

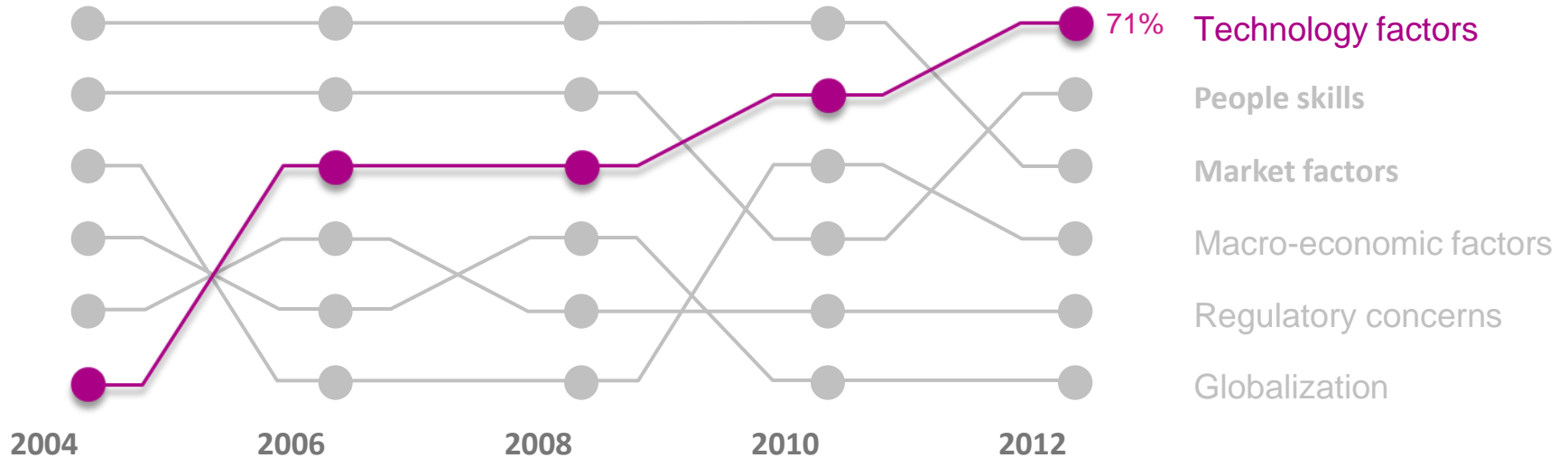
Managing DevOps - Control Your Release in a Continuous Delivery World

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Technology is what drives businesses today

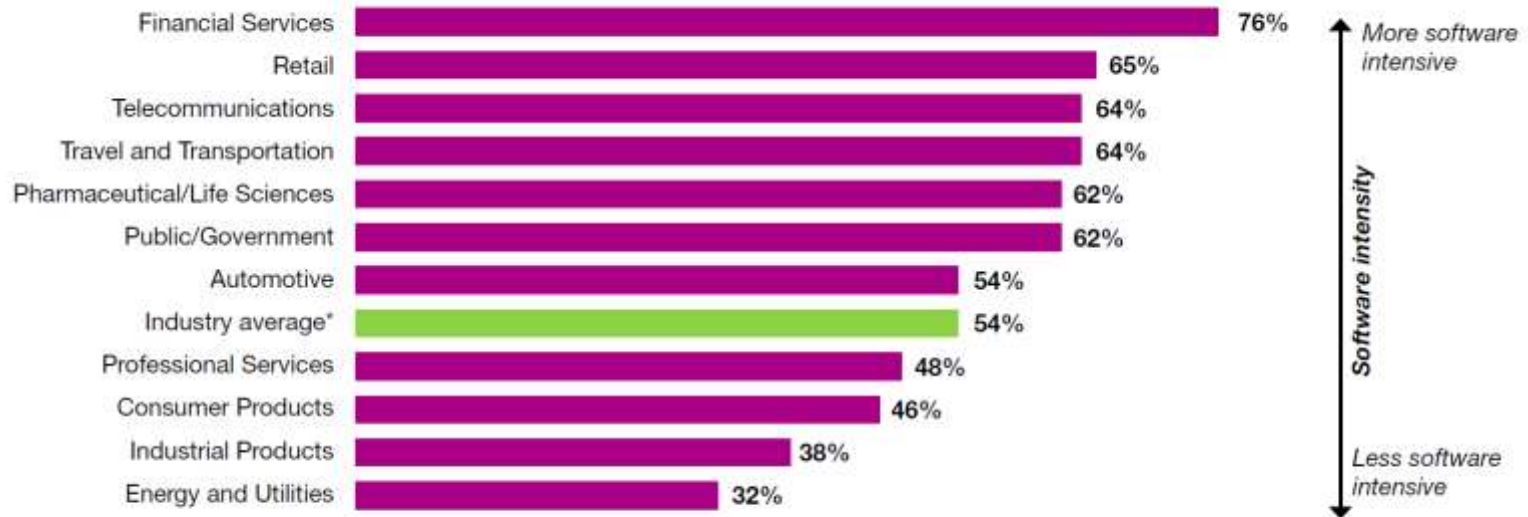
External Forces that will Impact the Organization



Source: IBM Institute for Business Value, The Global CEO Study 2012. Question: "What are the most important external forces that will impact your organization over the next 3 to 5 years?"

Software innovation is crucial to competitiveness

Industries identifying software as crucial to competitiveness



*Industries were classified as "more software intensive" where more organizations identified software as crucial to competitiveness as compared with the average for all industries.

Source: IBM Institute for Business Value.

Market shifts are fundamentally changing the way businesses approach software driven innovation

Macro Business Environment

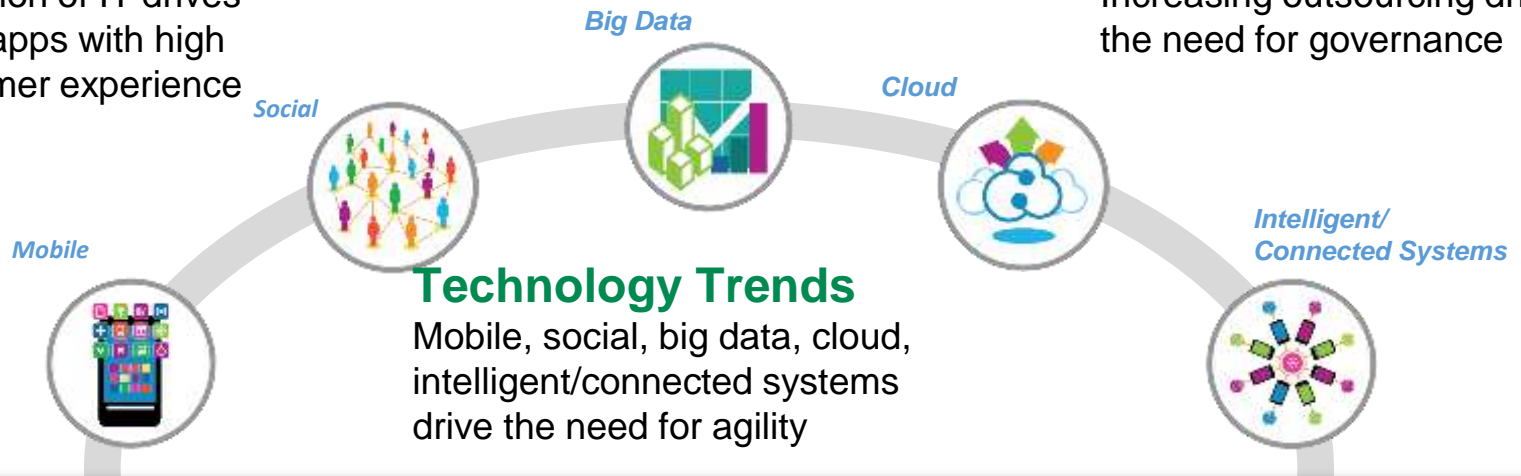
Increasing regulatory environments drive the need to reduce risk

