



# Automated Deployment with Managed Releases

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## IBM Technical **Summit**





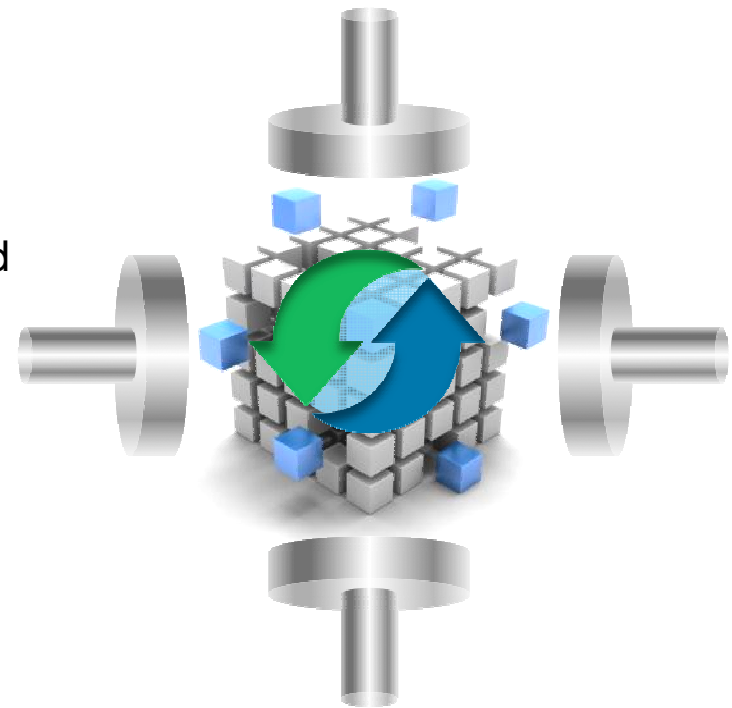
## IBM UrbanCode solutions compliment IBM's DevOps solution enabling clients to more rapidly deliver software

### *Complements IBM's DevOps solution:*

- **Deliver a differentiated and engaging customer experience** by reducing time to customer feedback
- **Quicker time-to-value** of software-based innovation with improved predictability and success
- **Increased capacity to innovate** by reducing waste and rework in order to shift resources to high-value activities

### *Enhancing Release and Deployment:*

- **Drive down cost** by automating manual tasks, eliminating wait-time and rework
- **Speed time to market** by increasing the frequency of software delivery
- **Reduce risk** through increased compliance of application deployments.





# Top Technology Trends Impacting How Organizations Compete...

...yet approximately 75 percent of companies are underprepared

## Technology Trends Most Impacting Competitiveness



<b>Mobile</b> device proliferation
<b>Collaboration</b> across the ecosystem
Explosion of unstructured <b>data</b>
<b>Cloud</b> platforms and solutions
Intelligent-connected <b>systems</b>

