IBM SolutionsConnect 2014

A New Era of Smart

Mar 13-2014 | Edsa Shangri-La, Manila, Philippines

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Testdrive Your Cloud to Fuel the New "Innovation as a Service"
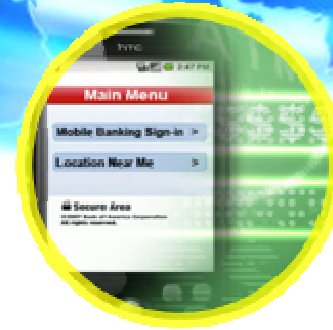
Agenda

- Introduction
- IBM DevOps for Cloud
- IBM DevOps Solution Walkthrough
- Customer Success
- What's Next

Software drives today's innovation for a smarter planet
Transforming the way we live, work, and play

Software and systems delivery is undergoing rapid change
Market dynamics and technological innovations create opportunity and challenges

Increased globalization

Technology Explosion

Disruptive technologies

Software's increasing value in innovation

Complicates collaboration

Drives faster demand for change

Adds complexity to cycle times

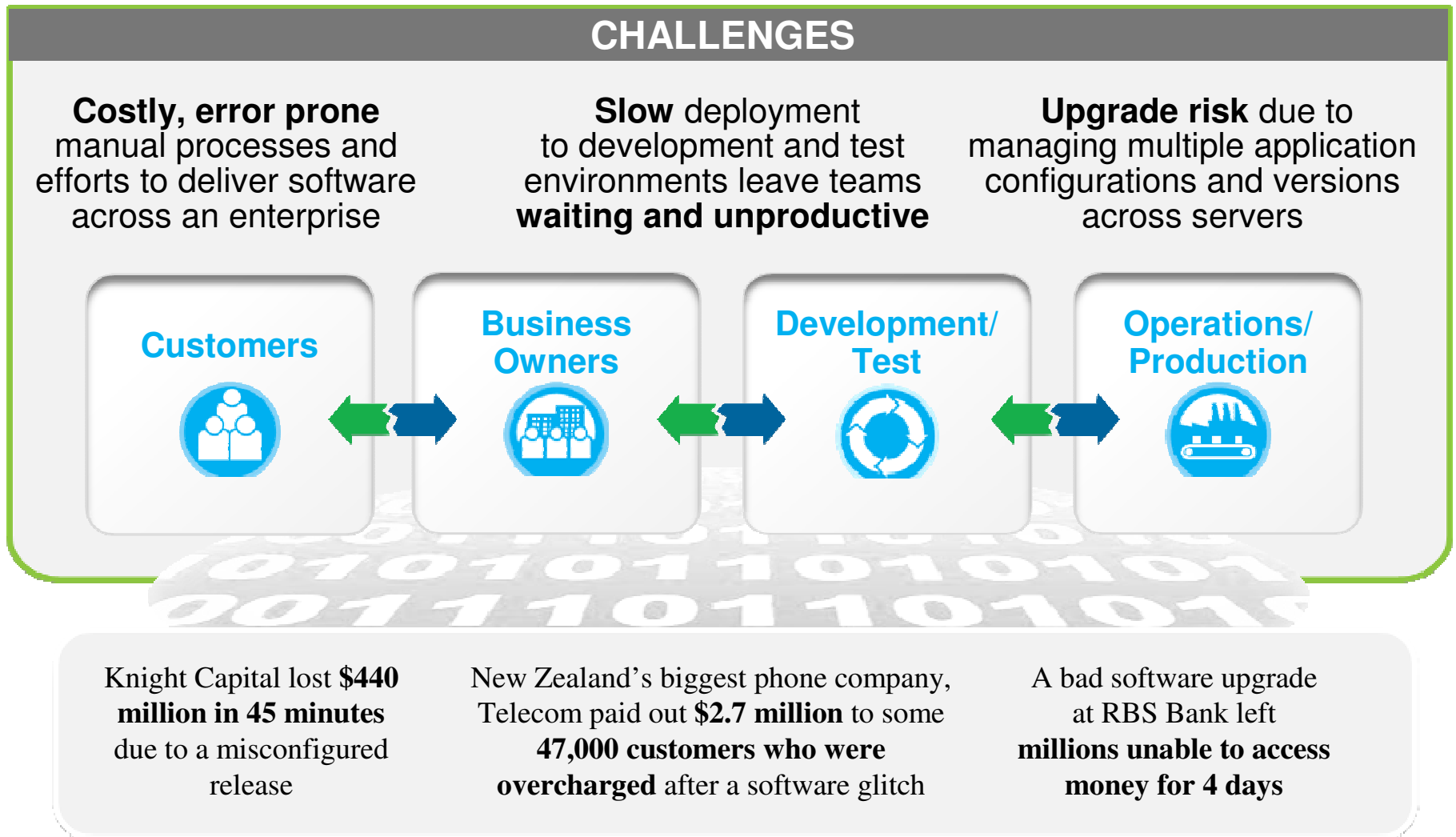*Demands increased governance*

Requires accelerated delivery

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And a lack of continuous delivery impacts the entire business

CHALLENGES

Costly, error prone manual processes and efforts to deliver software across an enterprise

Slow deployment to development and test environments leave teams **waiting and unproductive**

Upgrade risk due to managing multiple application configurations and versions across servers

Customers

Business Owners

Development/ Test

Operations/ Production

Knight Capital lost **$440 million in 45 minutes** due to a misconfigured release

New Zealand's biggest phone company, Telecom paid out **$2.7 million** to some **47,000 customers who were overcharged** after a software glitch

A bad software upgrade at RBS Bank left **millions unable to access money for 4 days**
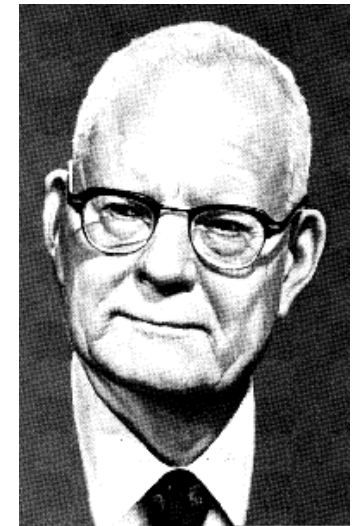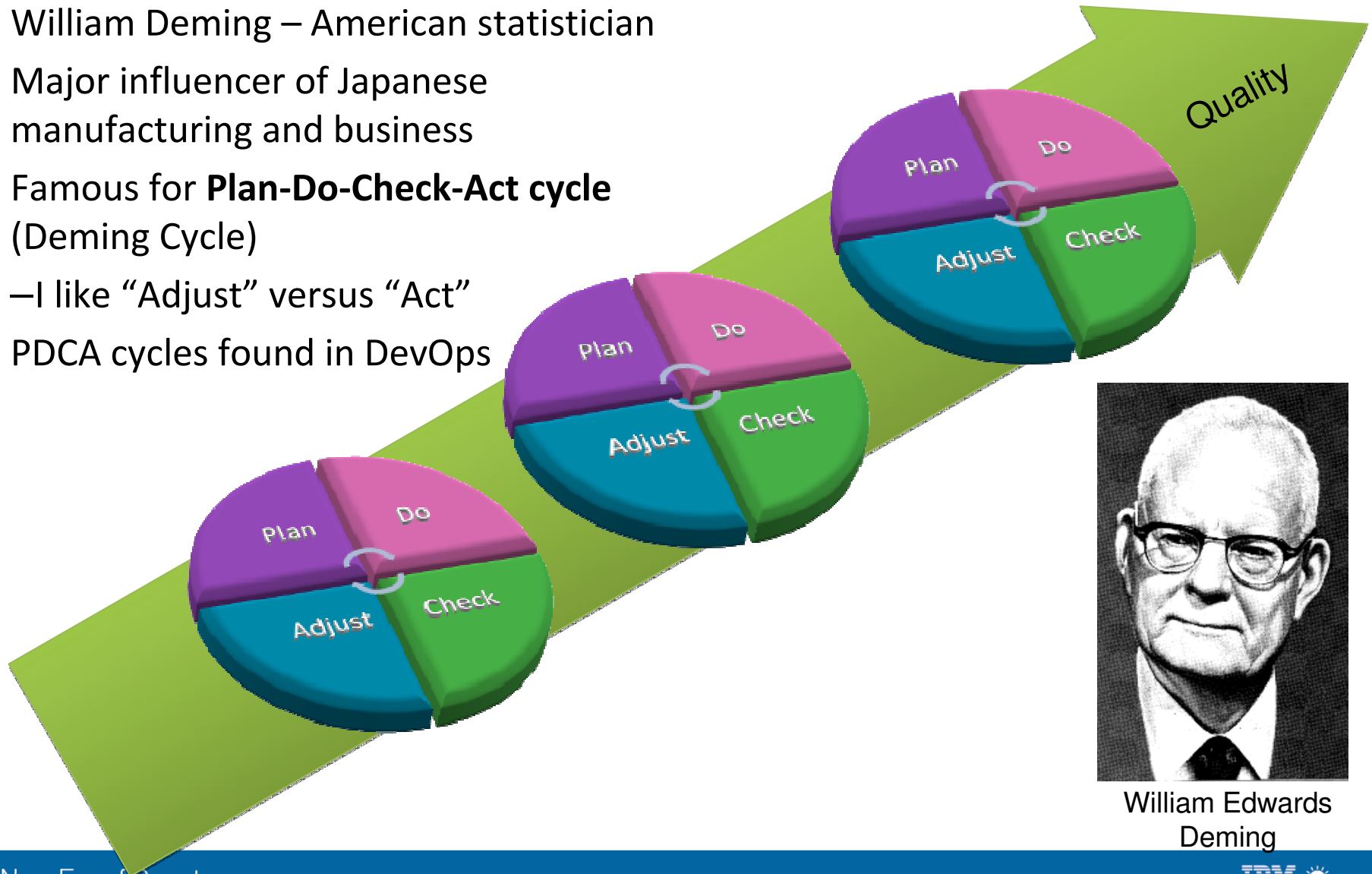
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Deming Cycle