Empowered Users

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

Multi-sourcing

Increasing outsourcing drive the need for governance



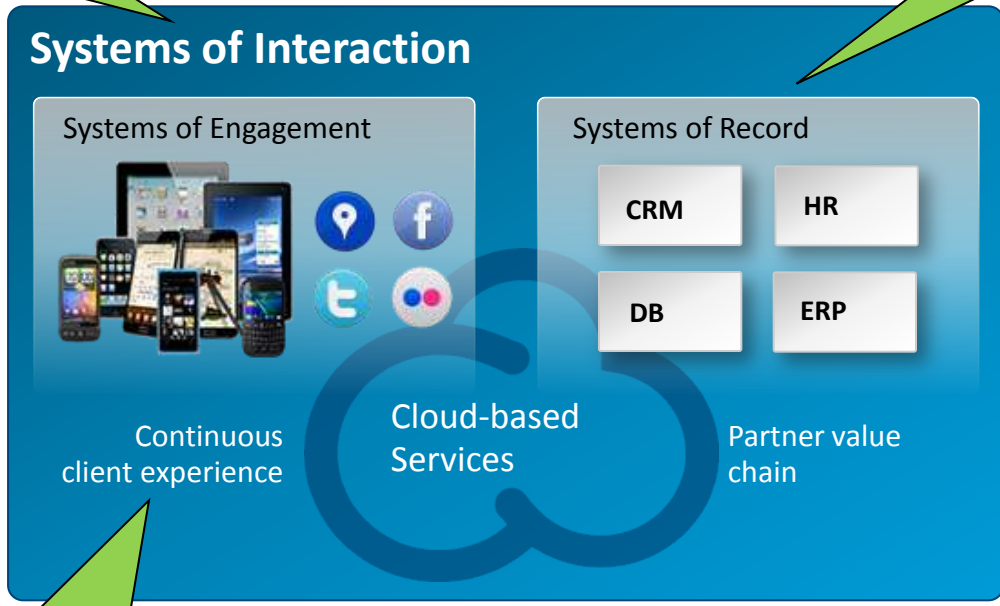
Clients are trying to rapidly innovate and become agile with systems of engagement

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

Enterprises are using Systems of Interactions to drive business innovation...

Provide differentiating services and customer experience to grow market share and revenue

Maintain stability and compliance of core business systems



Rapidly improve and evolve services based on customer feedback and success metrics

... however, they are struggling to do so

Line-of-business: Limited capacity to innovate on new products and services



IT Operations: Pressure for rapid app release impacts overall system stability

80%

Of resources devoted to maintaining existing systems and products

4-6 Weeks

to deliver application changes to customers

Systems of Interaction

Systems of Engagement



Continuous client experience

Systems of Record



Partner value chain

Cloud-based Services

51%

applications rolled back due to quality issues escaping into production

41%


experience delays in integration, configuration and testing of applications


Development/Test: Speed mismatches between faster moving front-end and slower moving back-end systems




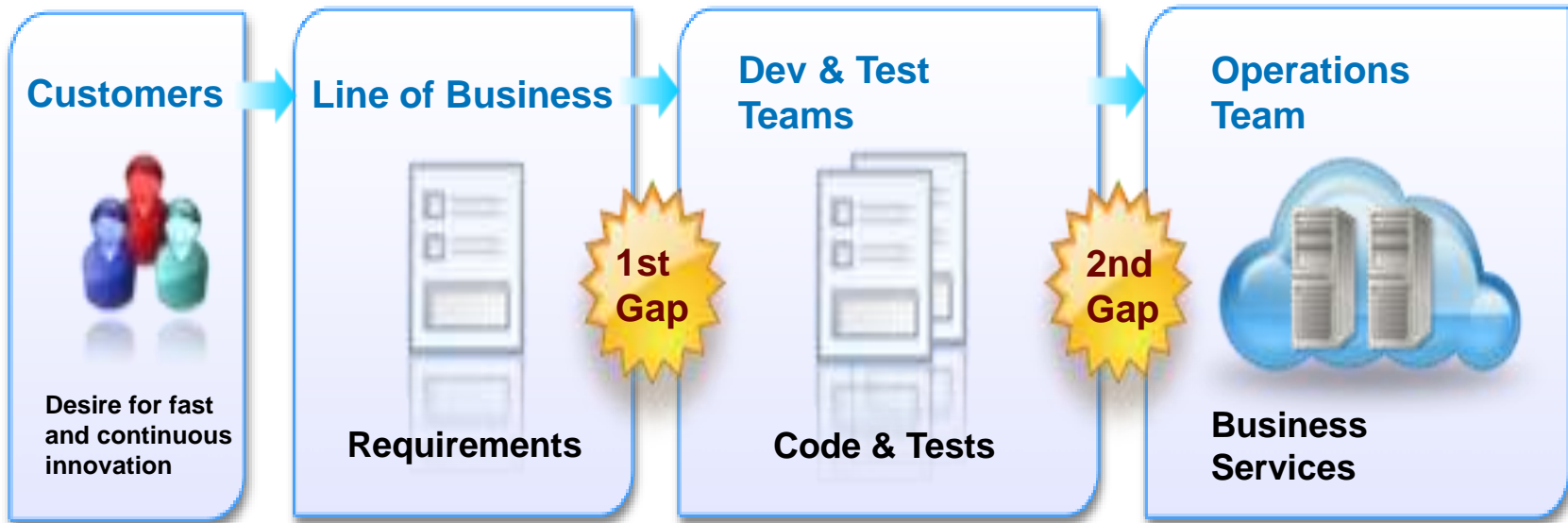
Delivery Challenges

Today's business and technical needs are pushing traditional delivery approaches to the breaking point

