Release and Deployment – Getting innovations to customers rapidly while eliminating waste

Daniel Berg

Chief Architect, DevOps Tools and Strategy
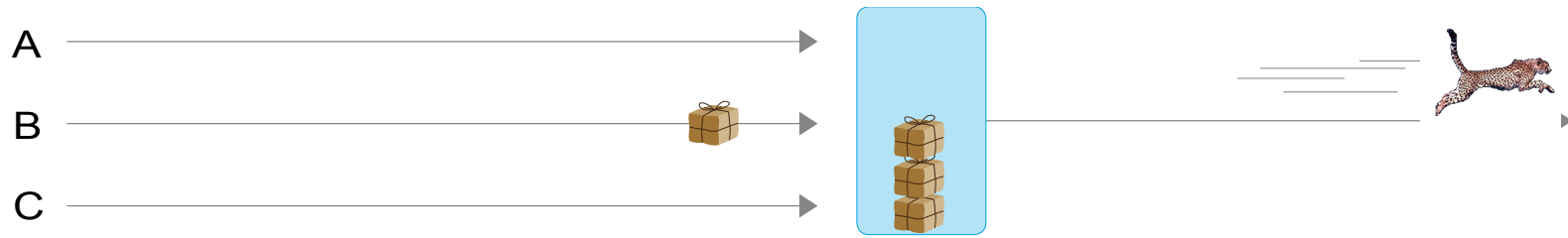
@dancberg

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Key to Continuous Delivery

Smaller more frequent releases improve quality, increase speed, and reduce risk

A ────────────────────▶

B ──────────────▶

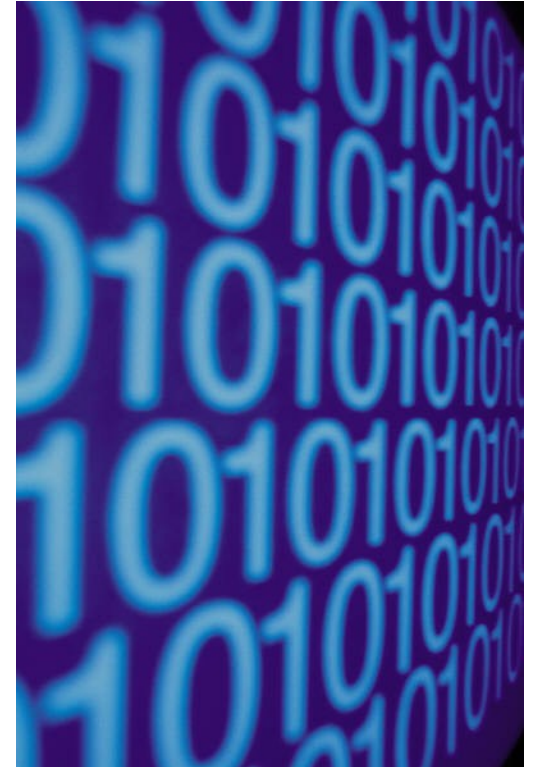C ────────────────────▶

Small Batch Size

- Services: Few
- Dependencies: Few
- Changes: Few
- Complexity: Small
- Impact of Failure: Small
- Failure Analysis: Simple

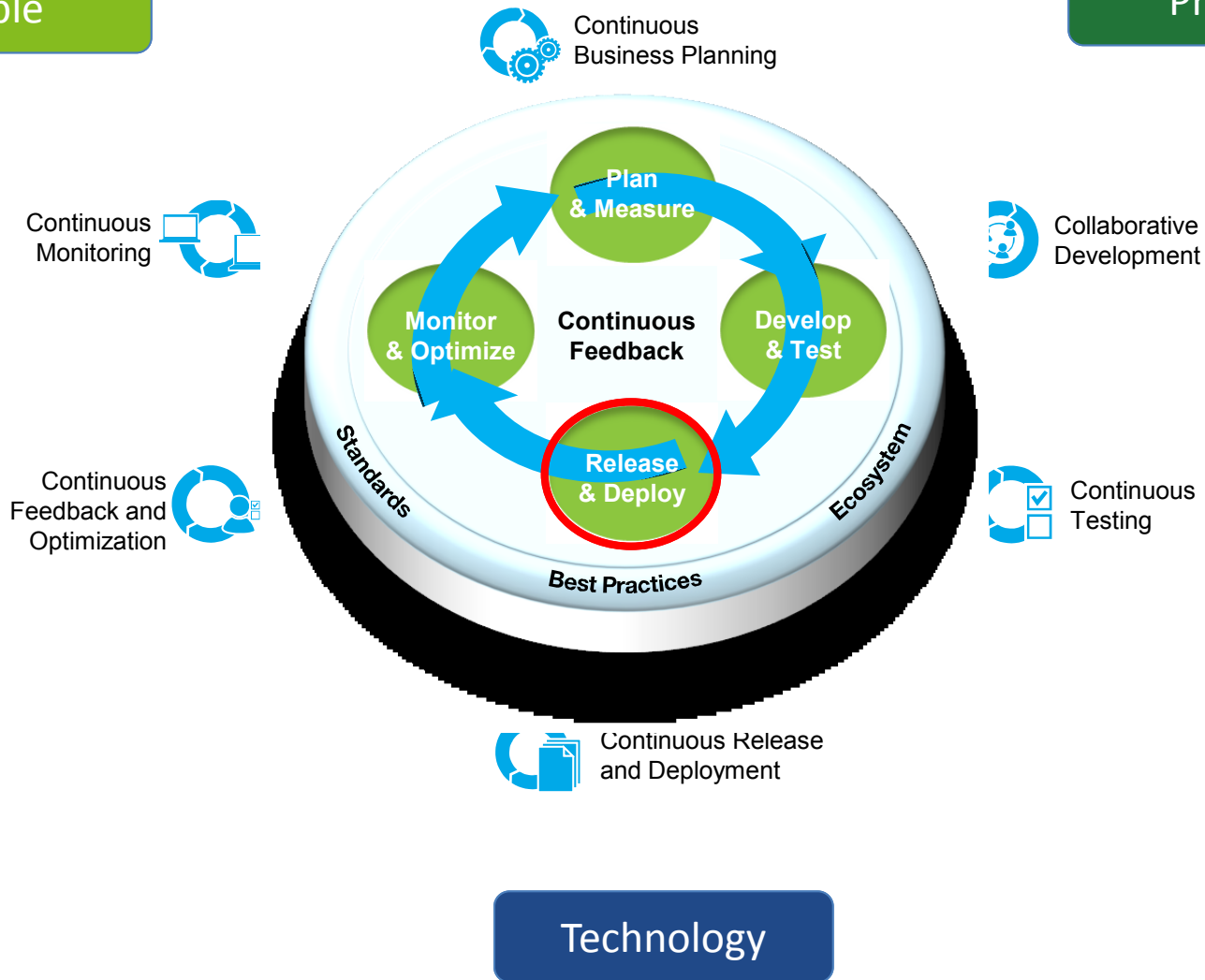Small changes, implemented more frequently can reduce risk

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AUTOMATION

AUTOMATION

AUTOMATION

IBM

DevOps Adoption Paths

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Investing in Release Automation … Introducing UrbanCode

Enabling clients to more rapidly deliver mobile, cloud, big data and traditional applications with high quality and low risk

Development | SCM | Build | SIT | UAT | PROD

Continuous Delivery

Drive down cost

Remove manual effort and wasted resource time with push button deployment processes

Speed time to market

Simple, graphical process designer, with built-in actions to quickly create deployment automation

Reduce risk

Robust configuration management, coordinated release processes, audits, and traceability

IBM UrbanCode Deploy orchestrates and automates the deployment of applications, databases and configurations into development, test and production environments, helping to drive down cost, speed time to market with reduced risk.

