on governance, risk and compliance was $29.8 billion

- Globally Distributed Software and Product Supply Chains
  - 50% of outsourced projects are expected to underperform

- Cost Reduction
  - 70% budget locked in maintenance and 37% of projects go over budget

- Unpredictability in Software Delivery
  - 62% of projects fail to meet intended schedule

- Changing Requirements and Time to Market
  - 30% of project costs are due to rework and poor execution of requirements

Source: Numerous sources, see speaker notes for details

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Application Lifecycle Management can help break down the barriers to effective software delivery any team can face...

ALM manages the flow of:
- People
- Process
- Information

1. Business
2. Development
3. Operations

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What happens if you do nothing?
When failure is not an option…

“What happens if you can’t easily or effectively integrate your most critical software delivery applications?”

“What happens if your deliverable date slips?”

“What happens if you can’t effectively manage product quality before your ship/release?”

*Only 47% are successful, 36% are challenged, and 17% are failures

Software failures do have impact the bottom line!

*Source: 2010 IT Project Success Rates, 2010 – Scott Ambler
What is required to deliver end-to-end visibility across teams, tools and projects?

**Five Imperatives for Effective Application Lifecycle Management to improve organizational productivity**

1. Maximize **product value** with In-Context Collaboration
2. Accelerate **time to delivery** with Real-Time Planning
3. Improve **quality** with Lifecycle Traceability
4. Achieve **predictability** with Development Intelligence
5. Reduce **costs** with Continuous Improvement
imperatives help answer questions such as these

Can your team(s)...

- ...find all the information related to a specific task?

- ...instantly see the impact of project changes

- ...see what requirements we’re implementing in a given release/milestone?

- ...provide a single view of project health at multiple levels?

It’s not all or nothing!
Tackle the ones causing the greatest pain.
In-Context Collaboration improves product value

• Teams can collaborate on and review software development artifacts while incorporating feedback early and often to continuously align delivery with the stakeholders’ vision
• Provides a single source of truth hosted in a shared repository so team members can collaborate effectively around the globe and build a collective intelligence
• Makes information immediately accessible to all team members in the context of their work

Real-Time Planning accelerates time to delivery

• Provides a single plan that spans requirements, development, and test, ensuring the whole team understands the overall scope of a project
• Integrates planning with execution ensuring the entire team understands the true project status
• Allows everyone to participate in keeping the plan current and accurate
• Helps teams respond to the unexpected in a timely manner ensuring the team stays on schedule
Lifecycle Traceability supports compliance, improves quality

- Establish relationships between software artifacts
- Identify and close artifact gaps, ensuring coverage across disciplines
- Provides visibility into the completeness of planned items by inspecting all related artifacts
- Provides easy access to related artifacts ensuring everyone shares the same view
- Delivers transparency which enables everyone to make fully informed decisions based business priorities

Instant access to details from any point in development process
**Development Intelligence improves predictability**

- Enable **fact-based decision making** to communicate status, monitor progress, diagnose problems, identify corrective actions.
- **Steer projects and programs** to deliver on-time.
- Apply **Business Intelligence techniques** to software and systems development.

### Measurement Practices Impact Project Success

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### Continuous Improvement reduces cost

- Improve software delivery through the ongoing **adoption of best practices and automation** to reduce manual, non-creative and error prone tasks.
- Promote **incremental improvement of a project** when needed.
- Enable breakthrough improvement by **capturing best practices and reusing** across teams.
- Allow **everyone to participate** with easy to adopt best practices at your fingertips.

Sources: Capers Jones, Measurement, Metrics and Industry Leadership, Copyright © 2002-2007 by Capers Jones LLC


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Proven capabilities for accelerating software delivery

Reduce the costs of inefficient, multiplatform software delivery!

- Focus on the five imperatives to establish effective ALM
- Create resilient designs by involving more stakeholders with integrated design
- Prioritize entry point; extend as needs evolve
- Leverage open Jazz platform to unify and protect current infrastructure investments
- Fill in gaps and unify across diverse lifecycle toolset by integrating ALM tools and Rational capabilities with latest Lifecycle Integration Adapters
  - Standard Edition: connects HP, Jira, Git tools
  - Tasktop Edition: provides additional use cases; connects Microsoft Visual Studio and Bugzilla tools

55% time saved on deployment, 99% reduced time for testing, 30% less versioning / deployment issues
Collaborative Development

Integrated Application Lifecycle Management for all platforms

- Accelerate **time to delivery** with real-time planning
- Improve **quality** with lifecycle traceability
- Maximize **time to value** with in-context collaboration
- Refine **predictability** with development intelligence
- Reduce **costs** with continuous improvement

- Manage many sources - JavaScript to COBOL
- Single work item can span technologies & solutions
- Quickeens agile adoption on the mainframe
- Integrates existing SCMs and deployment tools

- IBM Rational solution for Collaborative Lifecycle Management (CLM)
  - IBM Rational Team Concert
  - IBM Rational Requirements Composer
  - IBM Rational Quality Manager

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Enabling Agility for Enterprise - CLM
A single, integrated platform for broad IT development needs

**Benefit**
Unify across diverse environments and needs – Mobile, Cloud, Agile, traditional, and mainframe while freeing up the team by automating manual, time-consuming and error-prone tasks.