People 

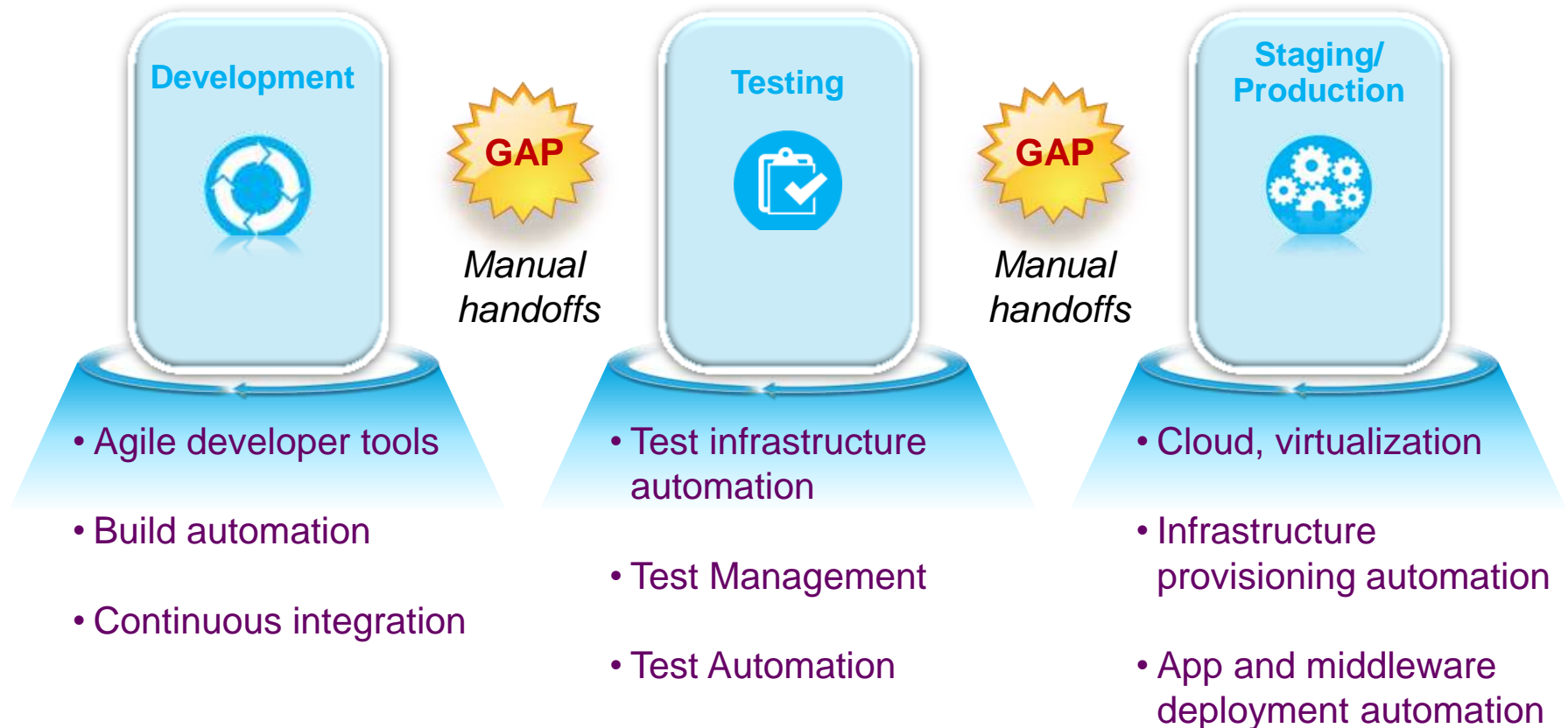
Process 

Information 



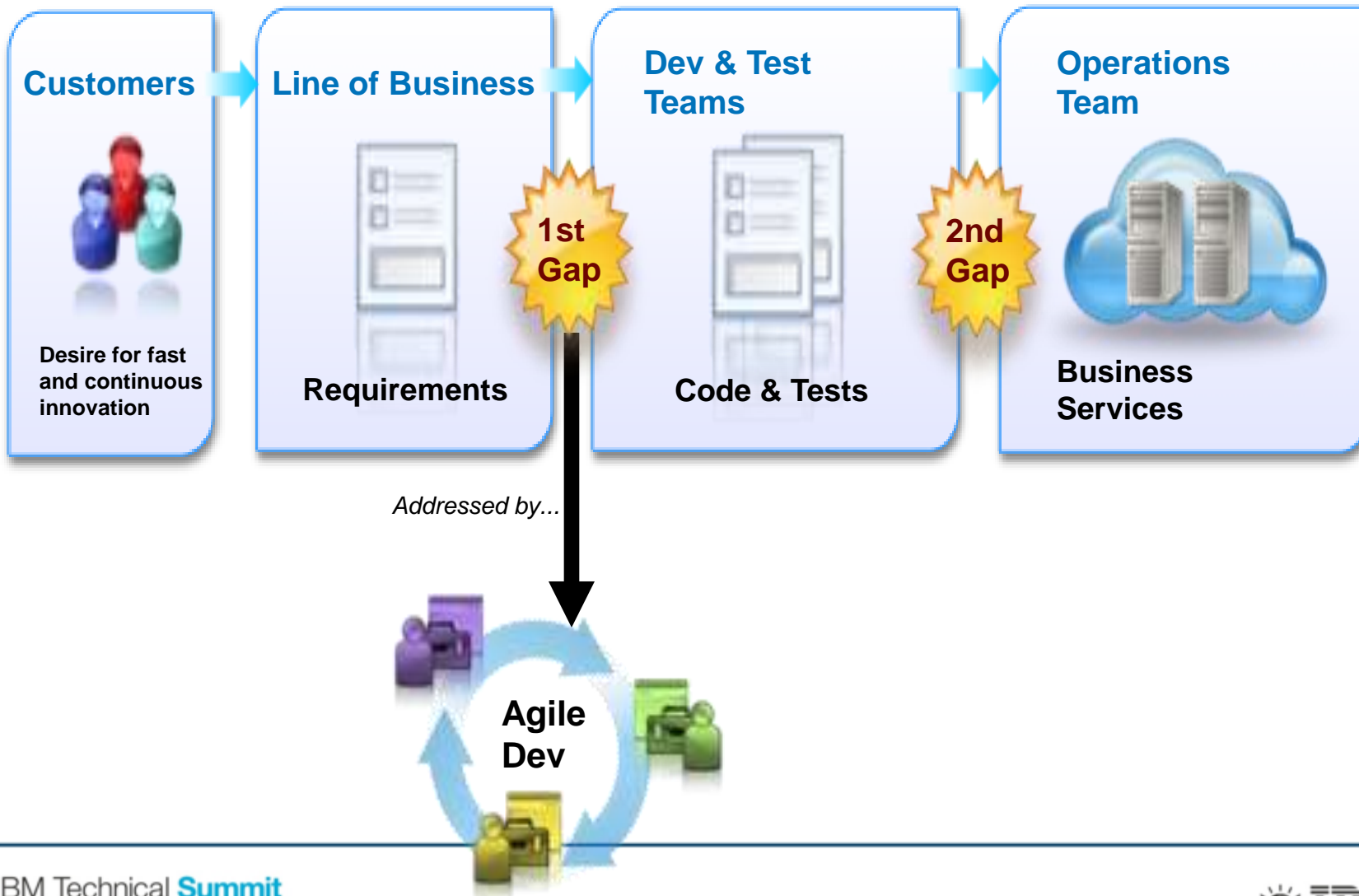
Approaches taken today

Selective and siloed solutions

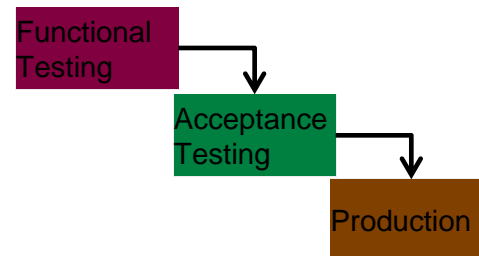
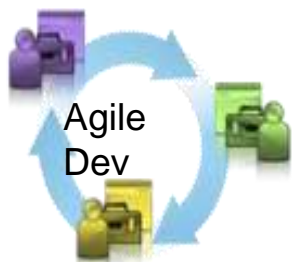


Gaps and challenges still exist due to lack of integration across people, processes and tools...