## Organizations Underprepared for Technology Trends



Note: Survey respondents were allowed up to three selections

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



# 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**  
**needs**



# Market shifts require a fundamental change to the way businesses approach the development lifecycle

## Evolving Customer Expectations

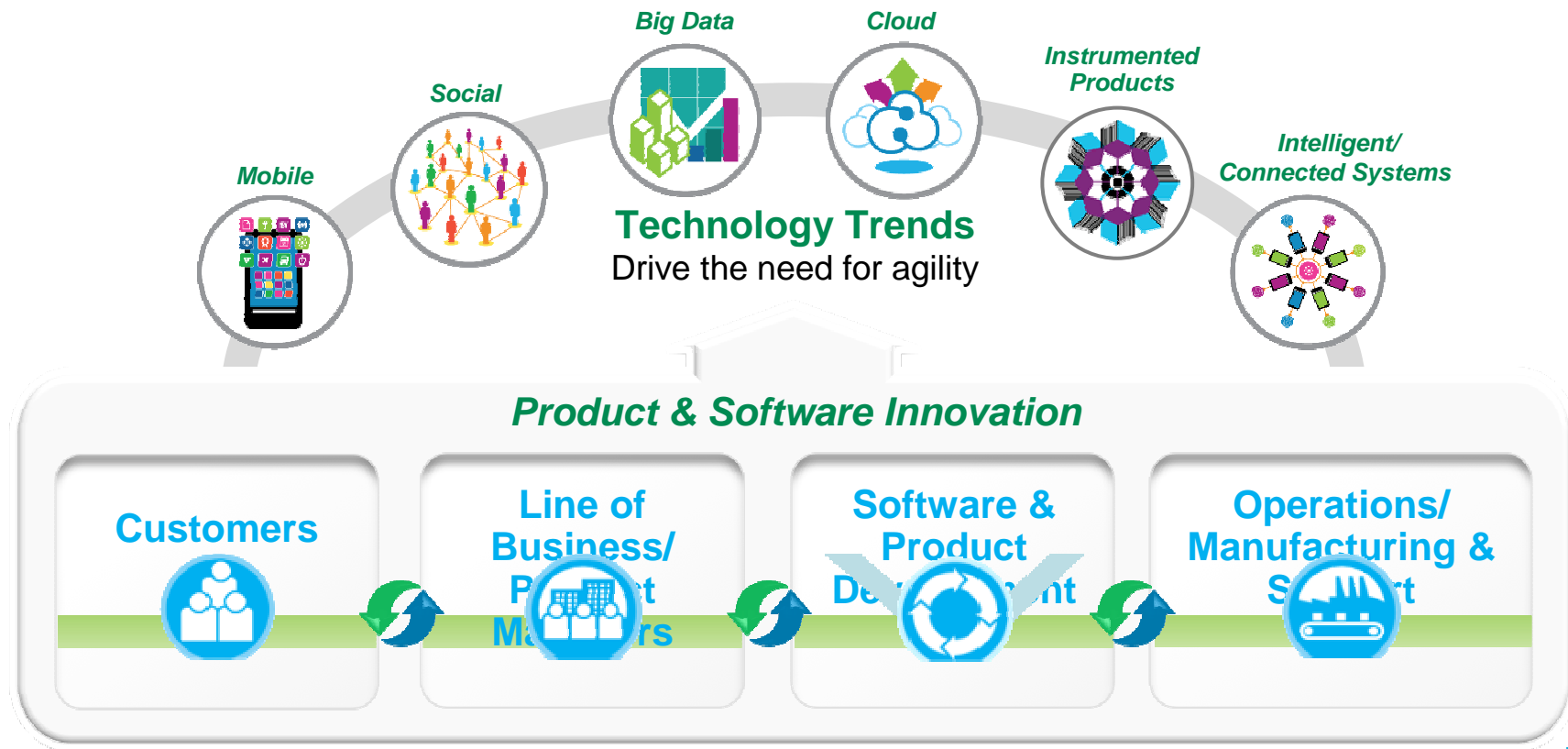
Consumerization of tools and products drives demand for higher quality and faster delivery

## Changing Business Environment

Increasingly volatile economic and regulatory environments drive the need to reduce risk

## Multi-sourcing/ Supply Chain

Increased outsourcing drives the need for governance





Organizations that effectively leverage software innovation outperform their competitors... *yet few are able to deliver it effectively*