IBM UrbanCode Release is an intelligent collaboration release management solution that replaces error-prone manual spreadsheets and streamlines release activities for application and infrastructure changes.

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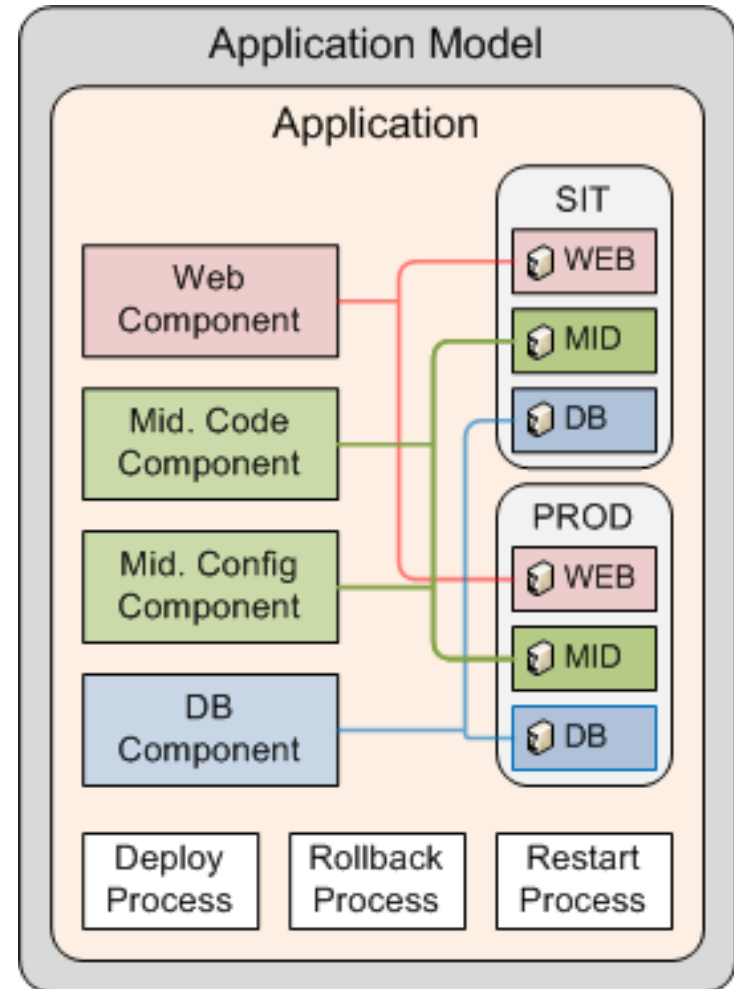# UrbanCode Deploy manages deployment of applications
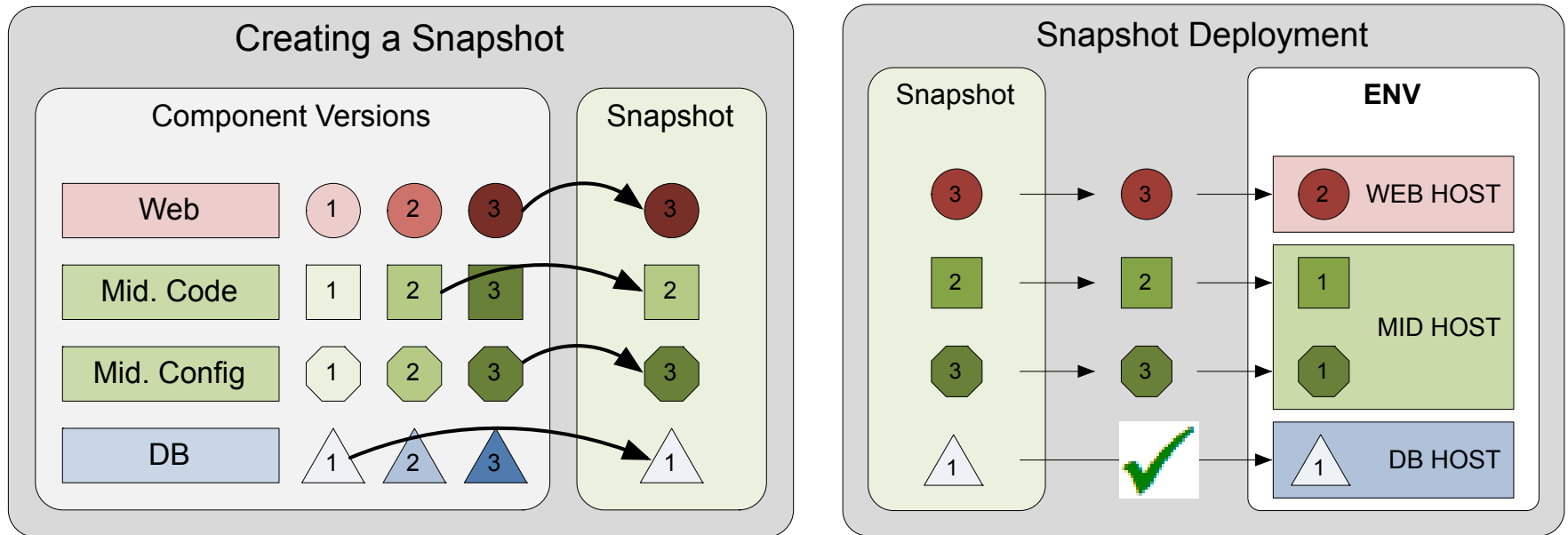
Components
- Tiers or services

Environments
- Target servers
- Environment specific configurations

Processes
- Coordinates component level processes
- Same processes used across environments