**Features**
- Integrated software design for broader collaboration and traceability, and lifecycle adapters for connecting with third-party tools.
- Optimized support for the IBM Mobile Platform, SAP and IBM WebSphere Application Server
- Integration with Rational Test Virtualization Server, Continuous integration with Jenkins plug-in.
- Extend the value of existing tools with capabilities and compilers optimized for IBM middleware and hardware platforms.
- Connect development and testing with Lifecycle Adapters

- IBM Rational solution for Collaborative Lifecycle Management
- IBM Rational Lifecycle Integration Adapters
  NEW: CA Clarity and direct Rational Requirements Composer to HPQC synchronizer
Collaborative Development on the Cloud – JazzHub

“No hassle” collaborative development capabilities on the cloud for continuous delivery

Free in 2013 and starting 2014

• Enable the team to achieve collaborative development now!

Easily enable stakeholders

• From plan to delivery of better software and systems in the context of daily work
• Code in the cloud with your choice of IDE, Eclipse, Visual Studio or built-in editor
• Runs on SoftLayer Infrastructure

Easily fork projects

• From where teams may already be working already – like GitHub

Get FREE private projects through 2014 if you register at JazzHub by December 31, 2013
Multiplatform Development
A Common platform for all types of development

- Common Eclipse-based IDEs
- Broad coverage of technologies, languages, and platforms
- Connect systems of record to systems of engagement and apply talent across boundaries while keeping the focus on innovation

✓ Modern tools to attract new talent
✓ 22-37% improvement in developer productivity¹

- Rational Developer for the Enterprise v9.0*
- Rational Developer for z V9.0
- Rational Asset Analyzer

* Includes IBM Worklight

¹ Aggregation of results from a productivity study conducted by IBM System z customers.
Rational Developer for the Enterprise:
*THE Premier Integrated Development Environment for System z & Multi-Platform Development*

Rational Developer for System z
A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, ASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications

Integration with RD&T for flexible access to System z environment

Integration with Team Concert for Lifecycle and Source Management

Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS

integration with Fault Analyzer for Dump Analysis

Robust Mobile Development in conjunction with Worklight

Integration with File Manager and Fault Analyzer for file and test data handling and Dump Analysis

Integration with Asset Analyzer for Application Understanding and Impact Analysis

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IBM Mobile Development Lifecycle solution

Meet time to market and user pressures for Mobile

How?
Unify mobile development teams to produce better applications, at mobile speed.

Featuring

- Deliver mobile applications for multiple platforms with cross-platform code, build and test support.
- Meet accelerated time to market requirements using agile processes with real-time planning to help build and maintain “5-star” mobile apps.
- Deliver high quality apps that engage users and meet business objectives with lifecycle traceability to ensure coverage of requirements, development and test.
- Integrate with enterprise systems by extending enterprise assets and connecting via IBM Worklight adapters.

“I can focus on designing an innovative app and depend on my lifecycle capabilities to collaborate with stakeholders from design to done!”

Mobile Developer

• IBM Mobile Development Lifecycle Solution (IMDLS) integrates:
  - An enterprise-grade, standard-based mobile application platform based on IBM Worklight technology
  - A best-of-class collaborative mobile application development platform based on the IBM Rational CLM capabilities

• Mobile testing (sold separately):
  - Rational Test Automation solution: Rational Test Workbench v8.0.1, Rational Test Virtualization Server v8.0.1, Rational Performance Test Server v8.0.1
  - “Mobile Device Cloud” services sold by Business Partners: Keynote Device Anywhere (Rational Quality Manager Integration Adapter), Perfecto Mobile (Rational Quality Manager Integration Adapter)
Worklight Studio included with Rational Developer for the Enterprise

Native
Installed from an app store

Hybrid

Web

Mobile Web
Accessed like a web app

Worklight

Create and test a mobile UI … to extend … enterprise application development

Integrate Rational IDEs with Worklight 6

Rational IDEs
Cost Effective Off-Host Development and Unit Test

Offload testing to reduce MIPS, improve development flexibility

• DevOps will dramatically increase build and test activity
• Makes it affordable by offloading from System z

✓ Liberate developers to rapidly prototype new applications
✓ Free up mainframe development MIPS for production capacity

▪ IBM Rational Development and Test Environment for System z

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Nationwide embraces DevOps to drive continuous delivery across platforms and improve speed to market

50% increase in software quality over the last three years

90% on-time delivery vs. 60% previously

70% decrease in user downtime

58% of developers moved to industry top quartile in productivity measures

“We’re more agile as a business and more responsive to our customers. Collaboration has become an expected part of our culture.”

— Steve Farley, Vice President, Application Development Center, Nationwide
DevOps approach speeds IBM Watson solutions to market

**Reduced delivery cycles**
from nine weeks to three weeks

**Compact releases**
better matched to customer expectations

**Zero maintenance window downtime** through continuous availability

"DevOps helps us achieve continuous delivery and deliver continuous value."

— Carl Kraenzel, Director of the Watson Managed services group, IBM Distinguished Engineer, IBM
Take Action Now!

• Develop an end-to-end DevOps strategy
• Adopt mobile-first design thinking, and cloud-centric architectures
• Start incrementally on business-critical projects
• Measure and reduce overhead, rework and duplication
• Innovate! It’s a great time to be in the technology business
• Get your free guide to faster, continuous software delivery with DevOps

http://ibm.co/devopsfordummies

It is not a typo... use .co not .com
QUESTIONS

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