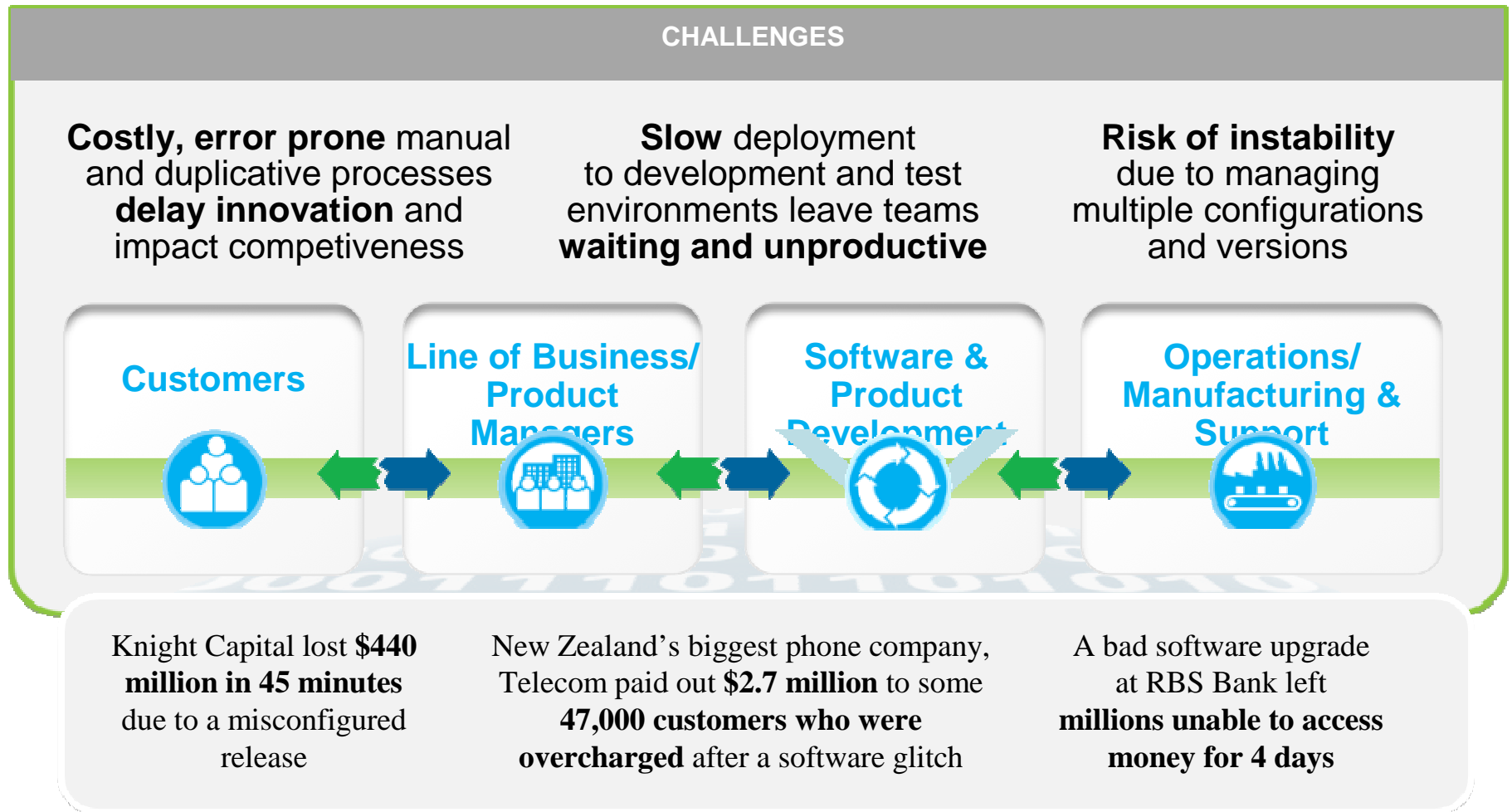


*But only...*





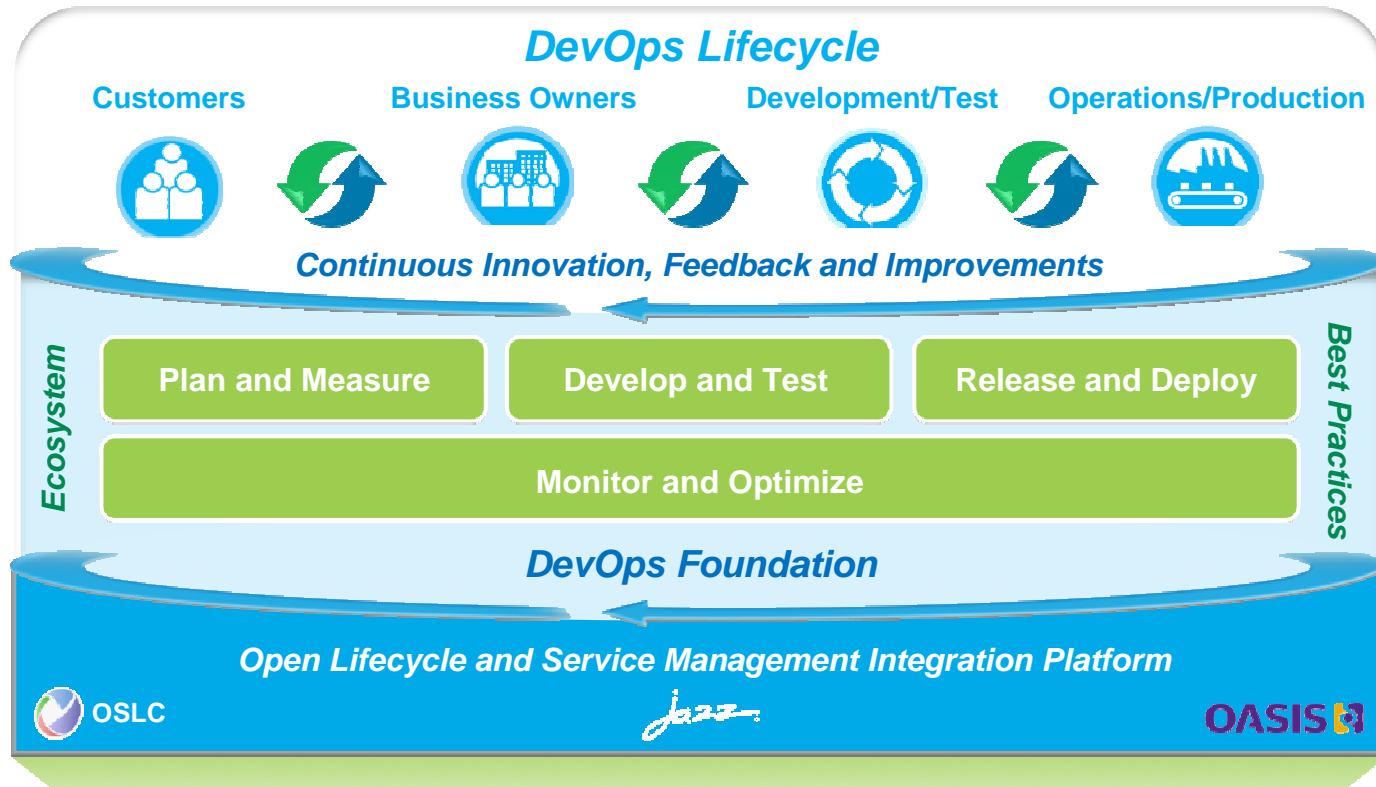
# Expand the lifecycle to manage the challenges affecting individual creativity, team productivity, and ultimately the bottom line