Addressing Application Lifecycle Management gaps



With only Agile Development improvements...



Setup (weeks)



Install

Test and Ops teams have increased pressures to keep up with increased loads but continue to use waterfall approaches and traditional tools.

CI builds are piling up

***“It’s not my code,
it’s your machines!”***

***“It’s not my
machines, it’s your
code!”***

Outage Happened?

Want
change!



Development



I want
stability!

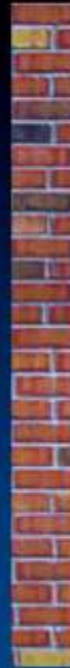


Operations

Or..... more practical like this



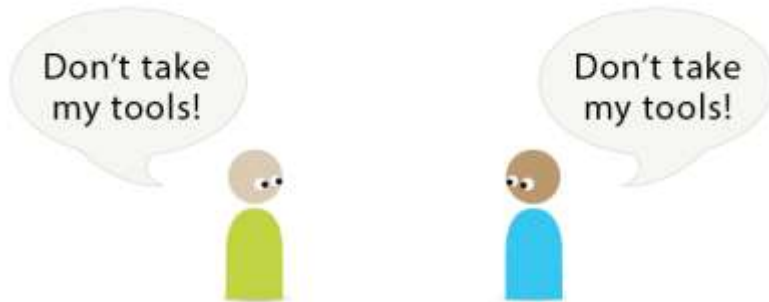
“Why do you
slow me down?!”



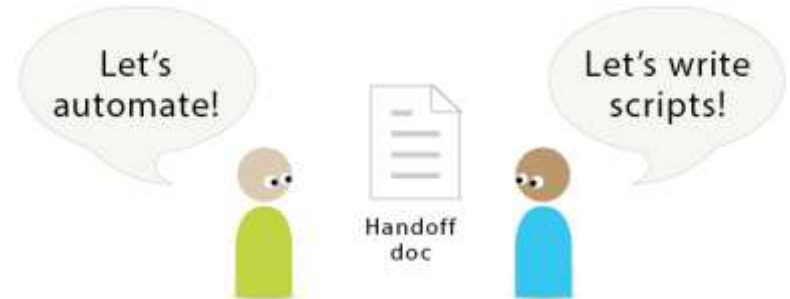
“Why do you
deliver crap?!”