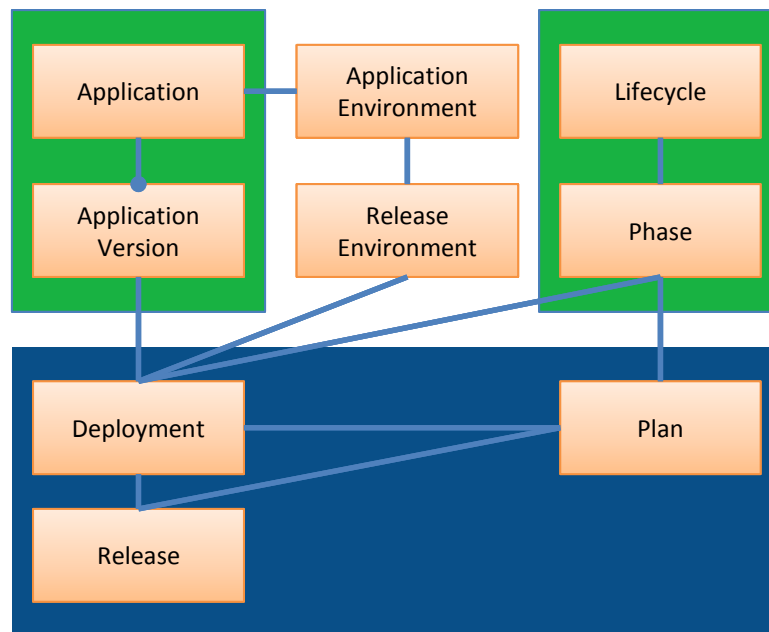# Application versioning is critical - Snapshots

- Version components, configurations, and processes
- Manage a set of tested component versions as a single unit
- Promote snapshots between environments
- Ensures higher quality by guaranteeing the correct versions of related components are deployed together

UrbanCode Release

Release planning and coordination

- Plan the release day

- Execute the release

- Communicate what's going on

- Allocate environments to releases

- Tie release back to development

Deploy and Release Positioning

	Deploy	Release
Application Deployment Automation	✓	
Automate deployment of applications and components	✓	
Visual process designer	✓	
Plug-in steps for application containers, web servers, network devices, database deployment, etc.	✓	
Model deployment targets with properties.	✓	
Release Management		✓
Orchestrate changes across multiple applications.		✓
Coordinate changes outside the scope of application deployment automation.		✓
Real-time status for long running production deployments.		✓
Visibility and control of quality process.		✓

UrbanCode Acquisition Plan

Existing IBM Offerings

New Product Offerings

IBM SmartCloud Continuous Delivery — Chef

Rational Automation Framework

IBM UrbanCode Deploy

Extensions — Chef

Cloud provisioning & Test automation

Middleware Configuration for WebSphere plugin

uDeploy

IBM UrbanCode Release

uRelease

3Q2013 - DONE

4Q2013

Rational Build Forge

Under Consideration

IBM UrbanCode Build

uBuild

IBM
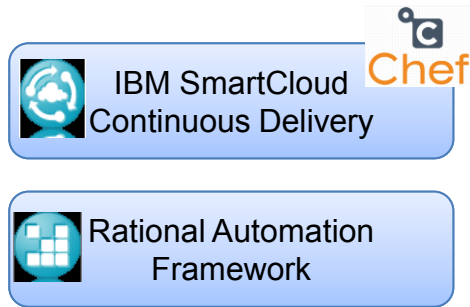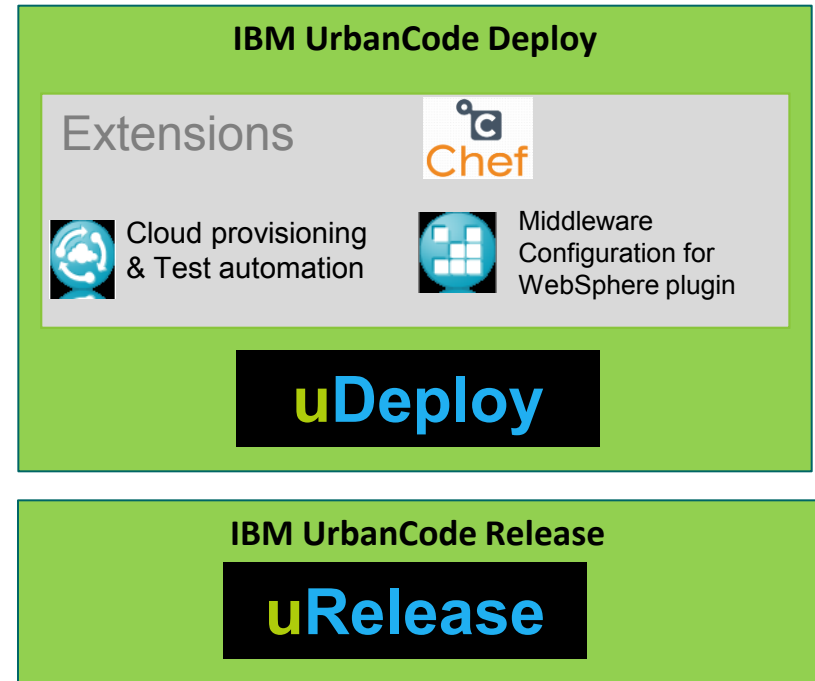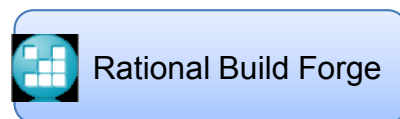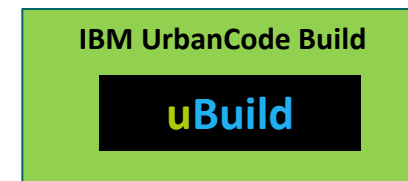
Delivery Pipeline capabilities - Tools