# The DevOps approach

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

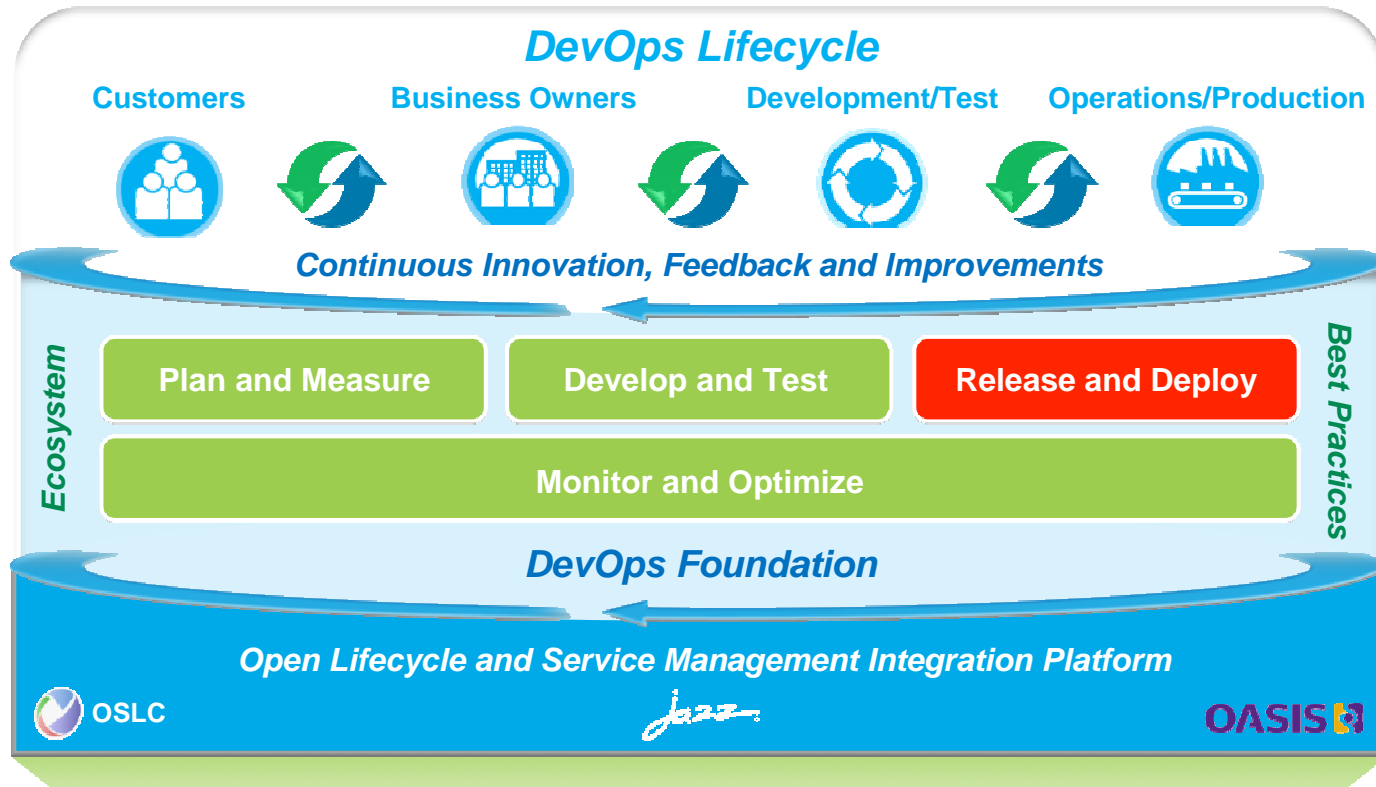


**Accelerate Software Delivery**  
**Balance speed, cost, quality and risk**  
**Reduce time to customer feedback**





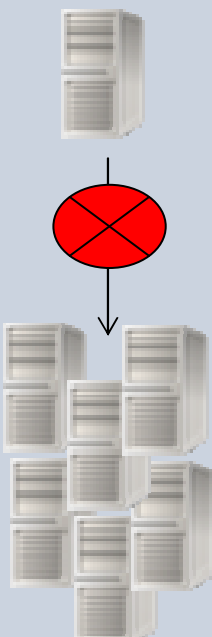
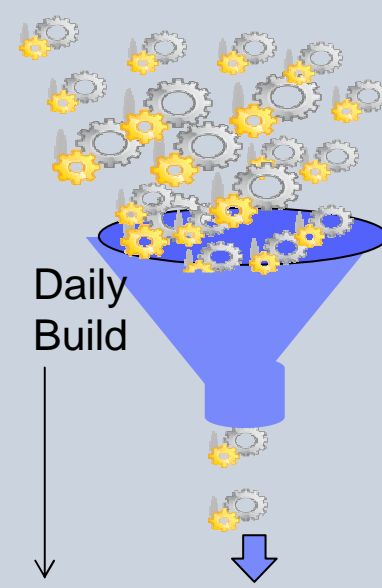

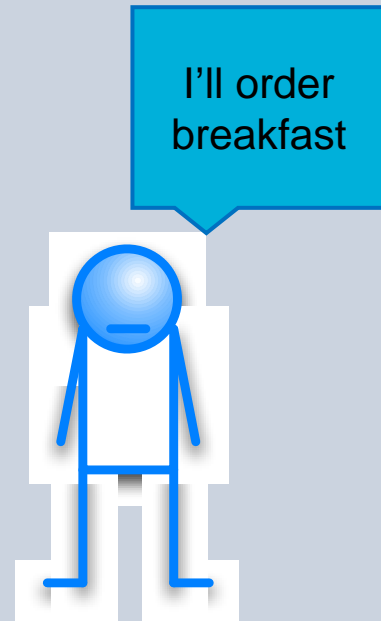
# UrbanCode for Release and Deploy



**Accelerate Software Delivery**  
**Balance speed, cost, quality and risk**  
**Reduce time to customer feedback**

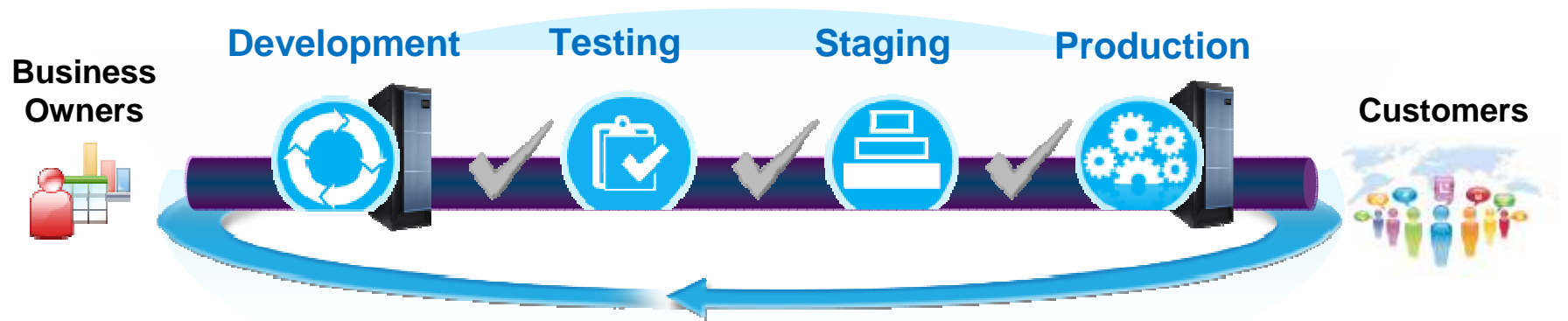


# What's going wrong?

Failures due to differences in dev and ops environments	Time to market pressure for more frequent releases	Manual (tribal) processes for release lack repeatability/speed	Major releases take days, 100 people and are managed by a spreadsheet
 <p>Dev</p> <p>Prod</p>	 <p>Daily Build</p> <p>Release</p>	 <p>Who did this last time?</p> <p>Dave...</p>	 <p>I'll order breakfast</p>



# Solution: A Continuous Delivery Pipeline



Ensure applications are production-ready throughout the lifecycle and can be released at any time while minimizing rollback due to quality issues