Why is the Wall between Dev and Ops

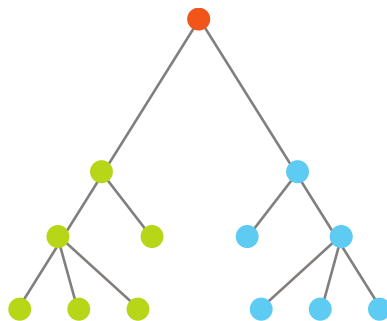
1. Tooling



2. Process



3. Reporting Structures

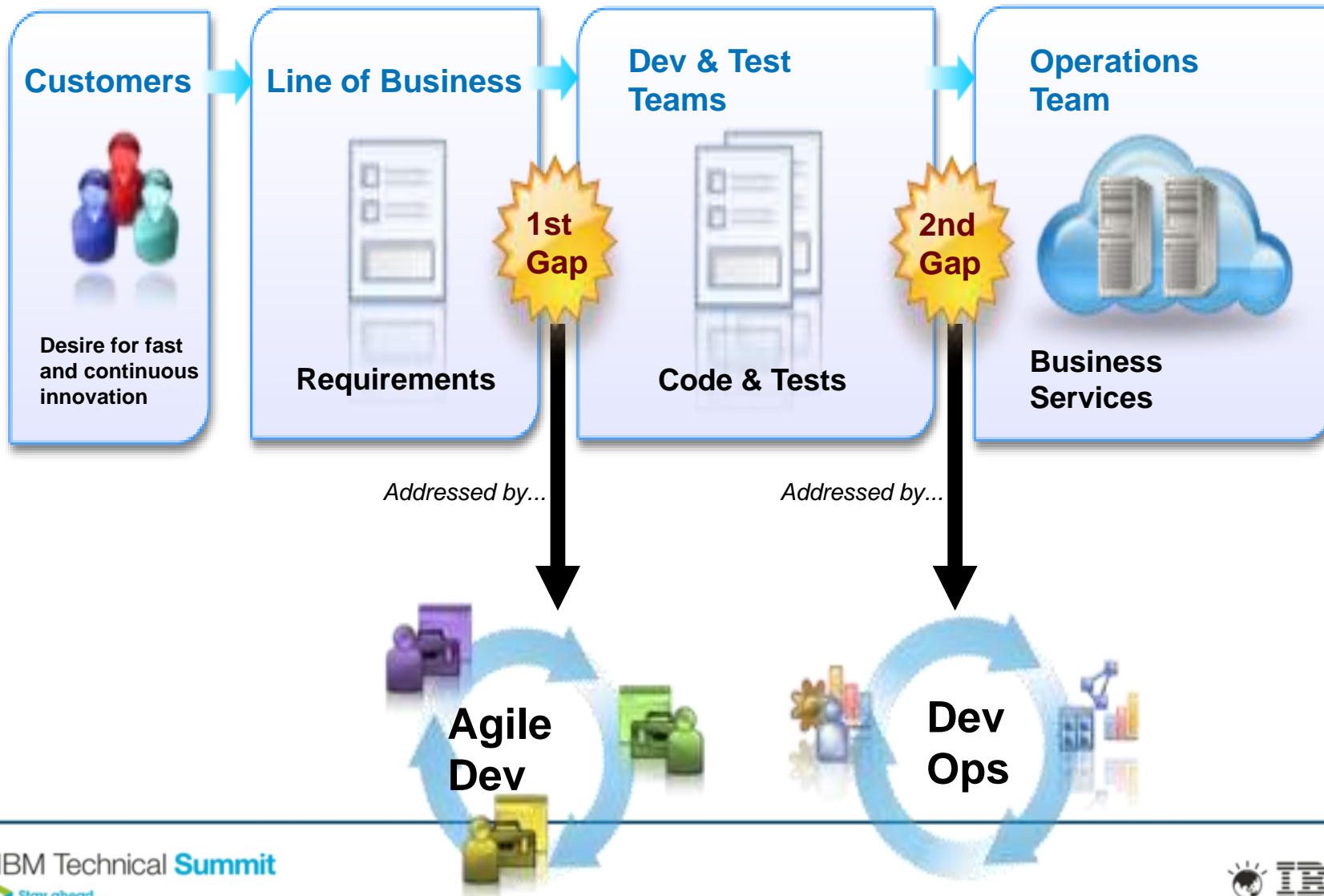


4. Incentives

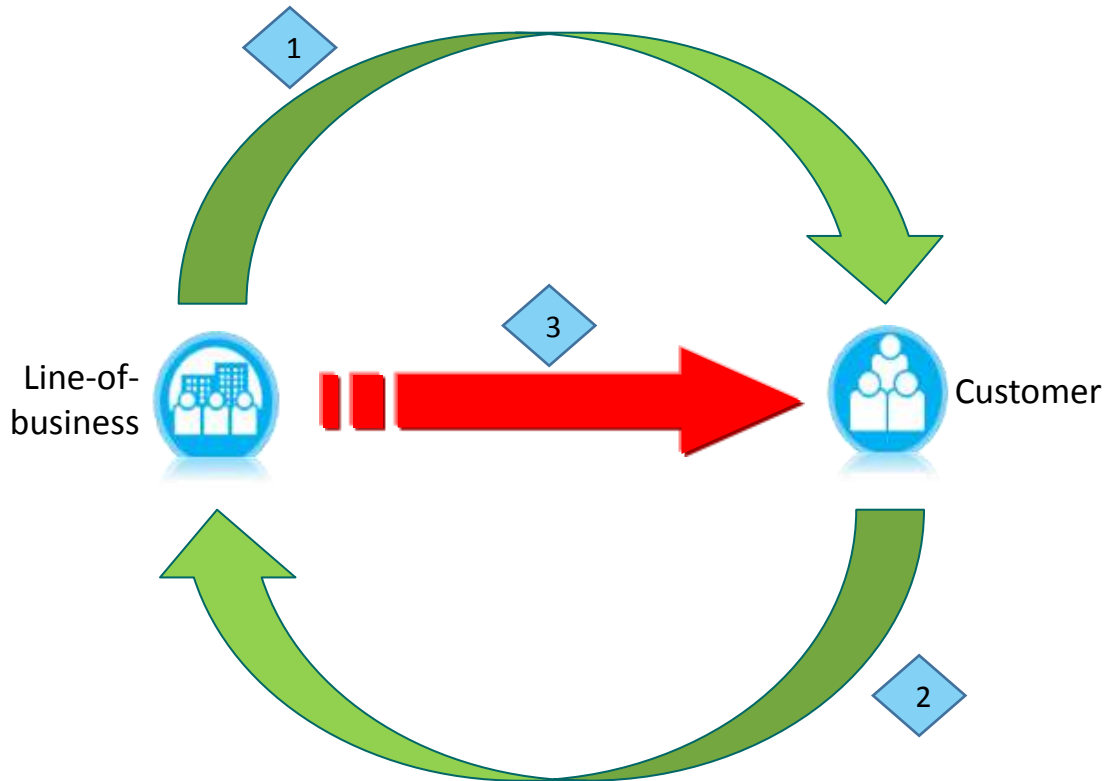
- Devs want change
- Ops want stability



Addressing Application Lifecycle Management gaps



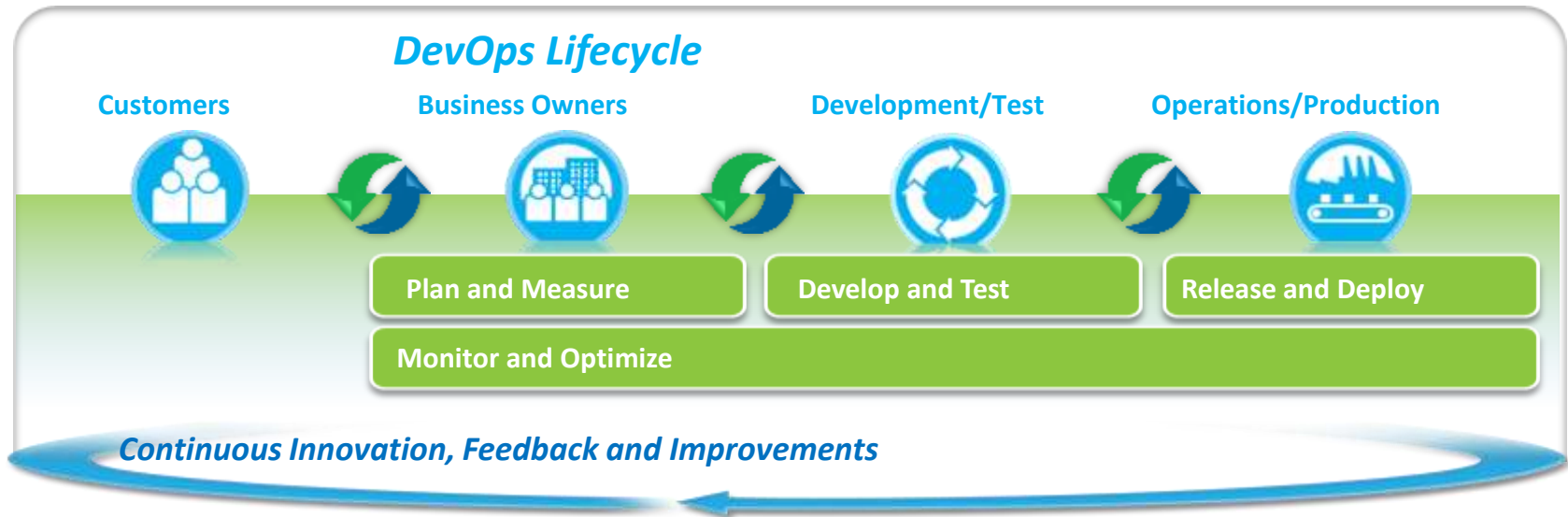
Lean-thinking provide a good set of guiding principles to improve software delivery



1. Speeding **continuous innovation** of ideas by enabling collaborative development and testing across the value chain
2. Providing a feedback loop for **continuous learning** from customers by monitoring and optimizing the software driven innovation
3. Enabling **continuous delivery** of these innovations by automating software delivery processes and eliminating waste while still helping to meet regulatory concerns

DevOps

Enterprise capability for continuous software 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

DevOps Principles and Values

- Develop and test against a production-like environments
- Iterative and frequent deployments using repeatable and reliable processes
- Continuously monitor and validate operational quality characteristics
- Amplify feedback loops