Incrementally adopt when/if needed

Rational Focal Point
Rational Requirements Composer

IBM UrbanCode Release

Application Release Management

SmartCloud Orchestrator
IBM Pure Application System

IBM UrbanCode Deploy

Line of Business

Cloud Provisioning

Jenkins

Application Deployment Automation

IBM UrbanCode Build

Development | Build | Package Repo | TEST ENV. | STAGE ENV. | PROD ENV.
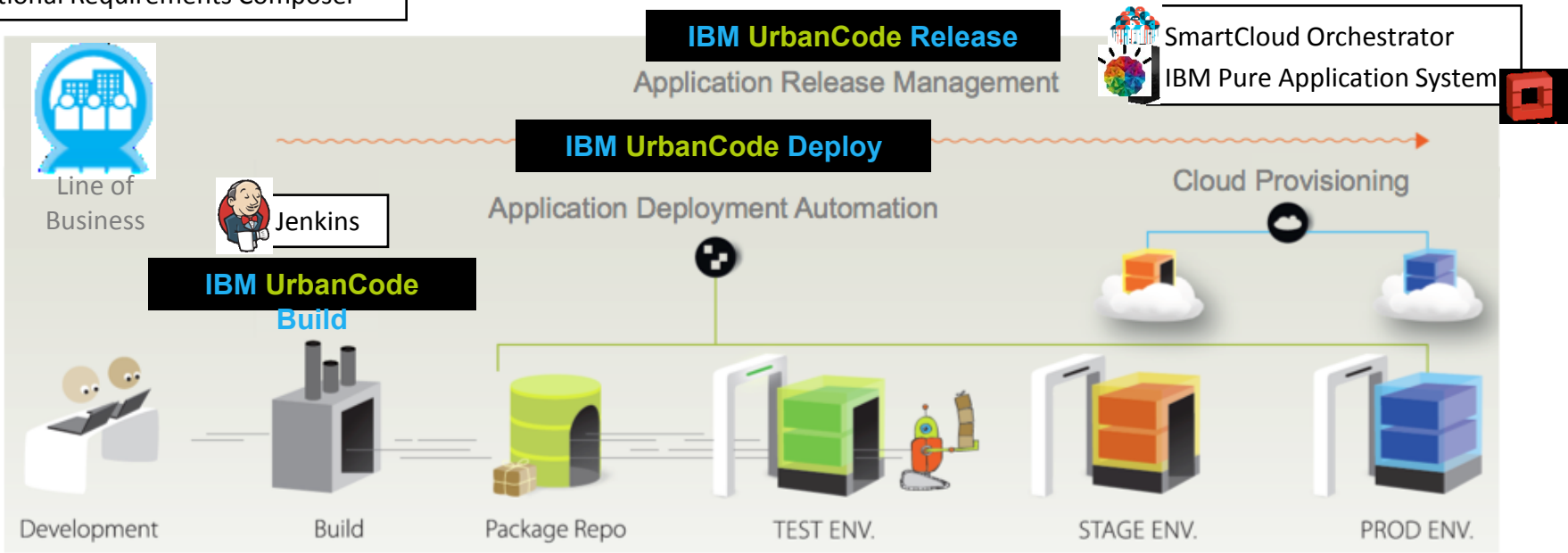
Rational Team Concert

Rational Quality Manager
Rational Test Workbench
Rational Test Virtualization Server

SmartCloud Application Performance Management

InfoSphere Optim Test Data Management

tealeaf

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IBM UrbanCode Deploy v6.0 – Plug-ins

- 51 plug-ins from15 different vendors and open source organizations
- Broad range of plugins supported:
    - Application servers
    - Databases
    - Messaging platforms
    - Test automation
    - Issue tracking systems
    - Operating system services
    - Cloud platforms
    - Issue tracking
    - Even more…
- Plug-ins can be downloaded for free from
  http://plugins.urbancode.com/IBMUrbanCodeDeploy
- Dedicated team focused on rapid delivery of new and updated plug-ins

IBM UrbanCode Deploy – Plug-in Roadmap*

October

- **New plug-ins**
  - RTC Work Items
  - WebSphere Portal Server
  - Oracle WebLogic (ISSR)
  - Web Utilities
  - Jenkins
  - RAF (JazzHub)
- **Updates**
  - Greenhat
  - Middleware Configuration for WebSphere
  - Versioned File Storage

November

- **New plug-ins**
  - InfoSphere Optim TDM
  - TIBCO ActiveMatrix BusinessWorks
  - IBM HTTP Server
  - DataPower (ISSW)
  - Cloud Foundry (JazzHub)
  - Hadoop (JazzHub)
- **Updates**
  - Rational Quality Manager
  - Greenhat
- **Other**
  - Plug-in DevKit

Backlog

- IBM BPM
- IBM WebSphere Commerce
- IBM WSRR
- IBM Security AppScan
- BMC CLM
- BMC CMDB
- Oracle OBIEE
- Puppet
- NNT Change Tracker
- Informatica PowerCenter
- Artifactory
- Many more...

Information pertaining to new plug-ins is for informational purposes only, is not a commitment, promise, or legal obligation to deliver any material, code or functionality, and may not be incorporated into any contract. The development, release, and timing of any plug-in remains at our sole discretion.

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New DevOps solutions for **Systems of Interaction**