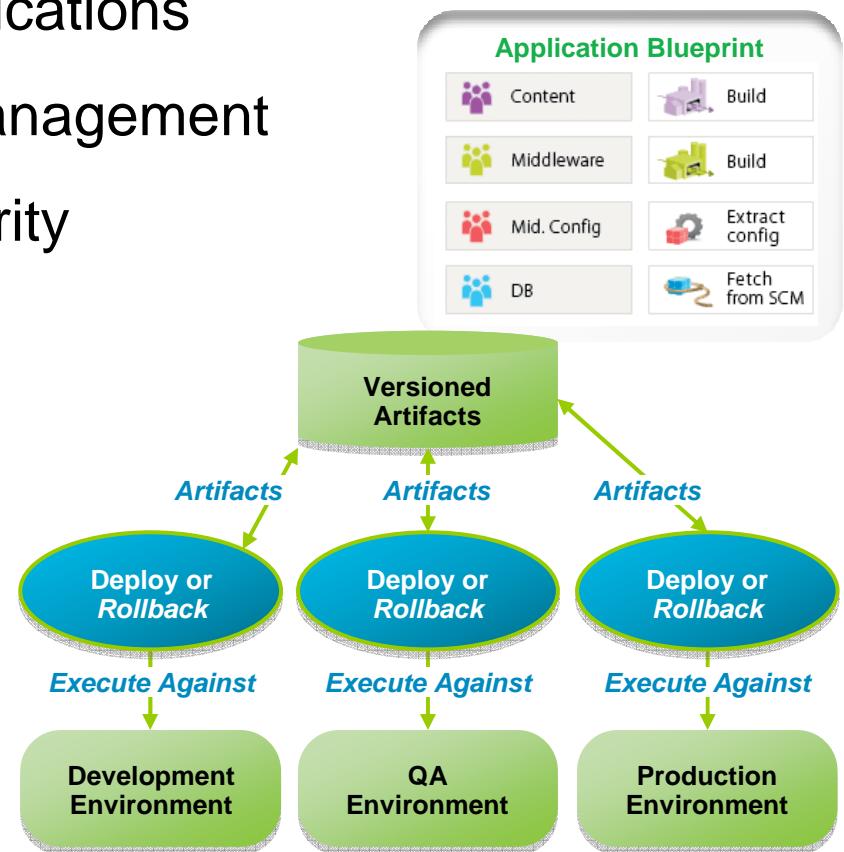
- Validate on more production-like conditions earlier
- Automate hand-offs/promotions to increase velocity through the different stages
- Standardization on processes and assets between Dev and Ops
- Automated monitoring and dashboarding of quality and performance against service level agreements at multiple stages



# IBM UrbanCode Deploy – Application 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





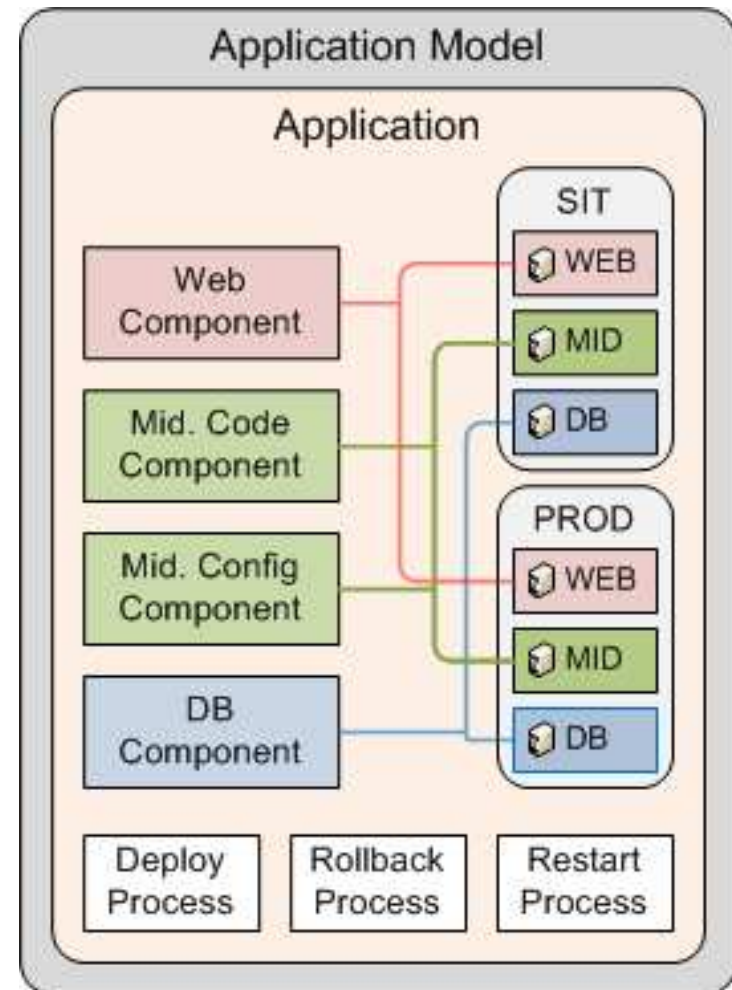
## UrbanCode Deploy works in heterogeneous environments