- William Deming – American statistician
- Major influencer of Japanese manufacturing and business
- Famous for **Plan-Do-Check-Act cycle** (Deming Cycle)
  - I like "Adjust" versus "Act"
- PDCA cycles found in DevOps


William Edwards Deming

DevOps approach: Apply Lean principles to software innovation and delivery to create a continuous feedback loop with customers

1
2
3

Line-of-business
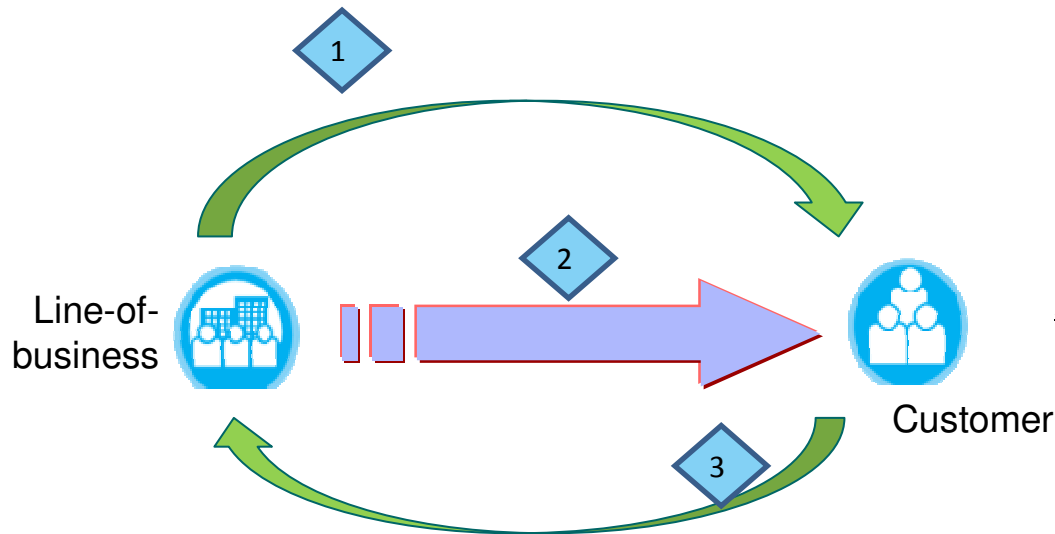
Customer

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

*Adopt DevOps approach to continuously manage changes, obtain feedback and , deliver changes to users*

Overhead and Rework
Valuable Work

40%
60%

20%
80%
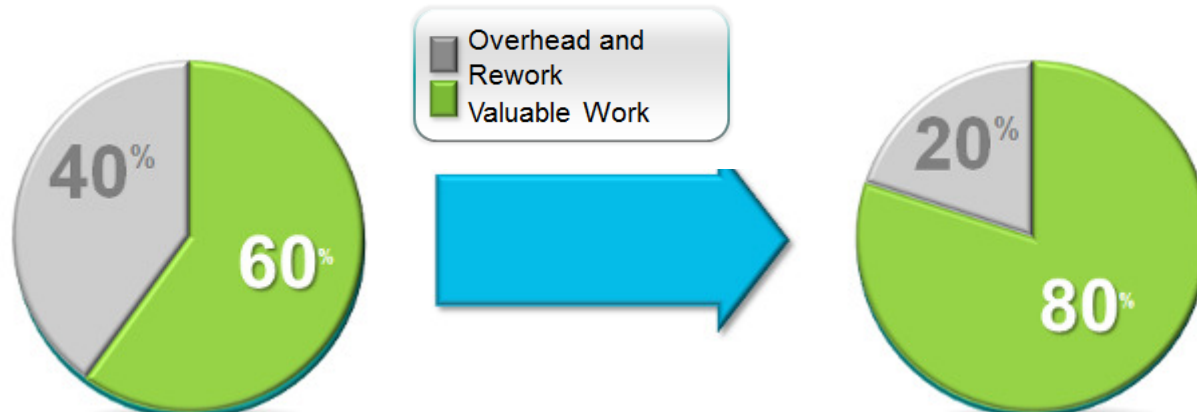
Eliminate any activity that is not necessary for learning what customers want

DevOps

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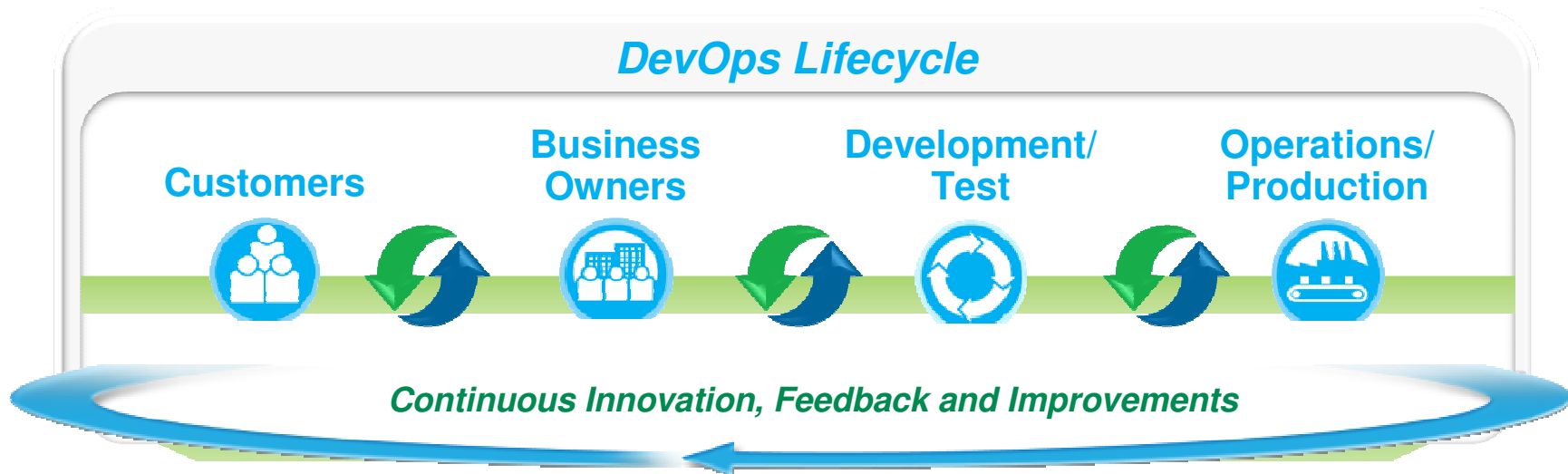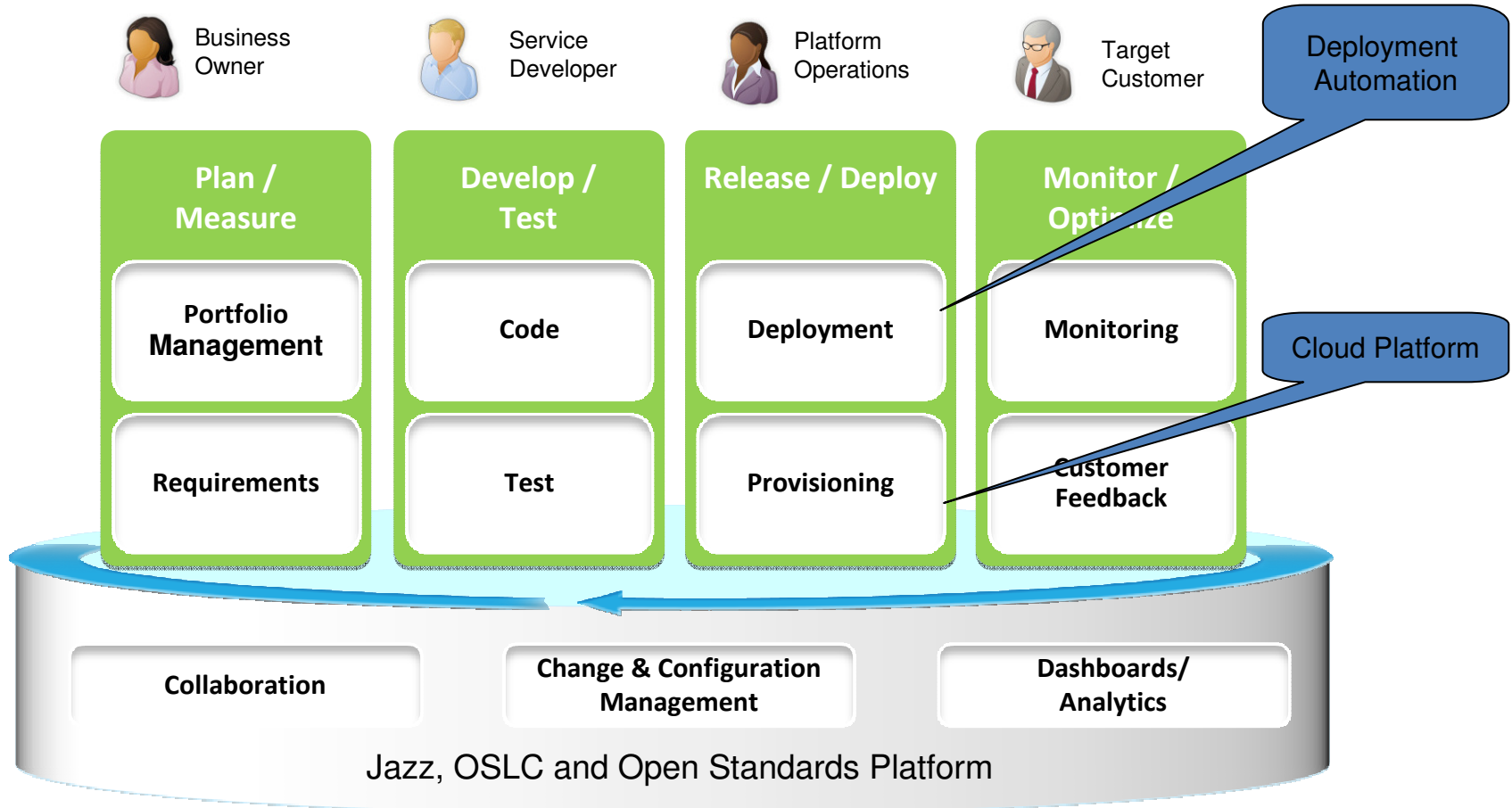