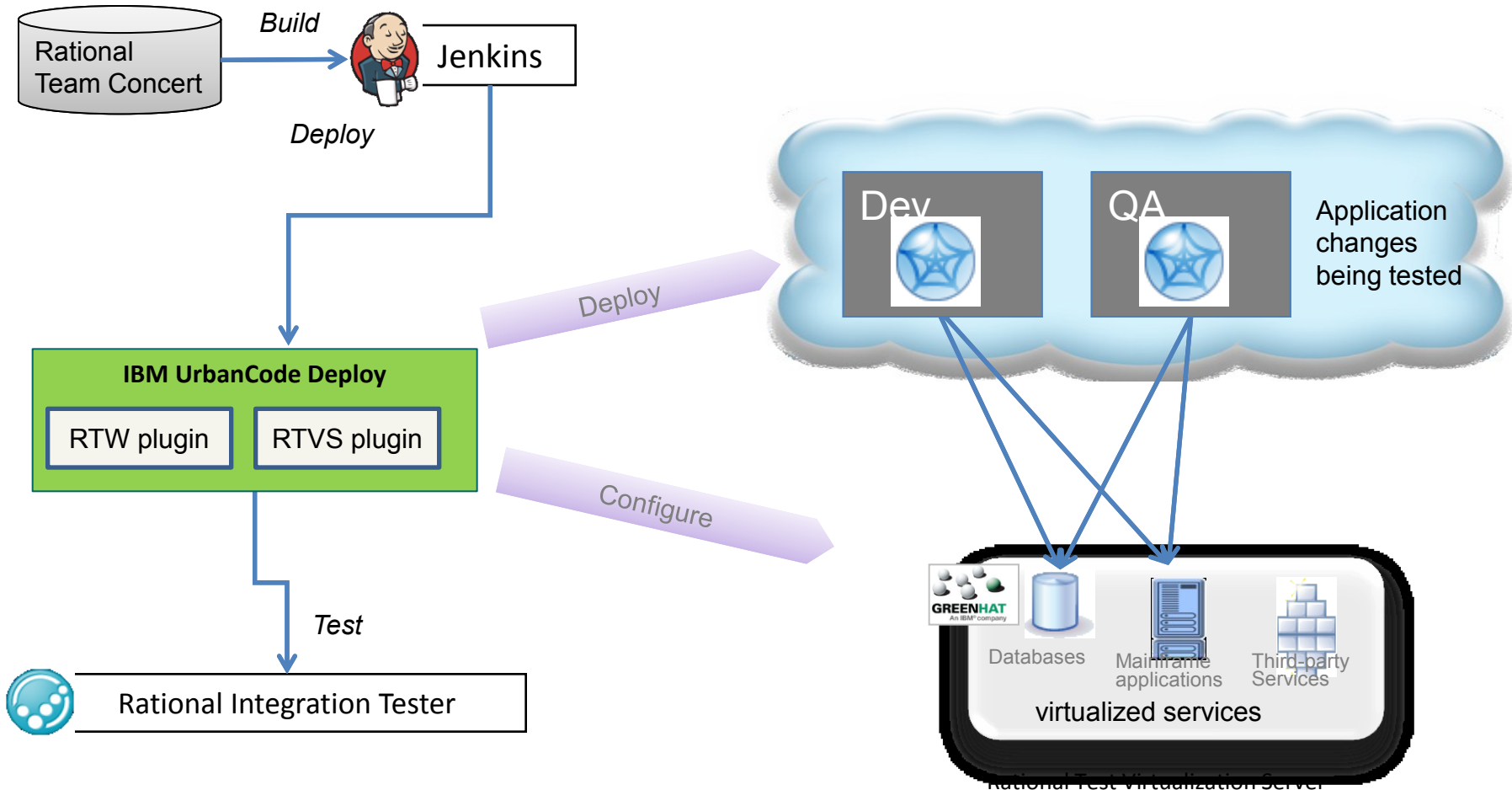Activities across multi-tier app delivery moving at different pace need to be carefully coordinated
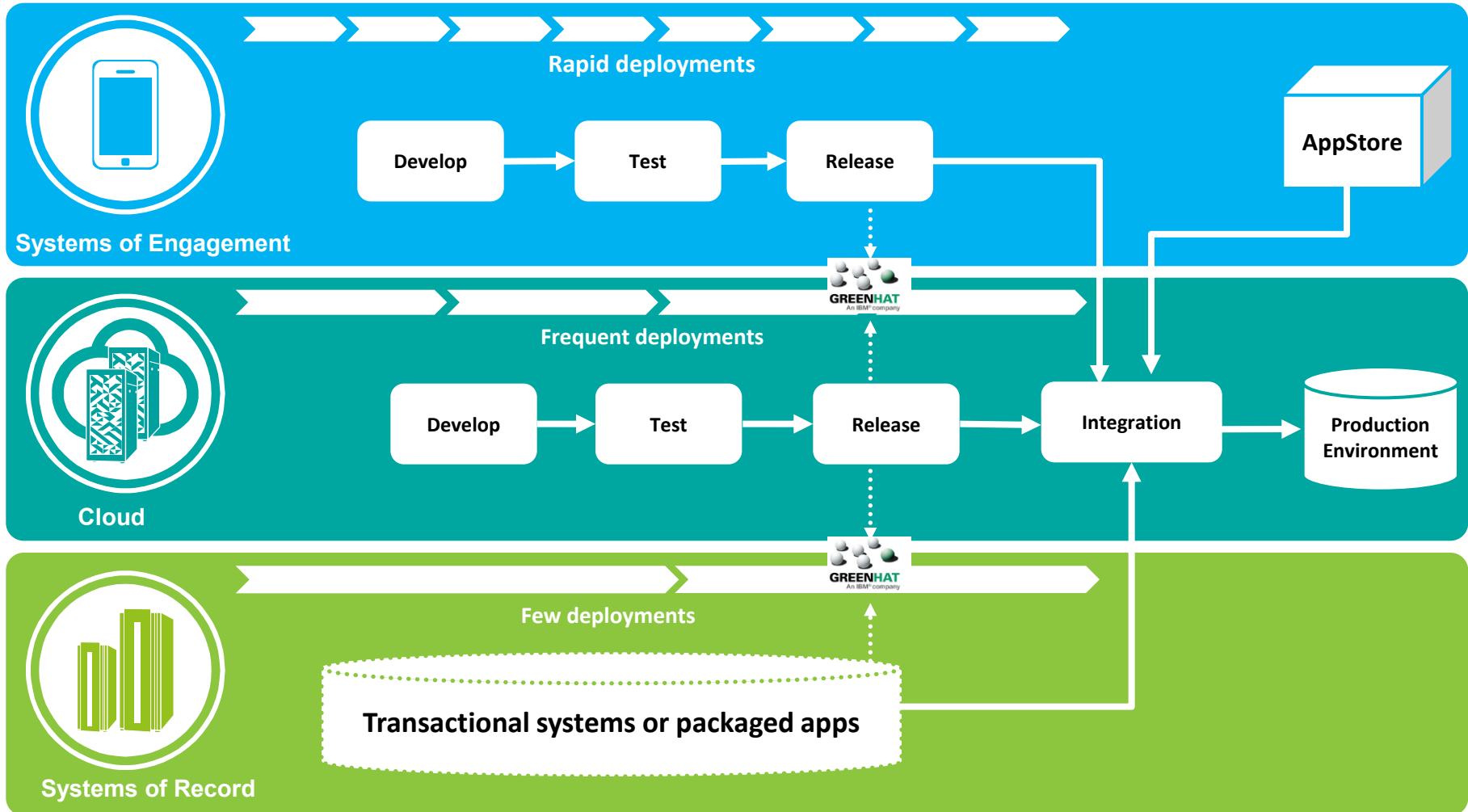
Continuous Testing with Virtualized Services

Automating deployment and testing to production-like environments

Rational Team Concert

Build

Jenkins

Deploy

Dev   QA

Application changes being tested

Deploy

IBM UrbanCode Deploy

RTW plugin   RTVS plugin

Configure

Test

Rational Integration Tester

GREENHAT
An IBM company

Databases   Mainframe applications   Third-party Services

virtualized services

Rational Test Virtualization Server

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UrbanCode Deploy automates deployments for mobile apps

SDKs

① Worklight Studio

- HTML5, Hybrid, and Native Coding
- Optimization Framework
- Integrated Device SDKs
- 3rd Party Library Integration

Build Engine

- iOS
- Android
- Blackberry
- Windows Phone
- Windows 8
- Java ME
- Mobile Web
- Desktop Web

② Worklight Application Center

- Development Team Provisioning
- Enterprise App Provisioning and Governance
- App Feedback Management
- Public App Stores

③ Device Runtime

- Cross-Platform Compatibility Layer
- Server Integration Framework
- Encrypted and Syncable Storage
- Runtime Skinning
- Reporting for Statistics and Diagnostics

Application Code

UrbanCode Deploy

④ Worklight Server

Enterprise Backend Systems & Cloud Services

- User authentication and mobile trust
- Mashups and service composition
- JSON Translation
- Adapter Library for backend connectivity