- **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



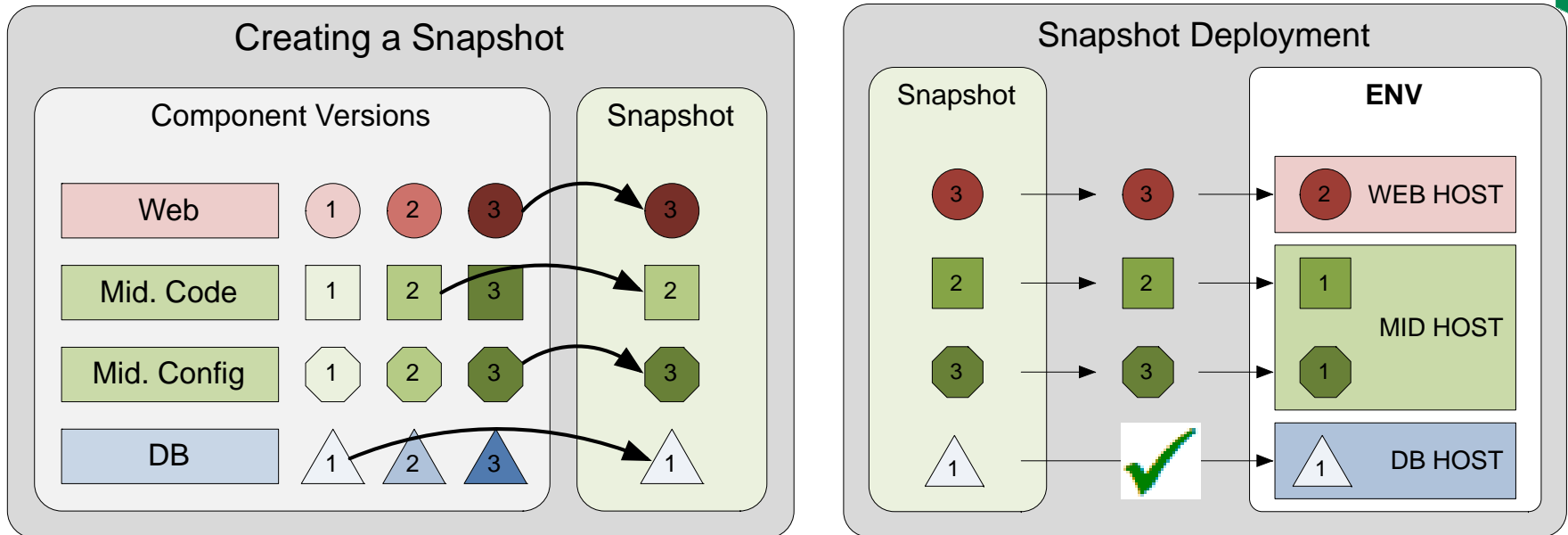
## Application – Component Model ctd

- Components
  - Tiers or services
- Environments
  - Target servers
  - Servers have roles
  - Env. Specific Config
- Processes
  - Coordinates Component processes