Accelerate Software Delivery

Balance speed, cost, quality and risk

Reduce time to customer feedback

DevOps Solution: Adoption paths, open platform and key capabilities

Business Owner

Service Developer

Platform Operations

Target Customer

Plan / Measure

- Portfolio Management
- Requirements

Develop / Test

- Code
- Test

Release / Deploy

- Deployment
- Provisioning

Monitor / Optimize

- Monitoring
- Customer Feedback

Deployment Automation

Cloud Platform

- Collaboration
- Change & Configuration Management
- Dashboards/ Analytics

Jazz, OSLC and Open Standards Platform

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
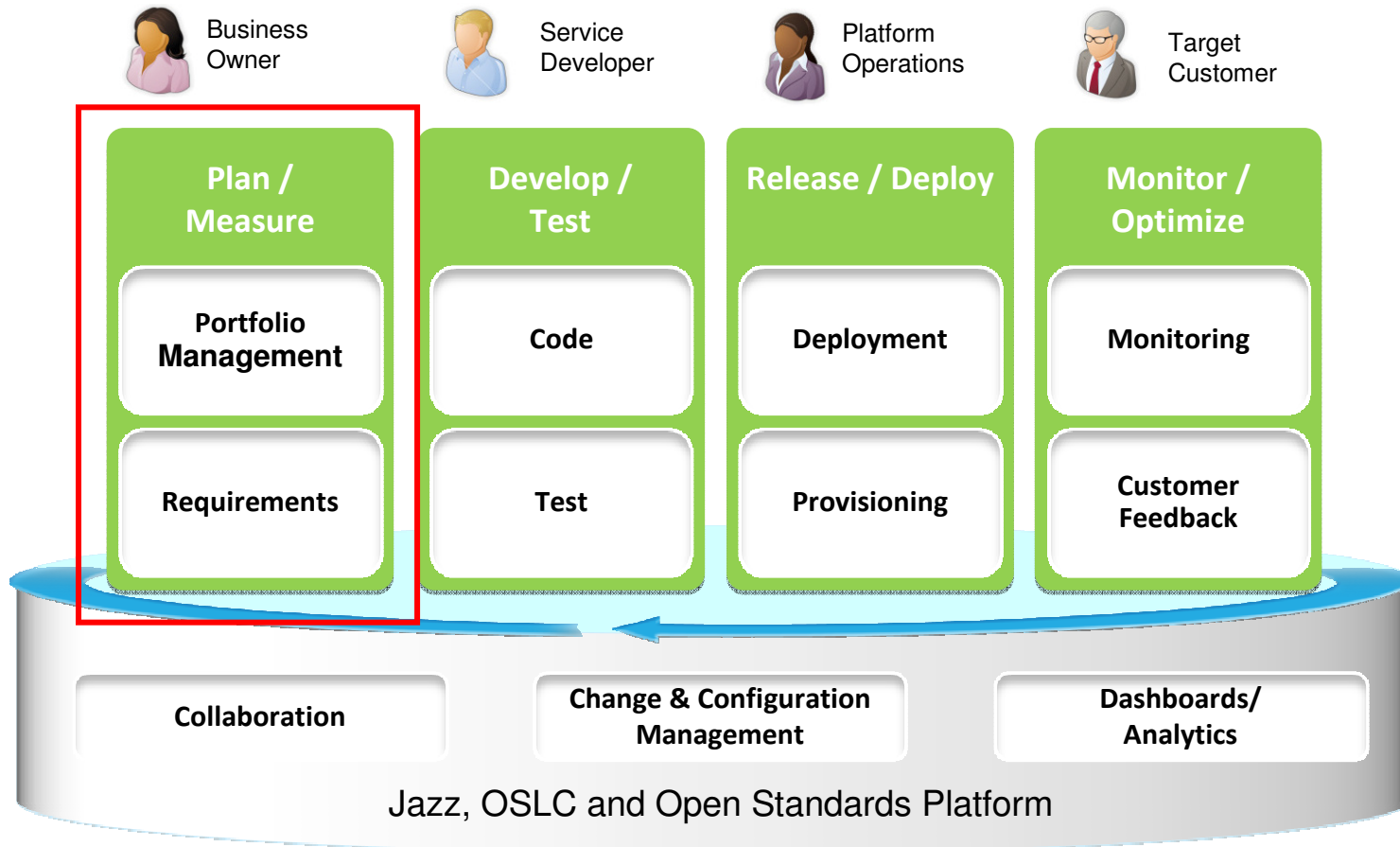
- Monitor and improve
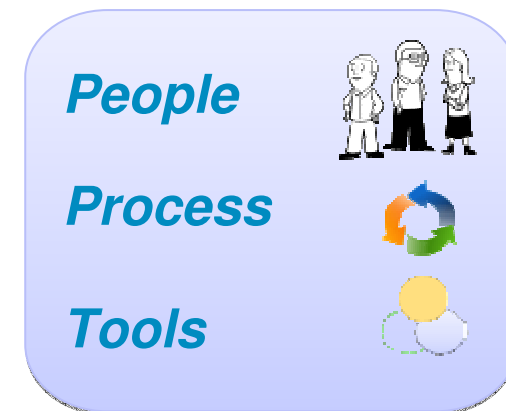
People

Process

Tools

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DevOps Solution: Adoption paths, open platform and key capabilities

Business Owner

Service Developer

Platform Operations

Target Customer

Plan / Measure	Develop / Test	Release / Deploy	Monitor / Optimize
Portfolio Management	**Code**	**Deployment**	**Monitoring**
Requirements	**Test**	**Provisioning**	**Customer Feedback**

Collaboration	Change & Configuration Management	Dashboards/ Analytics

Jazz, OSLC and Open Standards Platform

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Develop Continuous Pipeline of Innovative Services & Releases

Integrating Business Demand Management with Release Planning

| Ideation | Evaluation/ Stagegating | Development/ Integration | Delivery/ Launch |