People



Process

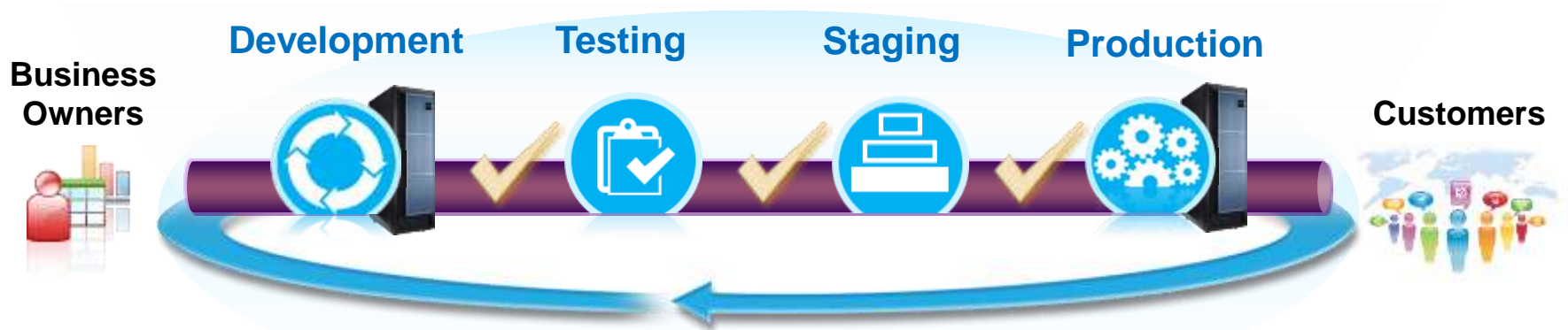


Tools



Continuous delivery pipeline defined

Ensure applications are production-ready throughout the lifecycle and can be released at any time without rollback due to quality issues



Continuous Delivery Pipeline:

An iterative set of quality checks and verifications that each piece of application code must pass during lifecycle phases before being released to production.



Continuous Delivery

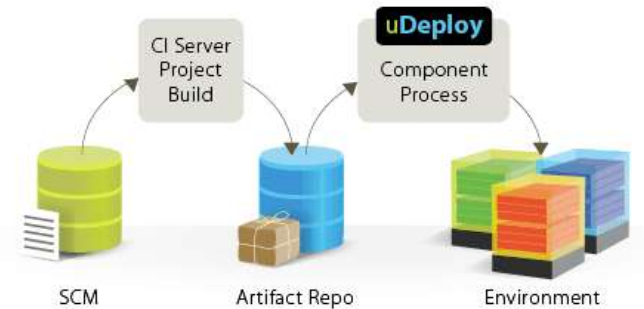


Continuous Delivery is a process that integrates Continuous Integration with automated deployment, test, and release; creating a Continuous Delivery solution.

uRelease
Release Management and Coordination Platform

uBuild
Enterprise Class Build Automation

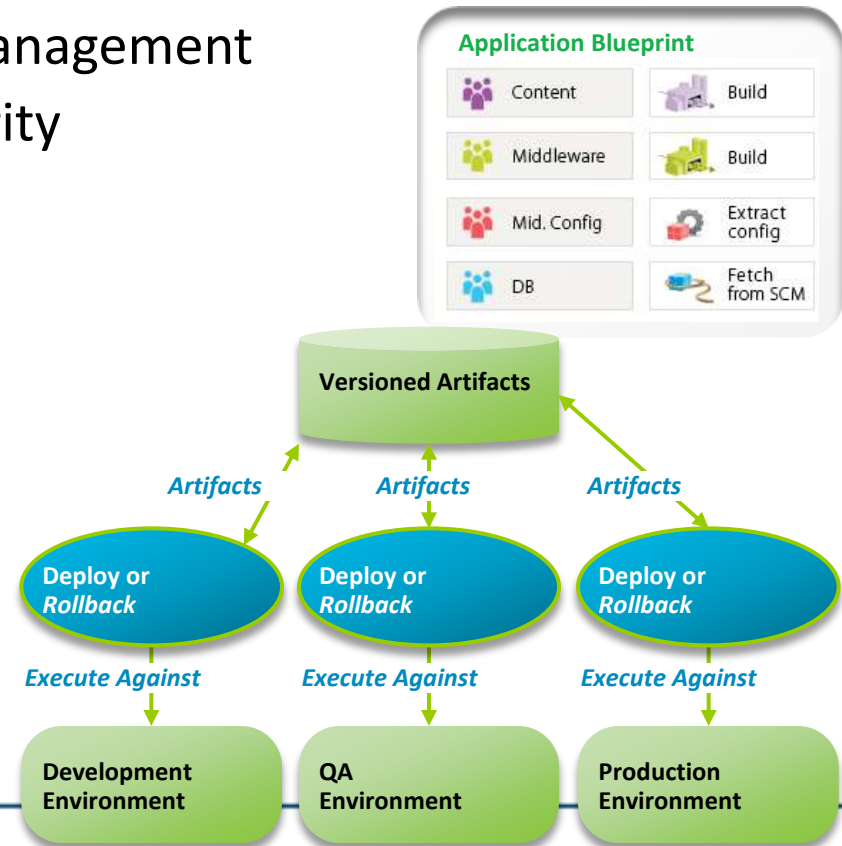
uDeploy
Application Release Automation



uDeploy – Deployment Automation

Deployment of Applications through Environments

- Blueprints to model complex applications
- Per environment configuration management
- Compliance: audit trails and security
- Easy to use process designer
- Inventory: what is where



uDeploy works in heterogeneous environments

- **Deployment Sources**
 - Build servers
 - Source control tools
 - Maven repositories
- **IBM Integrations**
 - RTC / ClearCase / Synergy
 - WebSphere Application Server
 - MQ
 - Message Broker
- **Other Java Platforms**
 - WebLogic, Tomcat, Jboss, etc
- **Quality & Change Management**
 - QualityCenter
 - ServiceNow
- **Microsoft Platform**
 - IIS
 - SharePoint & Biztalk
- **Infrastructure**
 - Public / Private Cloud
 - Load Balancers
 - DataBases

uRelease – Release planning and orchestration

uRelease delivers

- Plan the release day
- Execute the release
- Communicate what's going on
- Allocate environments to releases
- Tie release back to development

The screenshot shows the uRelease web interface for a deployment plan. The header includes the uRelease logo and user information (Hello admin, Logout). The main heading is "eComm 1.3 - Mar:PT-2 at Mon Feb 04 15:00:00 EST 2013". Below this, there are three progress indicators: "DEPLOYMENT PLAN NOT STARTED", "SEGMENT PLAN IN PROGRESS", and "SEGMENT PLAN COMPLETE".

Key metrics displayed include:

- Time Remaining: 00:00:00 (Complete)
- Percent Complete: 100%
- Waiting / Late Tasks: There are no late or waiting tasks at this time.
- Task Count: Failed: 0, Aborted: 0, Stopped: 3, Complete: 14, In Progress: 0, Remaining: 0.

Below the metrics is a table with columns: Application, Version, Statuses, and Gate. The table lists "BEI Pay System" and "Wire Transfer" with "None" for version and status.

There is a "Promote to Release Version" button.