Stats Aggregation

Client-Side App Resources

- Direct Update
- Mobile Web Apps
- Unified Push Notifications

⑤ Worklight Console

- Reporting and Analytics
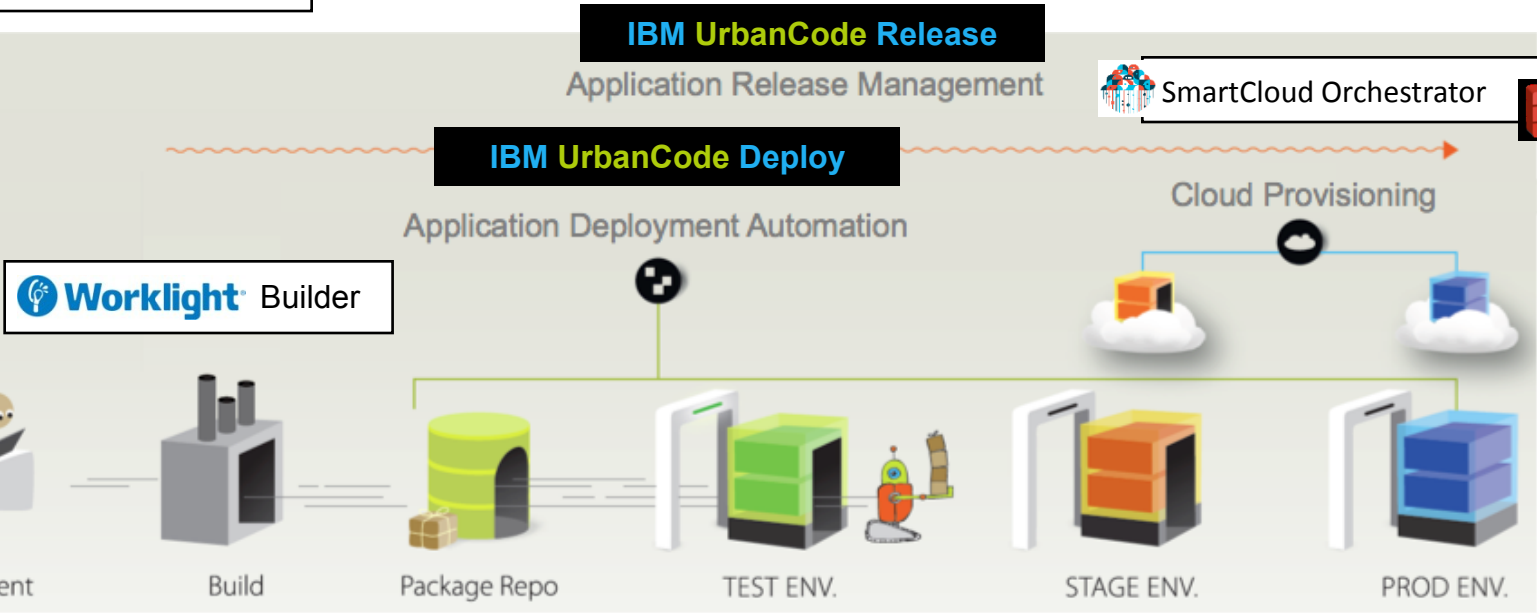- App Version Management
- Push /SMS Management

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Delivery pipeline for mobile
Specialized delivery tools for mobile applications

Rational Focal Point
Rational Requirements Composer

IBM UrbanCode Release

Application Release Management

SmartCloud Orchestrator

IBM UrbanCode Deploy

Application Deployment Automation

Cloud Provisioning

Line of Business

Worklight Builder

Development   Build   Package Repo   TEST ENV.   STAGE ENV.   PROD ENV.

Rational Team Concert

Worklight Studio

Rational Quality Manager
Rational Test Virtualization Server

IBM Mobile Quality Assurance (beta 4Q13)

tealeaf

IBM

Smarter Mobile Quality Assessment

IBM Mobile Quality Assurance services (beta)
Addresses five key use cases, attacking pain points for all key users