Filter / Combine / Morph

Service
- Incremental / Sustaining
- Breakthrough / Disruptive

Service Demands

Release 1.1.1

Release 1.1.2

Program Release

Q1- 2012
Program Iteration 1 Release 1

Month1
Release 1.1

Month2
Release 1.2

Month3
Release 1.3

Q2-2012
Program Iteration 2 Release 1

Q3- 2012
Program Iteration 3 Release 1

Major, week 1
Release 1.1.1

Minor, Week 3
Release 1.1.2

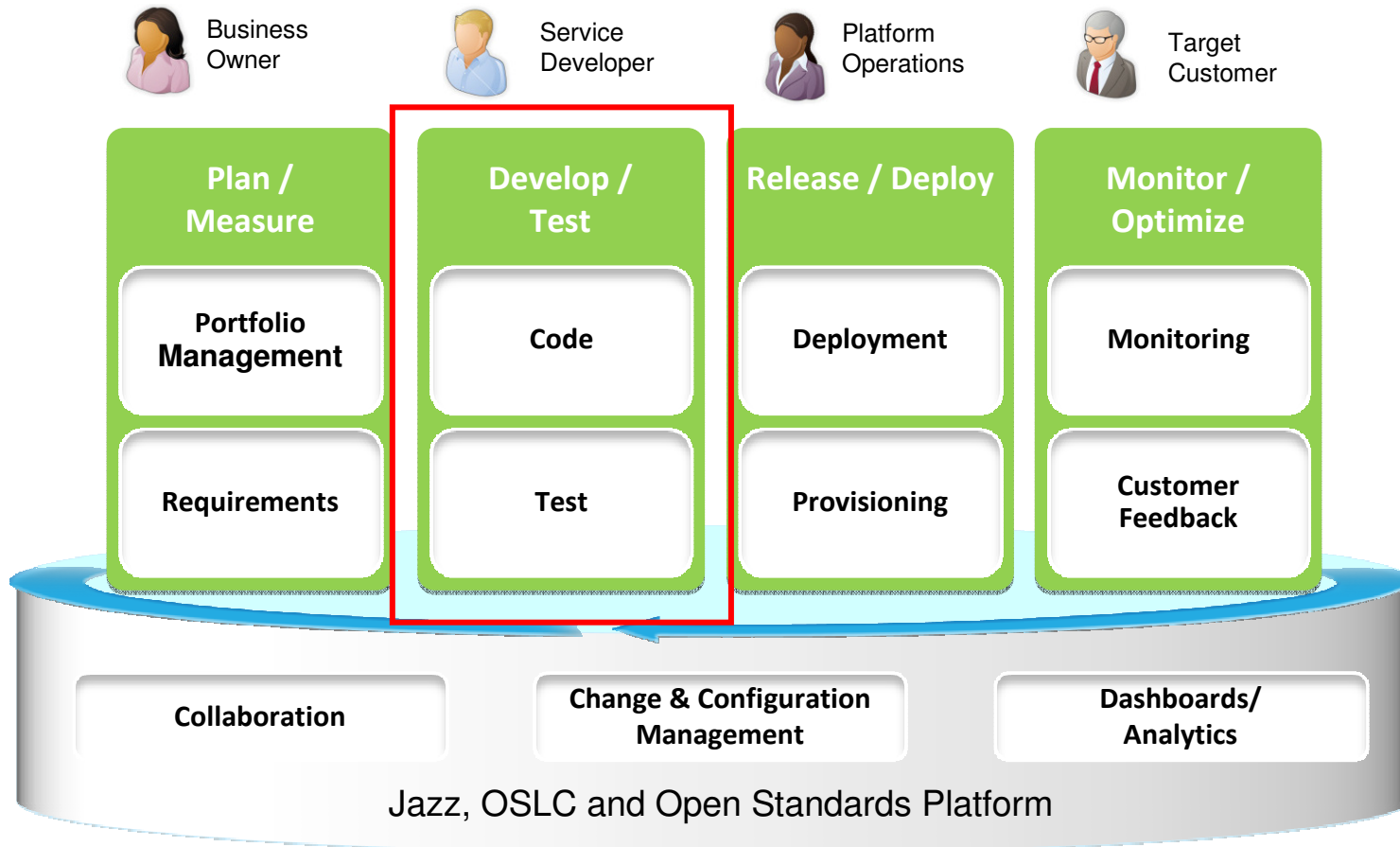Patch, week 4
Release 1.1.3

Plan and Measure Demonstration Scenario

A bank is undergoing a major IT transformation to prepare itself for a regional expansion.

- How to capture and prioritize the new business demands amidst current backlog

- How to plan the releases
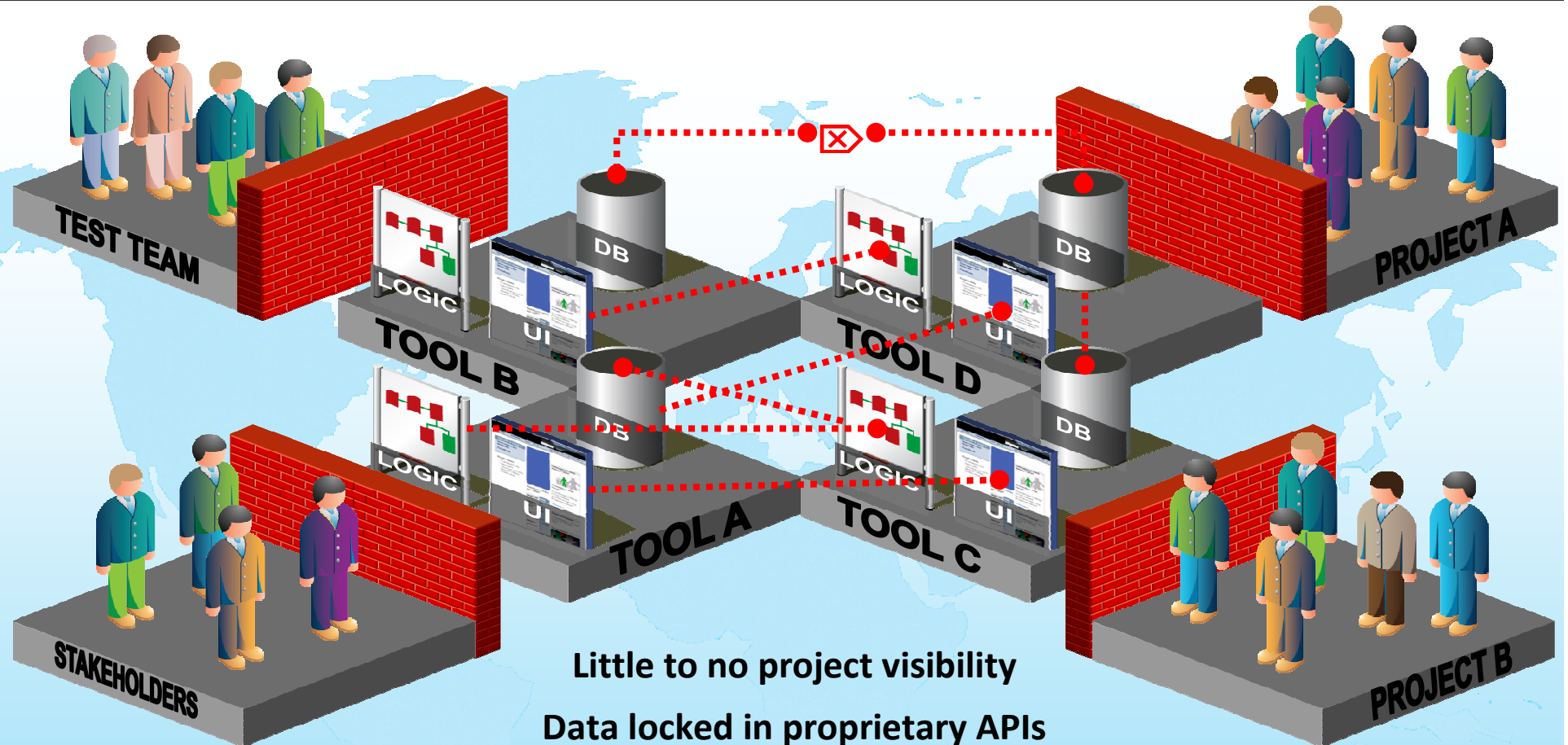
- How to track release progress

# DevOps Solution: Adoption paths, open platform and key capabilities

Business Owner

Service Developer

Platform Operations

Target Customer

Plan / Measure

Portfolio Management

Requirements

Develop / Test

Code

Test

Release / Deploy

Deployment

Provisioning

Monitor / Optimize

Monitoring

Customer Feedback

Collaboration

Change & Configuration Management

Dashboards/ Analytics

Jazz, OSLC and Open Standards Platform

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Traditional software delivery environments limit productive collaboration: Islands of People, Process and Information
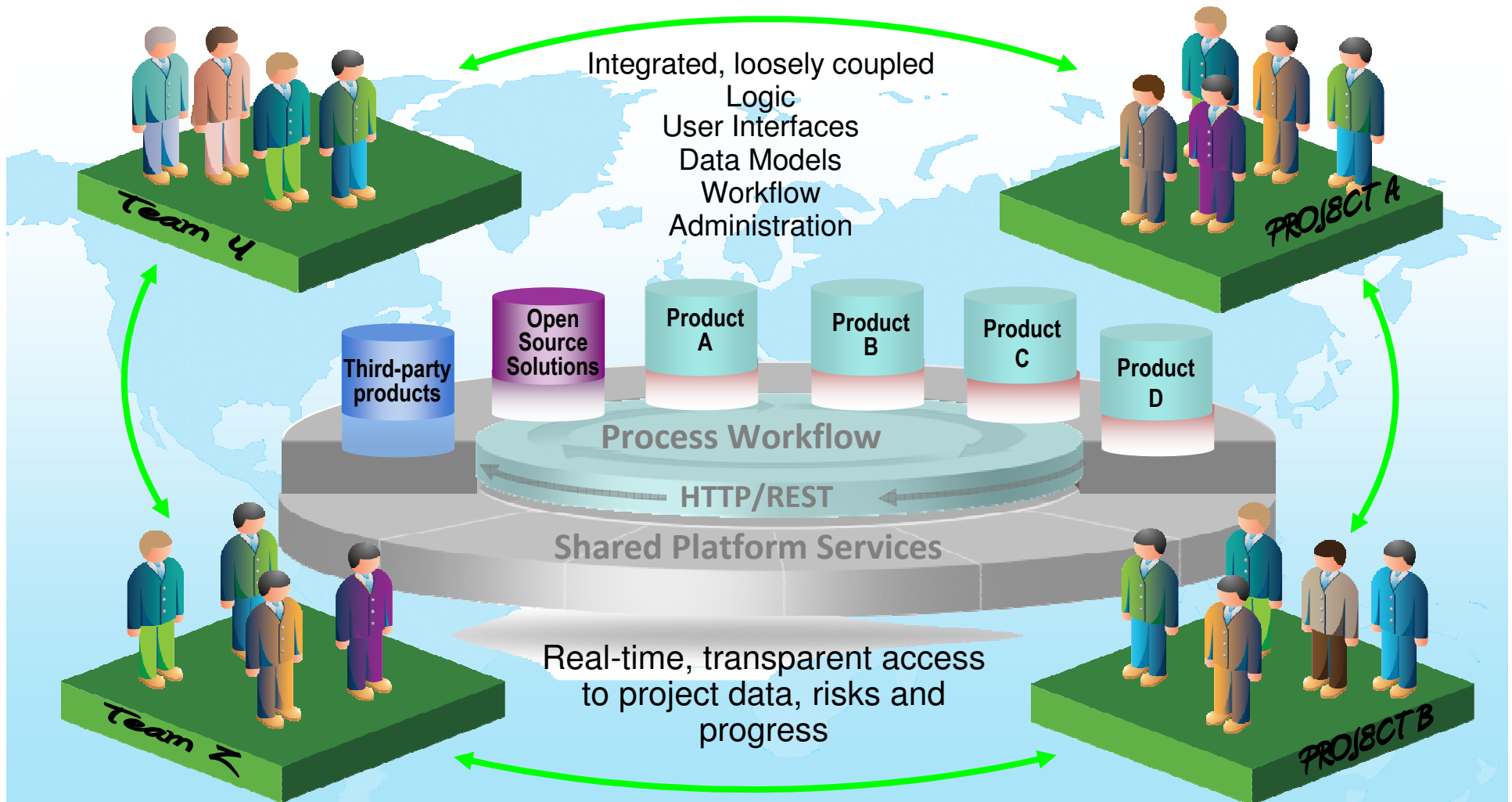
Streamline your process with continuous integration & test