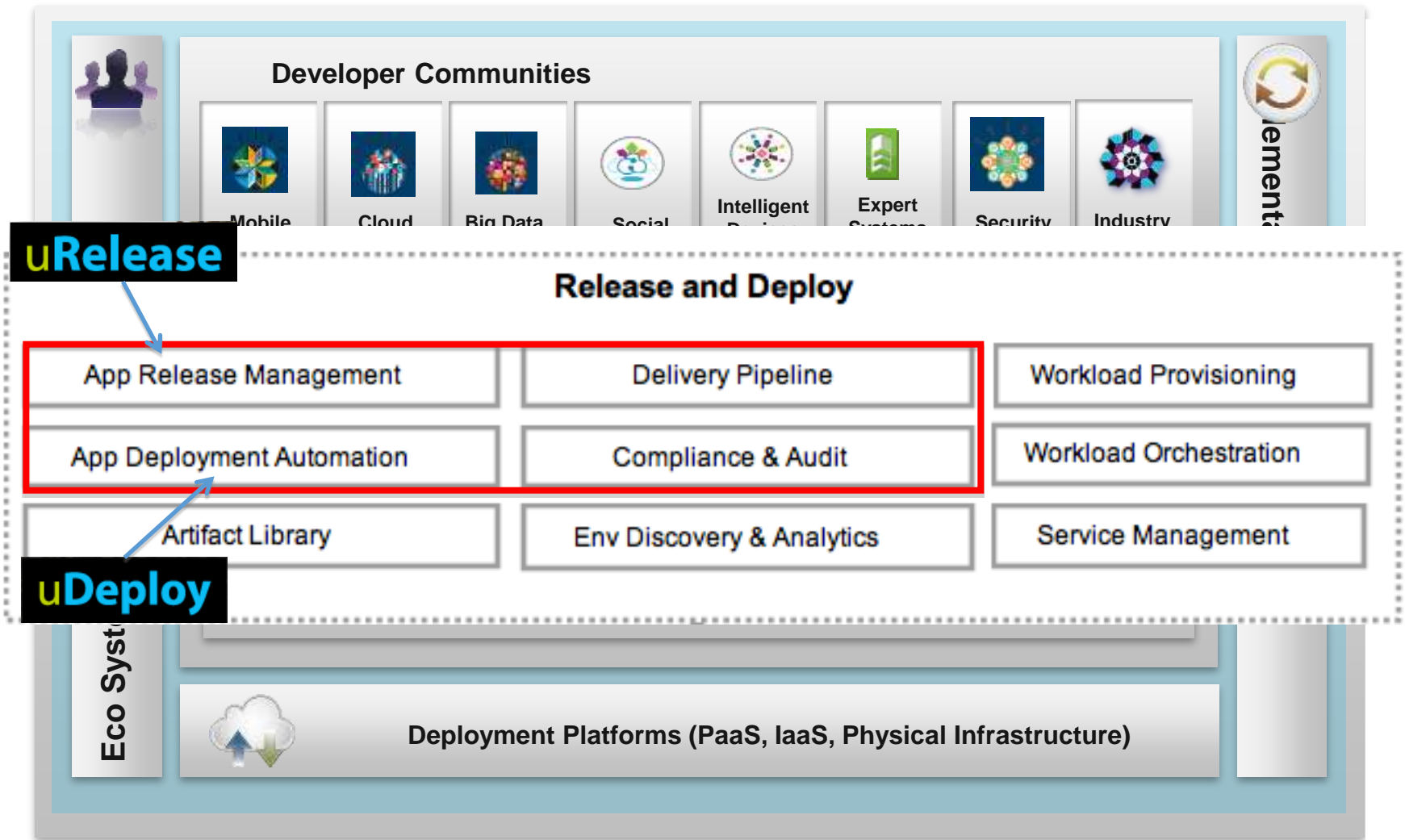
The "Segments" section shows a "Middleware Config" segment with a "Complete" button. It includes a table with columns: Start Time, Duration, Name, Application, Type, Rate, User, and Actions.

Start Time	Duration	Name	Application	Type	Rate	User	Actions
2/6/13 9:25 AM	00:15	Convert Databases to uRelease	Oracle RAC sybase	None	Manual	Admin	admin
2/6/13 9:40 AM	00:02	Do something else	None	Manual	Admin	admin	
2/6/13 9:42 AM	00:15	Convert Databases to uRelease	Oracle RAC sybase	None	Manual	Admin	admin
2/6/13 9:57 AM	00:10	Update the database	None	Manual	Admin	Admin	

Buttons for "Add Manual Task" and "Add Automated Task" are visible at the bottom of the segment table.