User Feedback

Crash logs

④ Crash log reporting

Bugs vs. Crashes

Bugs

LOB/Digital Marketer

Developer

Tester

End Users
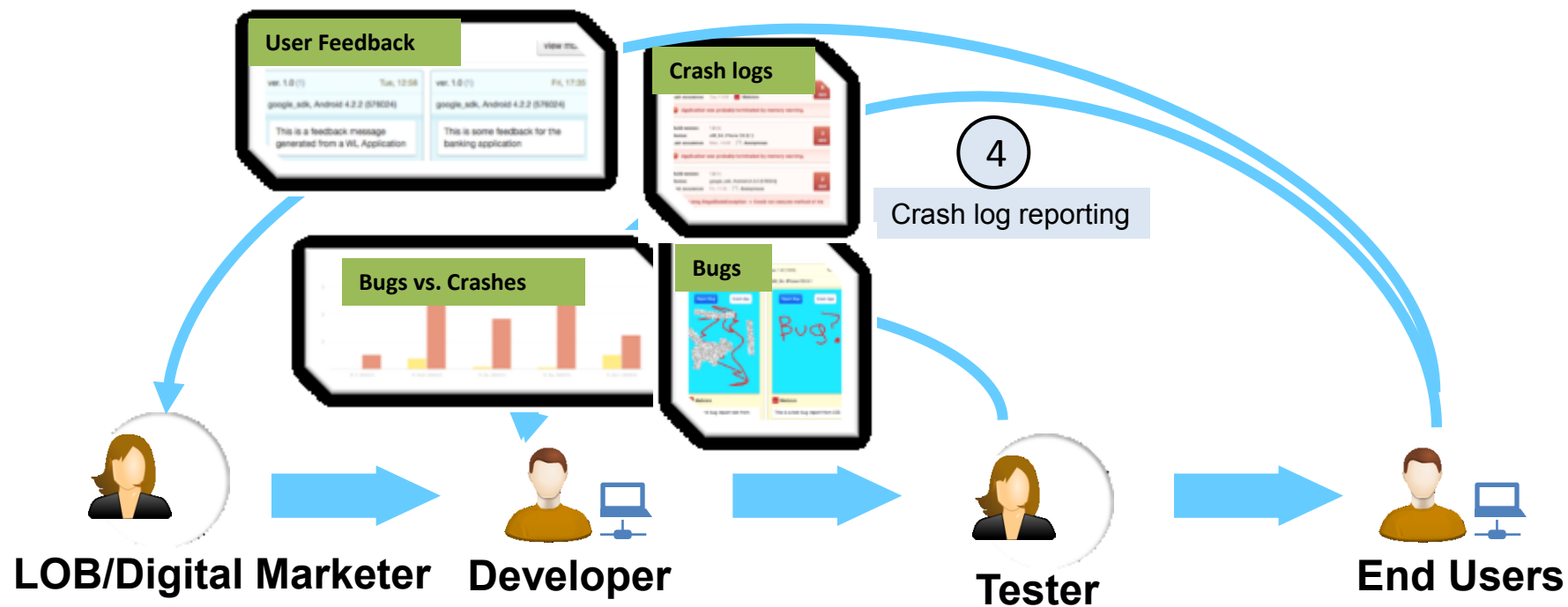
⑤ Sentiment Analysis

① Over the air build distribution

② In app bug reporting

③ In app user feedback

Builds

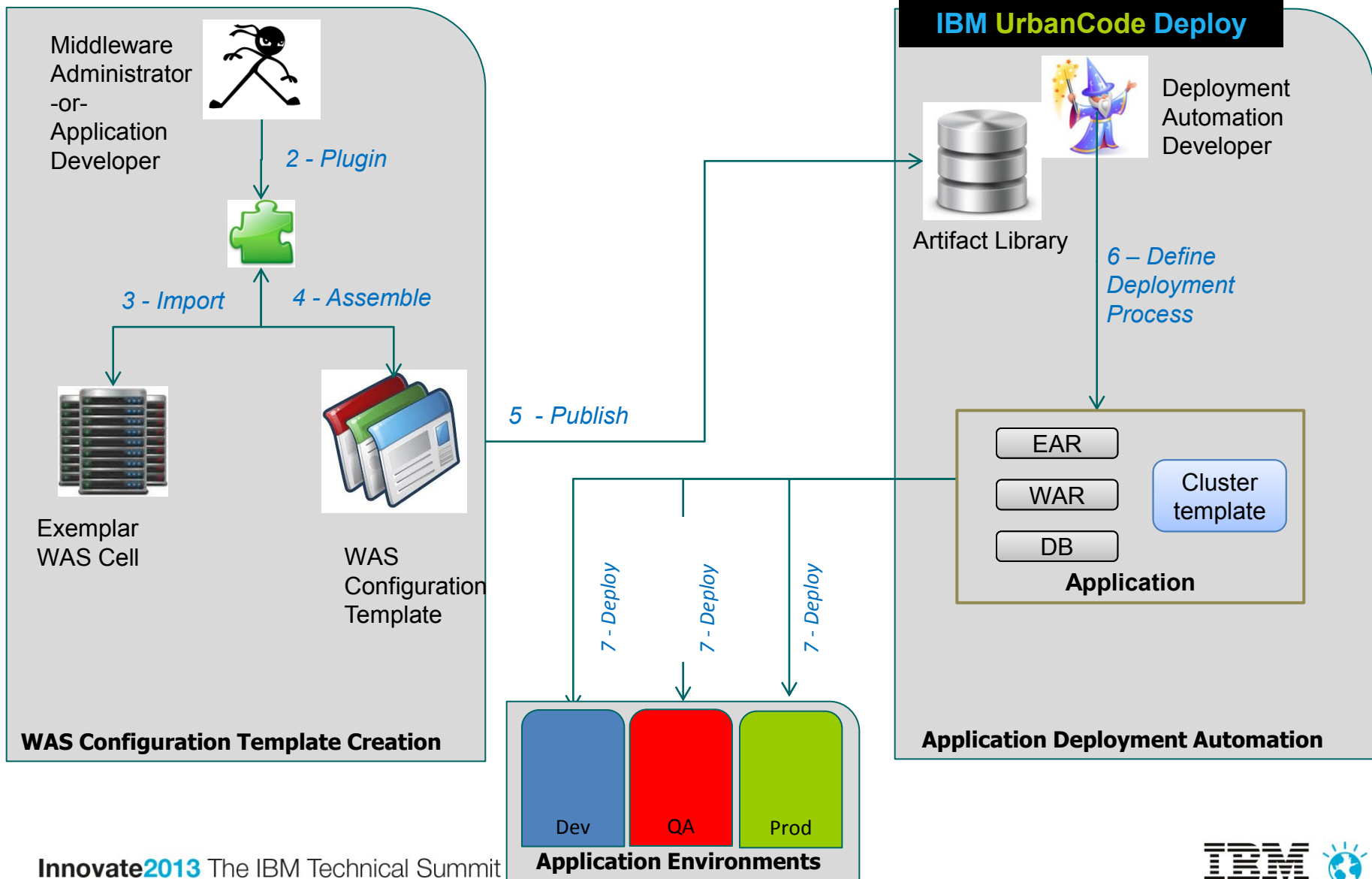# Faster, repeatable, reliable deployment processes with cloud
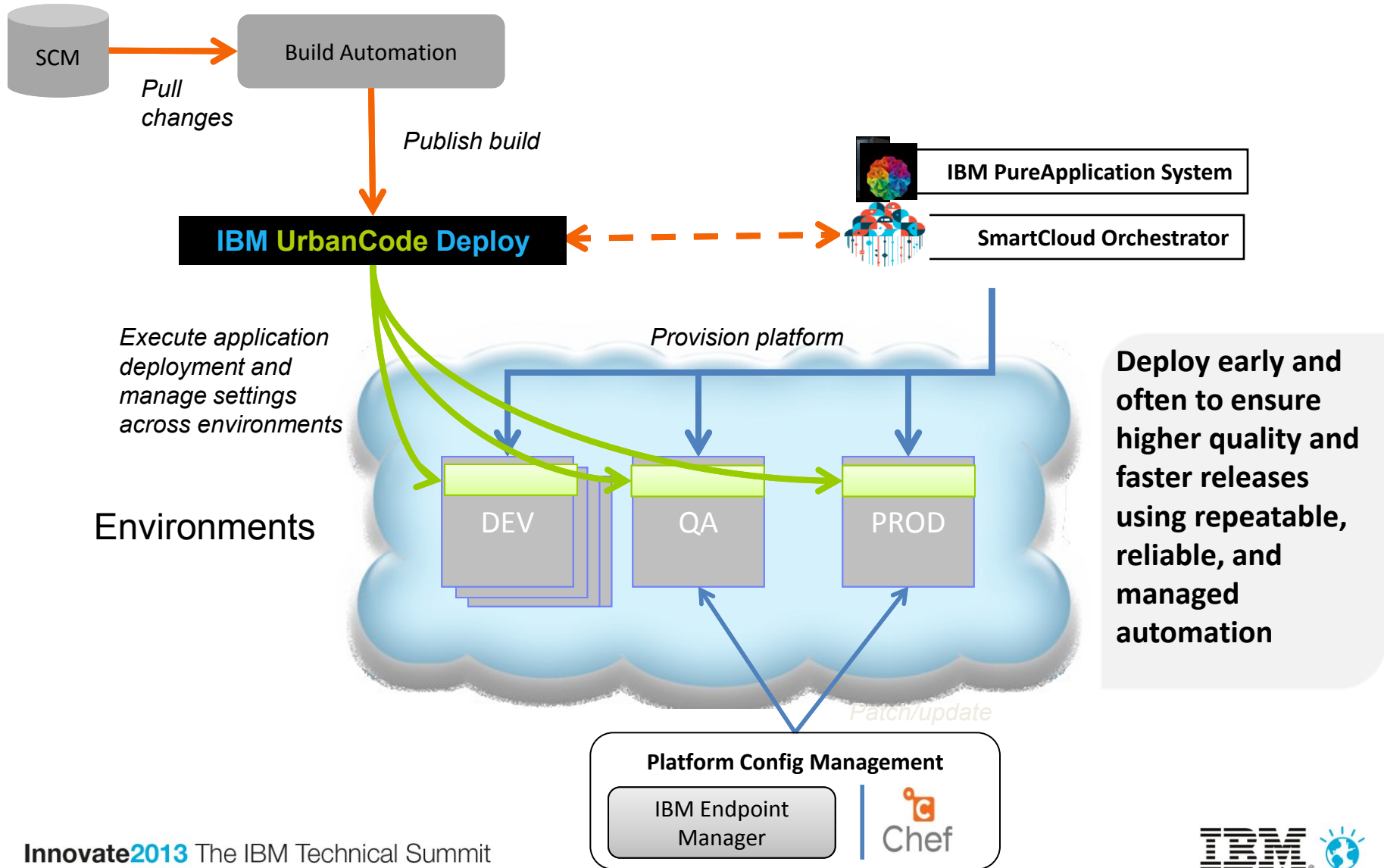
Reliable management of middleware configuration across environments