- Avoid time spent installing and configuring software just to discover basic build issues
- Smoke tests can be integrated as part of the continuous integration process through deployment automation and test virtualization
- Regression test results are made available to the entire team to shorten resolution

Cloud Environment

CRM

Order Mgr

App Server

Virtual Lab Manager   VM Catalog

Virtual Machines

Build

Assets

Product Increment

- Smoke Tests
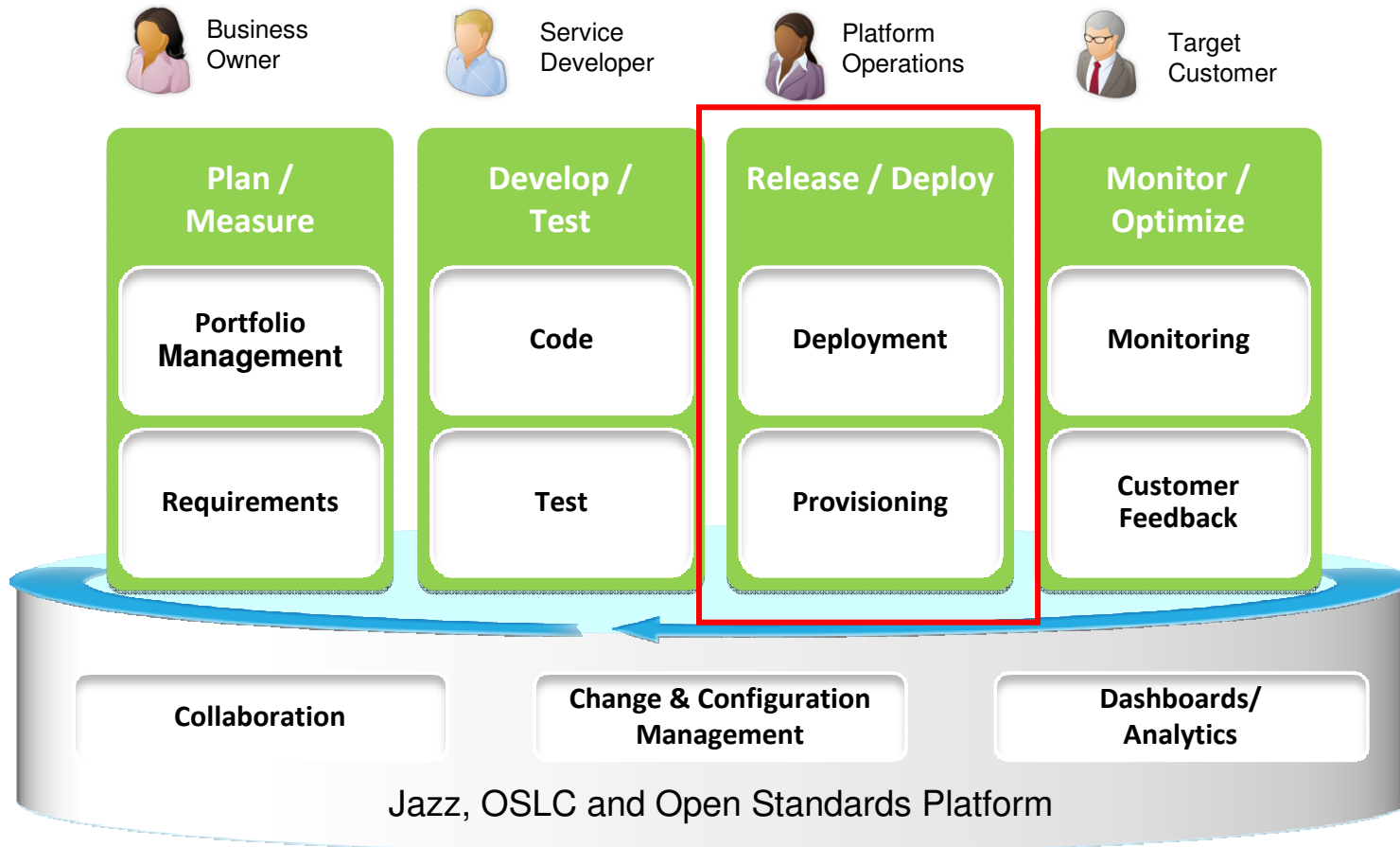- Sandboxes
- Self-provisionning
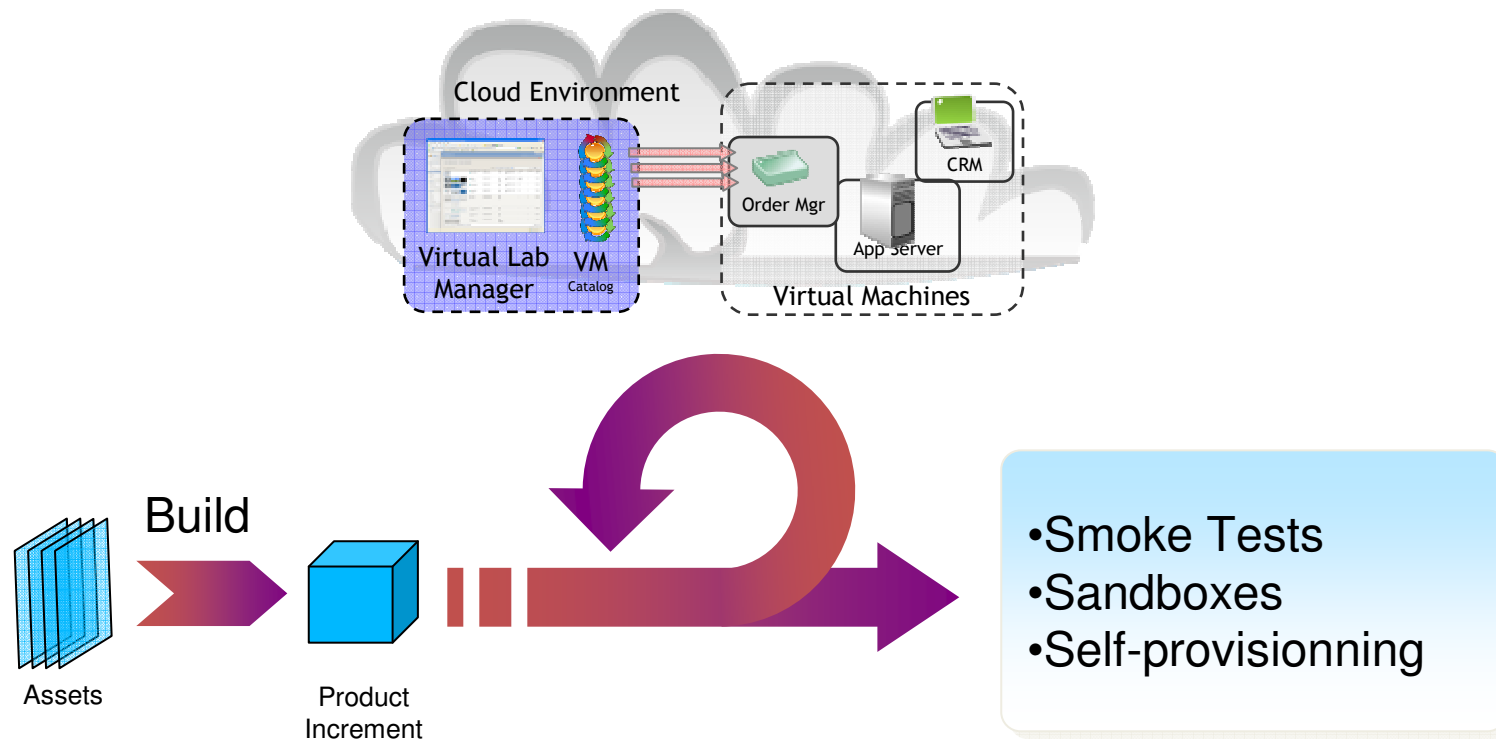
Develop & Test Demonstration Scenario

A bank IT team consisting of system analyst, developer and tester are collaborating to rollout a release.