Because spreadsheets are a) terrible and b) normal

UrbanCode accelerates DevOps plans



Convergence Plans

IBM Application Build

uBuild



Rational Build Forge

IBM Application Deploy

Extensions



IBM SmartCloud
Continuous Delivery
extensions



Rational
Automation
Framework
actions

uDeploy

IBM Application Release

uRelease

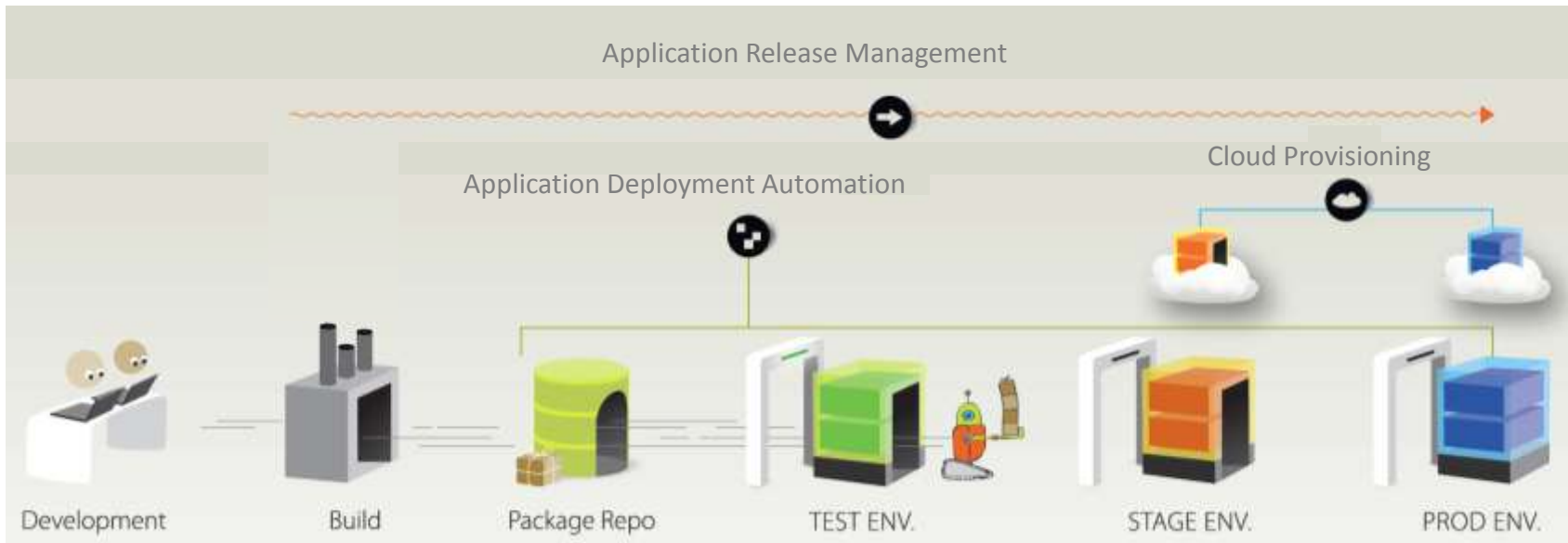
IBM Workload Provision

Platform as a Service Technologies

Infrastructure as a Service Technologies

IBMSmartCloud
Foundation

DevOps Tool Chain



Build & Unit Test

Deploy to DEV

Functional Tests

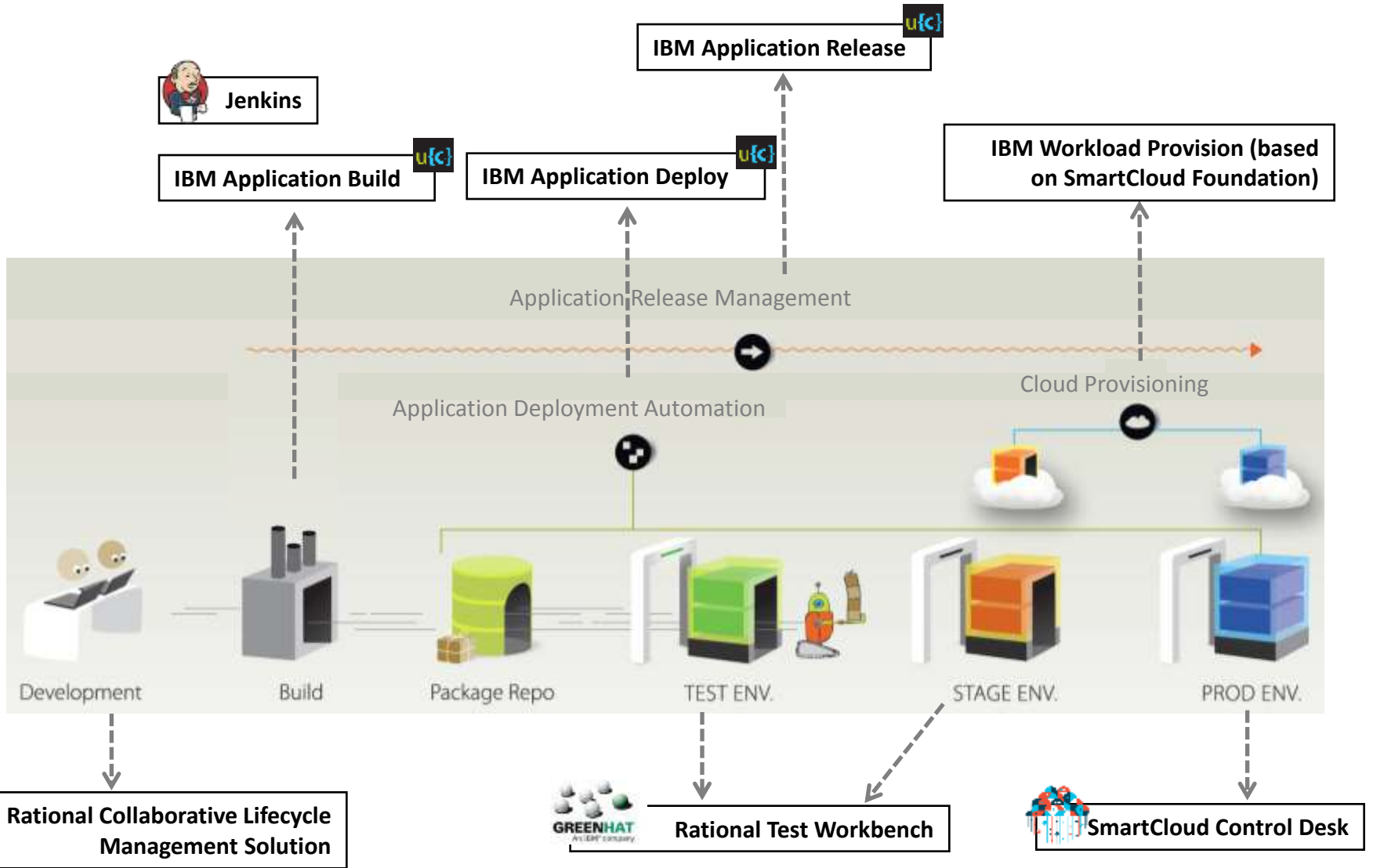
Deploy to SIT

Integration Tests

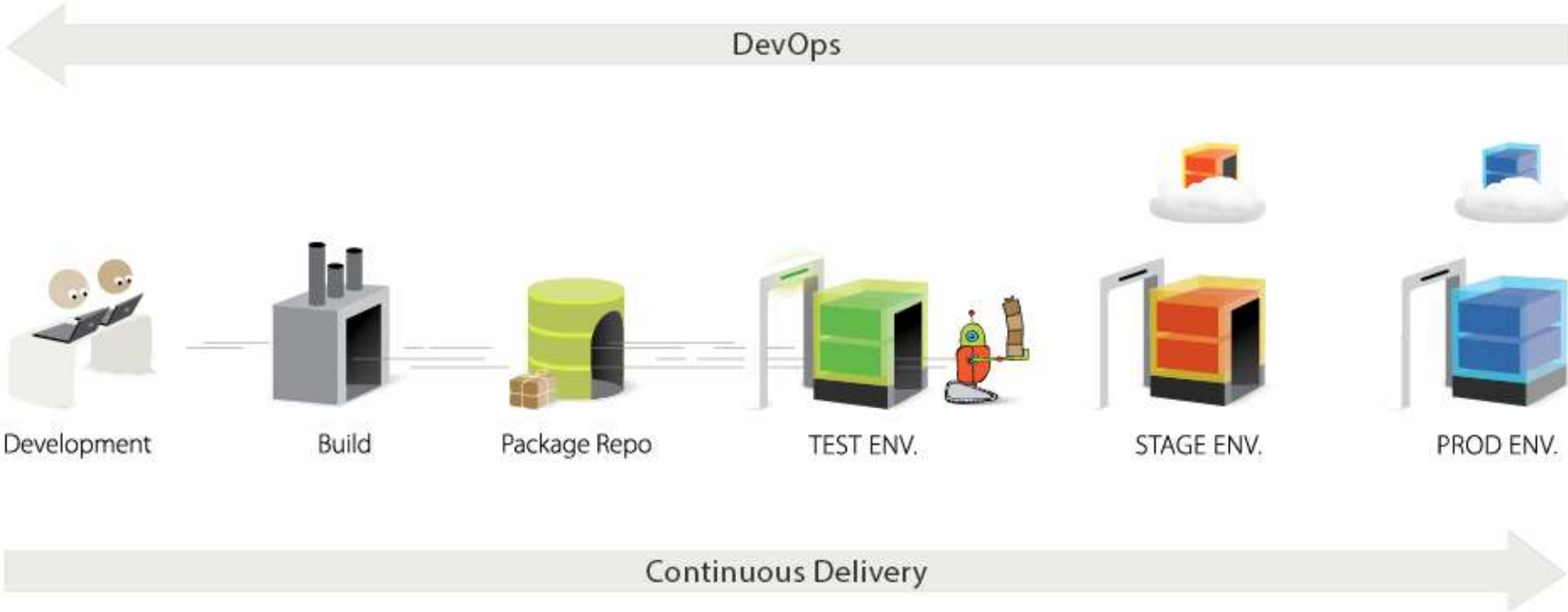
Deploy to UAT

Deploy to PROD

DevOps Tool Chain - Implementations



Common Tooling



Agile development and delivery

Continuous Integration extends to Continuous Delivery



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