WAS Configuration Template Creation

Middleware Administrator -or- Application Developer

2 - Plugin

3 - Import

4 - Assemble

Exemplar WAS Cell

WAS Configuration Template

5 - Publish

IBM UrbanCode Deploy

Artifact Library

Deployment Automation Developer

6 – Define Deployment Process

EAR

WAR

DB

Cluster template

Application

Application Deployment Automation

7 - Deploy

7 - Deploy

7 - Deploy

Dev

QA

Prod

Application Environments

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DevOps solutions for **Enterprise systems**

New capabilities to speed application delivery across z/OS, zLinux, IBM i, AIX and Linux environments on Power Systems
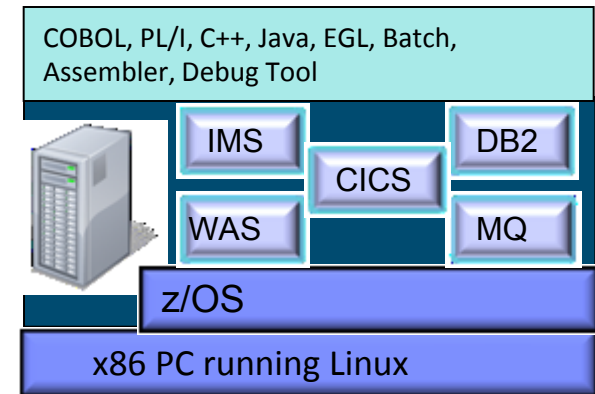
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┌─────────────────────┐        ┌─────────────────────────┐
│ IBM Continuous      │   ╋     │                         │        ➜
│ Integration Solutions│        │  IBM UrbanCode Deploy   │
│ for System Z        │        │                         │
└─────────────────────┘        └─────────────────────────┘
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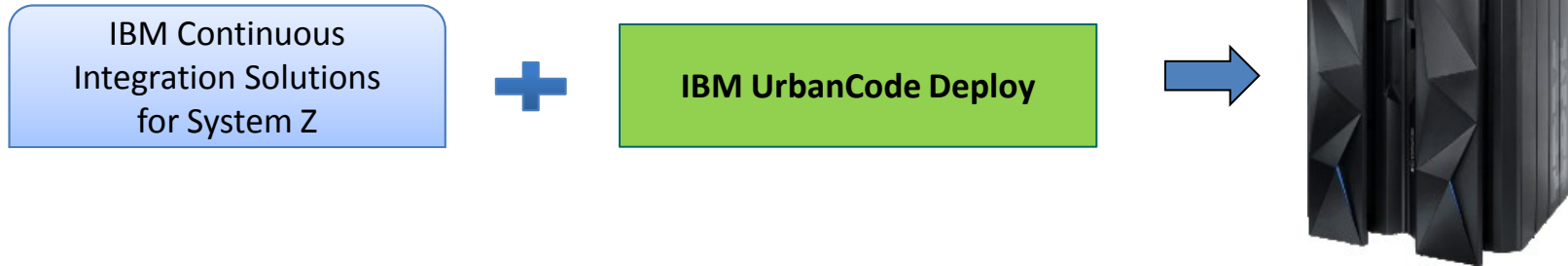
Staged Approach for deployment automation

- **Stage 1** – Support Linux for System Z

- **Stage 2** – Support Java and WebSphere applications on z/OS and IBM i

- *Stage 3* – *Support native file systems for z/OS and IBM i workloads*

Planned for 2014

COBOL, PL/I, C++, Java, EGL, Batch, Assembler, Debug Tool

IMS   DB2
CICS
WAS   MQ

z/OS

x86 PC running Linux

Virtualize back-end services to maintain agility

Mobile development team can meet aggressive schedules and reduce MIPS usage on enterprise systems

Execute tests

IBM UrbanCode Deploy

Configure stubs

Rational Test Workbench

Service Virtualization support for isolating mobile client tier
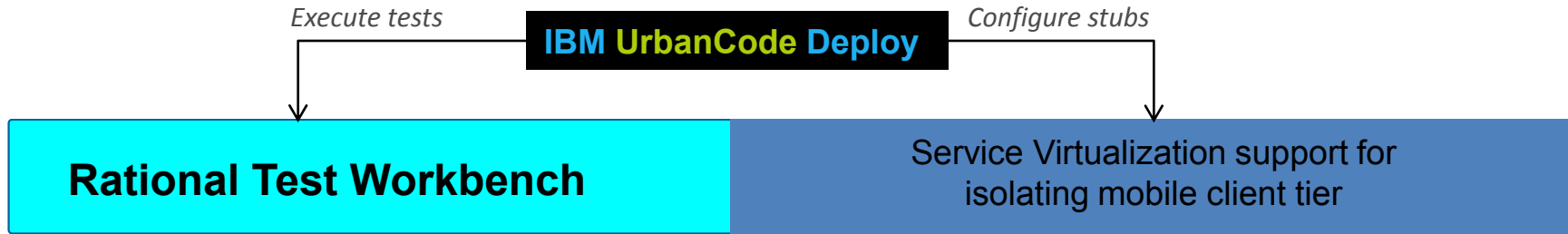
**Client Tier Devices
UI Testing**

Summary

- Smaller more frequent releases are key to speed and quality

- Automation is key to success

- DevOps is critical to the success of your business

- IBM UrbanCode Release and Deploy automation is key to your success

Questions

Thank You

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