- Requirements Elaboration

- Development Progress Tracking

- Test Tracking

- End to end traceability

DevOps Solution: Adoption paths, open platform and key capabilities

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- Test

Release / Deploy

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- Provisioning

Monitor / Optimize

- Monitoring
- Customer Feedback

Collaboration

Change & Configuration Management

Dashboards/ Analytics

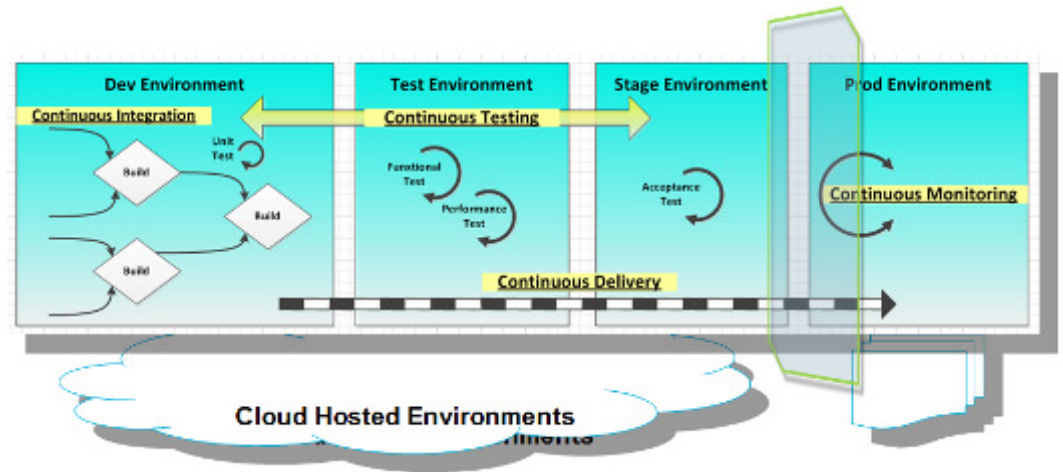Jazz, OSLC and Open Standards Platform
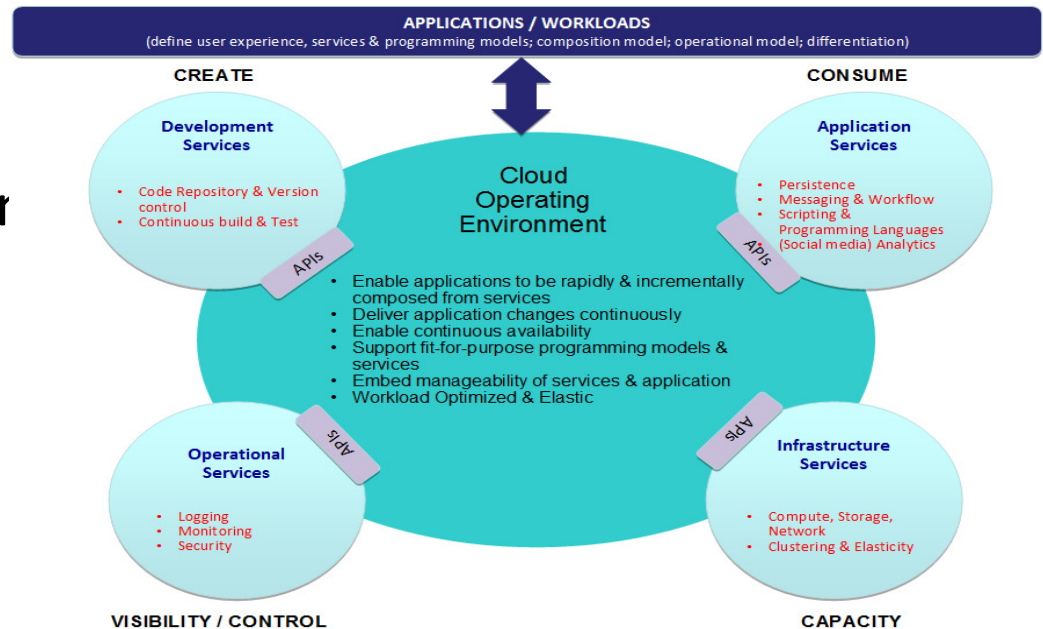
Addressed Cloud Workloads :

- ## Dev-Test

  - Developer/QA *Self-service*

  - Access to Production-like Environments

  - Environment and Middleware Configuration Management
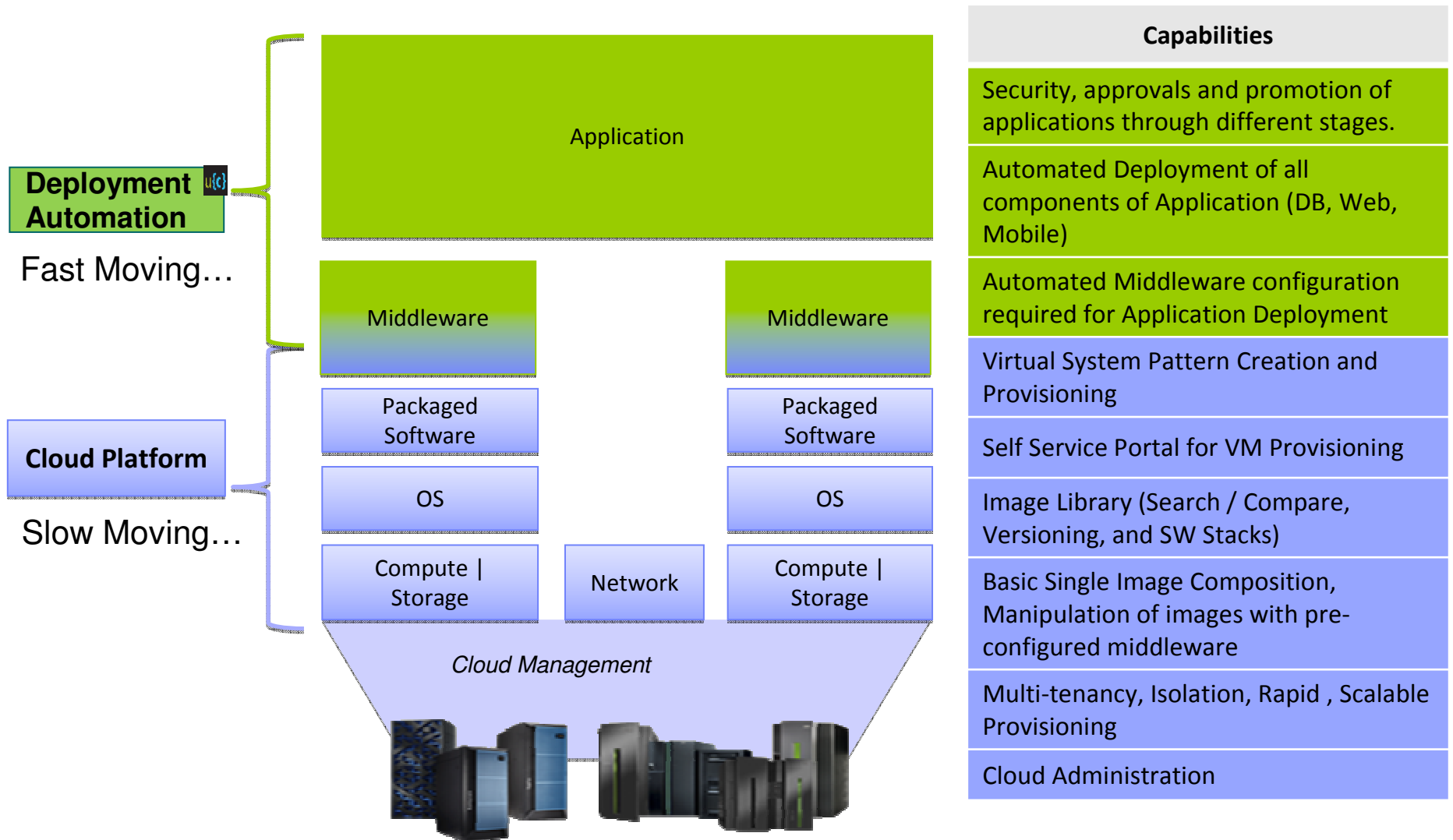
    - Infrastructure as Code

- ## Cloud Operation Environmen[t]

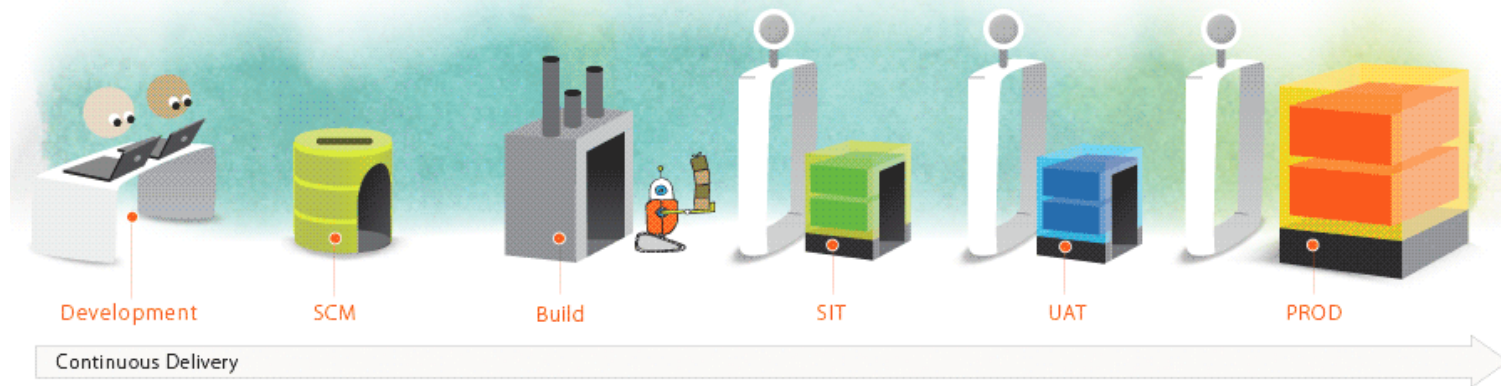 - Expendable Environments
  - Promotable Environments

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Release Automation : Application Deployment + Environment Provisioning

		Capabilities
	Application	Security, approvals and promotion of applications through different stages.
Deployment Automation		Automated Deployment of all components of Application (DB, Web, Mobile)
Fast Moving…	Middleware	Middleware	Automated Middleware configuration required for Application Deployment
	Packaged Software	Packaged Software	Virtual System Pattern Creation and Provisioning
Cloud Platform	OS	OS	Self Service Portal for VM Provisioning
Slow Moving…	Compute | Storage	Network	Compute | Storage	Image Library (Search / Compare, Versioning, and SW Stacks)
	Cloud Management	Basic Single Image Composition, Manipulation of images with pre-configured middleware
		Multi-tenancy, Isolation, Rapid , Scalable Provisioning
		Cloud Administration

UrbanCode: Premier Release and Deploy Automation Solution

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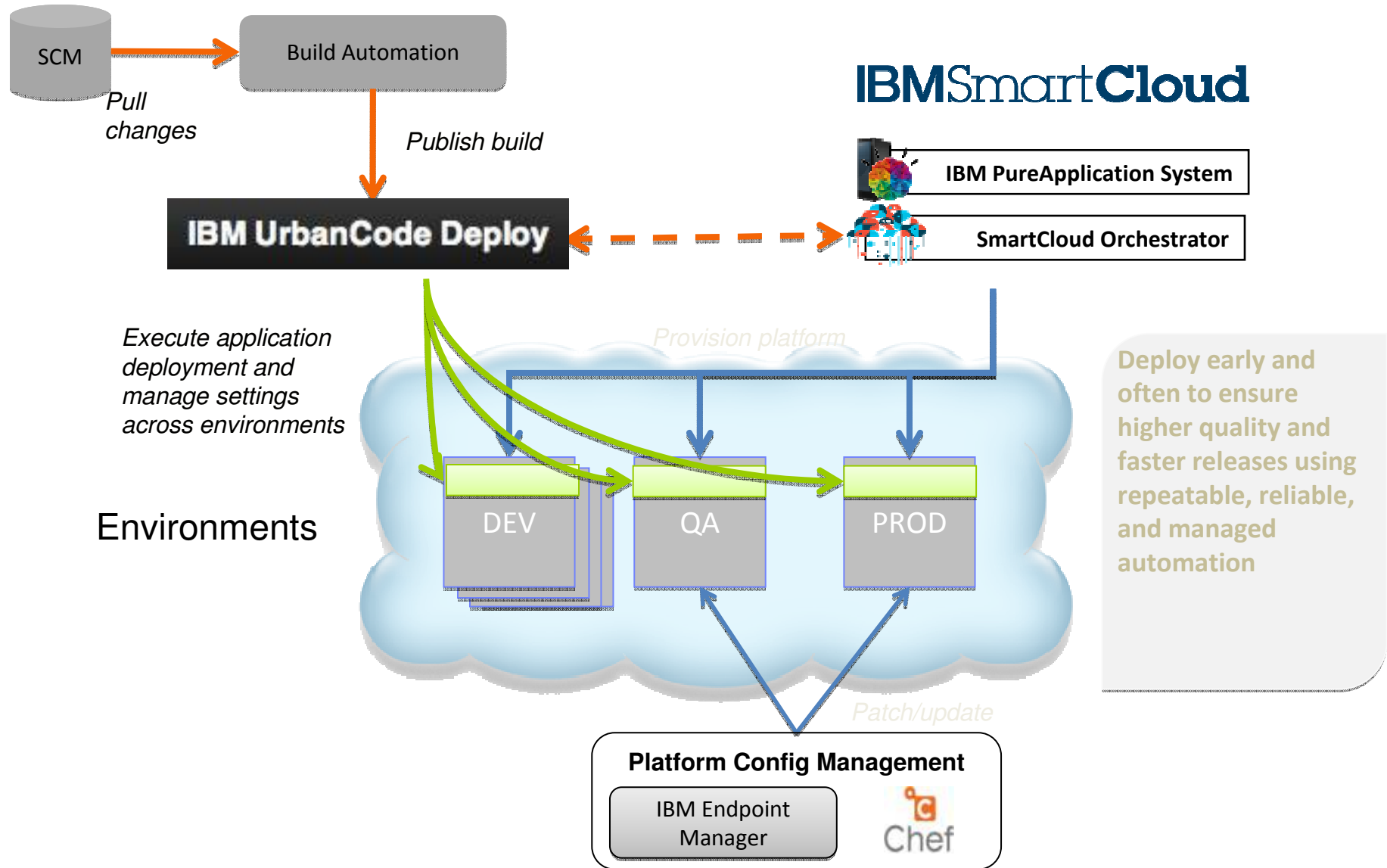

Development   SCM   Build   SIT   UAT   PROD

Continuous Delivery

IBM UrbanCode Deploy

IBM UrbanCode Release

Improve Delivery Lifecycle with Software Defined Environments

SCM

Build Automation

Pull changes

Publish build

IBMSmart**Cloud**

IBM PureApplication System

IBM UrbanCode Deploy

SmartCloud Orchestrator

Execute application deployment and manage settings across environments

Provision platform

Deploy early and often to ensure higher quality and faster releases using repeatable, reliable, and managed automation

Environments

DEV

QA

PROD

Patch/update

Platform Config Management

IBM Endpoint Manager

Chef

DevOps for Mobile

IBM UrbanCode Deploy

RTW Mobile

IBM UrbanCode Release

Build

IBM UrbanCode Build

Deploy

Functional Test

Acceptance Test

App Store

tealeaf

Accelerate delivery of mobile apps focusing on quality and user experience – Automate deployment of Worklight mobile applications as part of end-to-end delivery process.

Continuous Feedback and Optimization using Tealeaf helps monitor user sentiment and usage, letting teams react to poor feedback before it spirals

Mobile Application Deploy Process

Worklight

Console

adapter

.wlapp

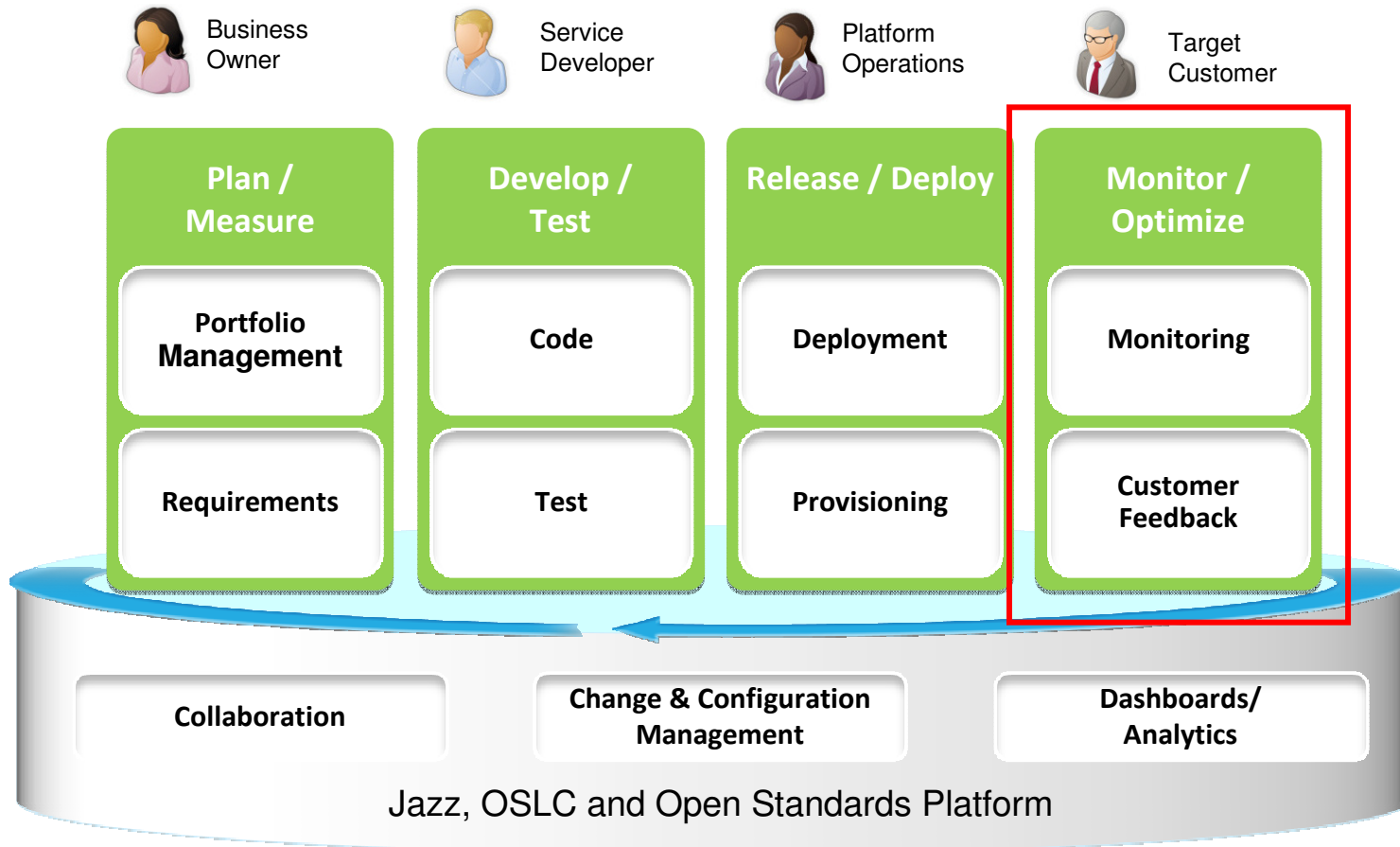Application Center

Binary (IPA/APK)
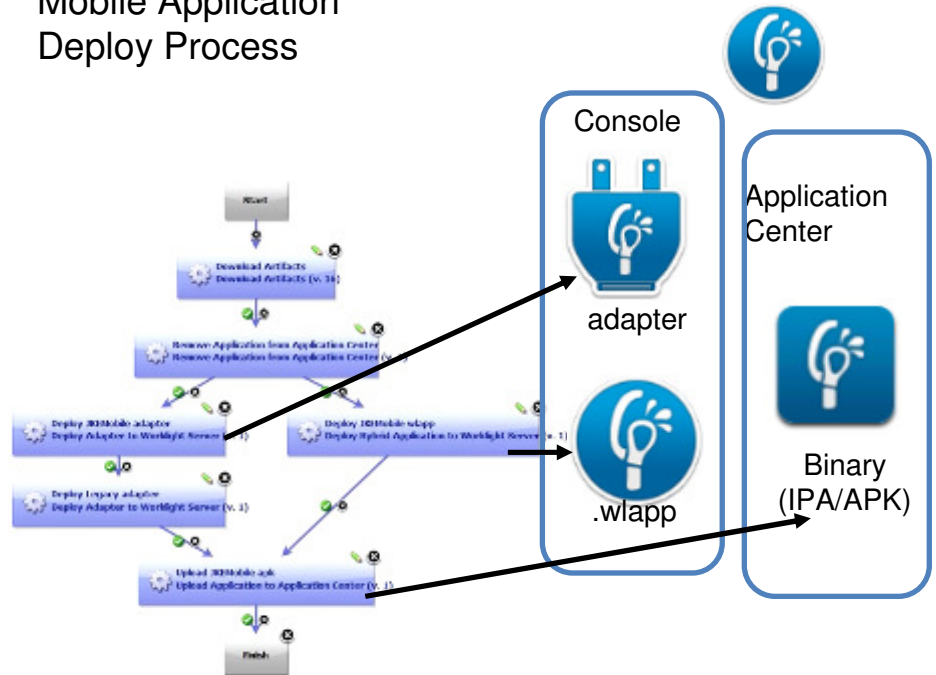
Release & Deploy Demonstration Scenario

An online trading company is governing and automating the deployment of online web application.

- Deployment of application from development to test
- Snapshot of test environment configuration i.e. Golden Image
- Approval of production deployment
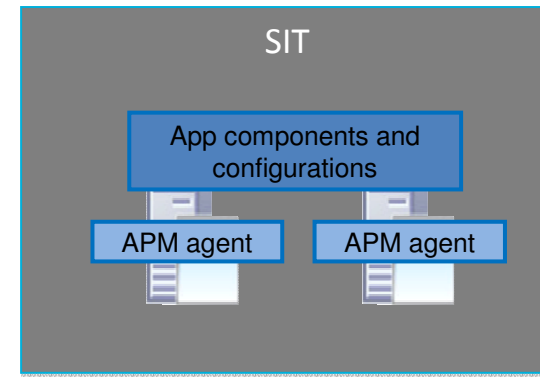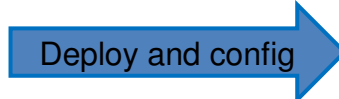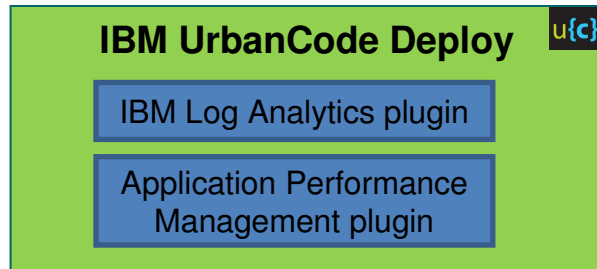- Deployment of application from test to production

DevOps Solution: Adoption paths, open platform and key capabilities

Business Owner	Service Developer	Platform Operations	Target Customer
Plan / Measure	**Develop / Test**	**Release / Deploy**	**Monitor / Optimize**
Portfolio Management	Code	Deployment	Monitoring
Requirements	Test	Provisioning	Customer Feedback

Collaboration	Change & Configuration Management	Dashboards/ Analytics

Jazz, OSLC and Open Standards Platform

Application Lifecycle Integration – Monitoring & Log Analytics

IBM UrbanCode Deploy

IBM Log Analytics plugin

Application Performance Management plugin

Deploy and config

SIT

App components and configurations
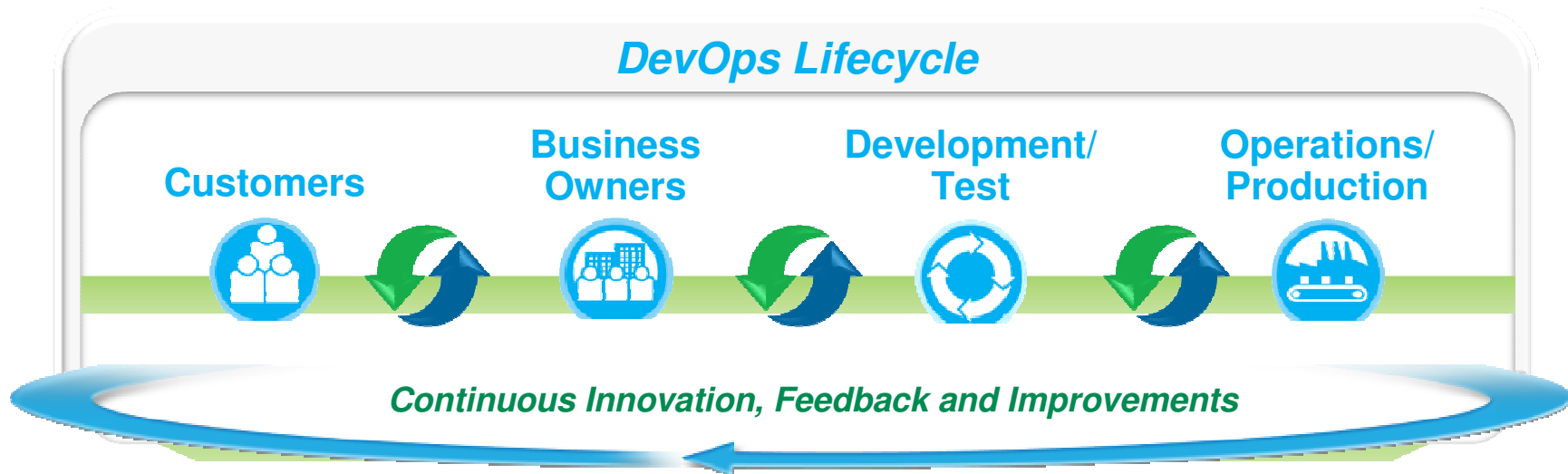
APM agent   APM agent

Application Dashboard

DevOps

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

DevOps Lifecycle

Customers **Business Owners** **Development/ Test** **Operations/ Production**

Continuous Innovation, Feedback and Improvements

Accelerate Software Delivery

Balance speed, cost, quality and risk

Reduce time to customer feedback

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Case Study: TIAA-CREF

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

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

John Kosco
Director of IT Operations

Case Study: WebMD

Accelerate delivery of usable increments for continuous outside-in feedback

- Provide a continuous delivery pipeline that automates deployments to test and production environments

- Reduce overhead with push-button deployments

- Quantify change stability and measure transparently for compliance

"Before it took 2 days to deploy a build, with uDeploy and our new processes, it takes us less than 60 seconds."

Matthew Wilson
Director, Consumer Web Operations

DevOps maturity model

Industry norm

	Plan / Measure	Development / Test	Release / Deploy	Monitor / Optimize
Scaled	Define release with business objectives Measure to customer value	Improve continuously with development intelligence Test Continuously	Manage environments through automation Provide self-service build, provision and deploy	Automate problem isolation and issue resolution Optimize continuously
Reliable	Plan and source strategically Dashboard portfolio measures	Deliver and integrate continuously Manage data and virtualize services for test	Standardize and automate cross-enterprise Automate patterns-based provision and deploy	Optimize applications Use enterprise issue resolution procedures
Repeatable	Link objectives to releases Measure to project metrics	Deliver and build with test Centralize test management Link lifecycle information	Plan departmental releases and automate status Automated deployment with standard topologies	Monitor using business and end user context Centralize event notification and incident resolution
Practiced	Document objectives locally Manage department resources	Manage Lifecycle artifacts Schedule SCM integrations and automated builds Test following construction	Plan and manage releases Standardize deployments	Monitor resources consistently Collaborate Dev/Ops informally

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What's Next ...

- Technical Exploration Workshop

- Assessment Workshop

- Pilot

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Thank You