## Snapshots – A Version of the App

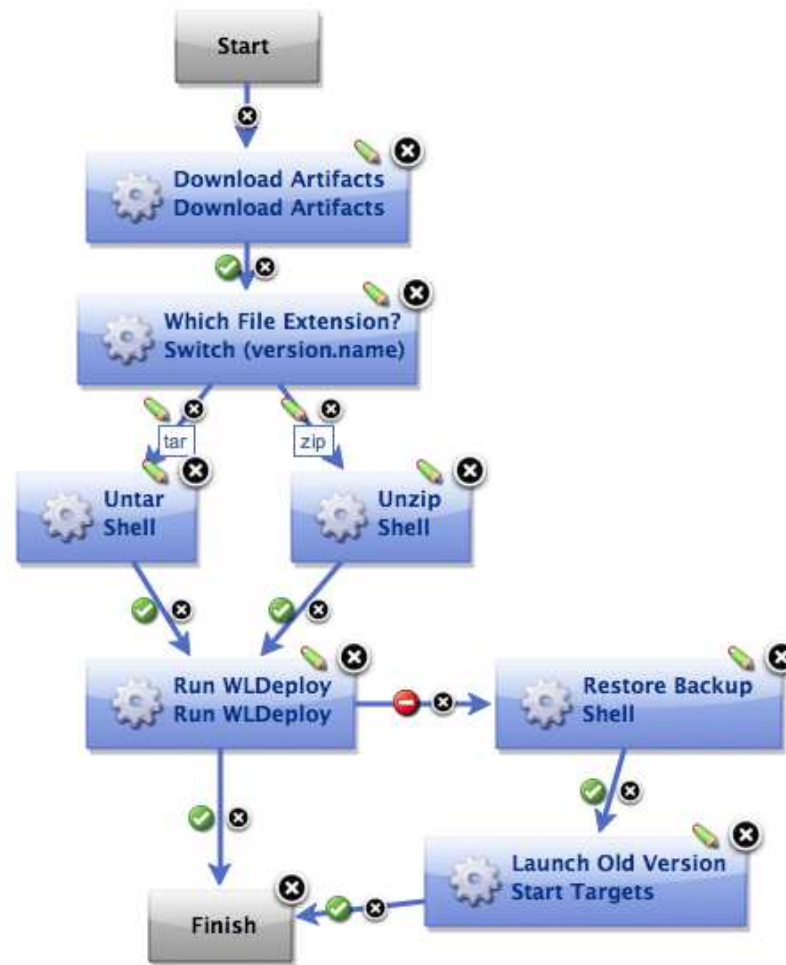


- Snapshot environments that pass tests
- Snapshots contain deployables and config
- They help with
- Automation, Audit, and Visibility



# Component Processes

Model automation of artifact deployment using plugin steps







# Applications

Applications handle orchestration of deployments to target environments

### Application: JPetStore

Description

Environments **History** **Edit** **Properties** **Components** **Snapshots** **Processes** **Calendar** **Manual Tasks** **Security**

#### Environments

Drag environments by their label boxes to order them.

**SIT**

**Actions**  
Request Process  
Compare | Copy  
Inactivate

Latest Desired Inventory						
Component	Version	Snapshot	Properties	Status	Compliance	Actions
<a href="#">Show Filters</a>						
JPetStore-DB	1.1		Version 4	Active	Compliant (1/1)	<a href="#">View Request</a>
JPetStore-WEB	1.1		Version 3	Active	Compliant (1/1)	<a href="#">View Request</a>
JPetStore-APP	1.0		Version 2	Active	Compliant (1/1)	<a href="#">View Request</a>

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**UAT**

**Actions**  
Request Process  
Compare | Copy  
Inactivate

Latest Desired Inventory						
Component	Version	Snapshot	Properties	Status	Compliance	Actions
<a href="#">Show Filters</a>						
JPetStore-APP	1.0		Version 2	Active	Compliant (1/1)	<a href="#">View Request</a>
JPetStore-DB	1.0		Version 6	Active	Compliant (1/1)	<a href="#">View Request</a>
JPetStore-WEB	1.0	Baseline	Version 2	Active	Compliant (1/1)	<a href="#">View Request</a>

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**Prod**

**Actions**  
Request Process  
Compare | Copy  
Inactivate

Latest Desired Inventory						
Component	Version	Snapshot	Properties	Status	Compliance	Actions
<a href="#">Show Filters</a>						
No components have been installed to this environment. - <a href="#">Refresh</a>						

Show Inactive Environments  
[Create New Environment](#)



# IBM UrbanCode Release – 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

**uRelease** Hello admin Logout

Home » Scheduled Deployments » eComm 1.3 - Mar:PT-2 at Mon Feb 04 15:00:00 EST 2013

**X** eComm 1.3 - Mar:PT-2 at Mon Feb 04 15:00:00 EST 2013

SEGMENT PLAN NOT STARTED | SEGMENT PLAN IN PROGRESS | **SEGMENT PLAN COMPLETE**

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 Complete: 14 Aborted: 0 In Progress: 0 Skipped: 3 Remaining: 0

Application	Version	Statuses	Gate
▶ Bill Pay System	None		
▶ Wire Transfer	None		

Promote to Release Version

Segments

Middleware Config Complete

Start: 2/6/13 9:25 AM 0:42 total 2/6/13 10:07 AM End

Start Time	Duration	Name	Application	Type	Role	User	Actions
▶ 2/6/13 9:25 AM	00:15	Convert Datasources to use Oracle RAC syntax	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 Datasources to use Oracle RAC syntax	None	Manual	Admin	admin	
▶ 2/6/13 9:57 AM	00:10	Update the datasource	None	Manual	Admin	admin	

Add Manual Task Add Automated Task

*Because spreadsheets are a) terrible and b) normal*



## Automation & Management

	UrbanCode Deploy	UrbanCode Release
<b>Application Release Automation</b>		
Automate deployments	✓	
Visual process designer	✓	
Plug-in actions for application containers, web servers, network devices, database deployment, etc.	✓	
Model environments & deployment targets	✓	
<b>Release Management</b>		
Enforce quality gates for environments	✓	✓
Orchestrate changes across multiple applications		✓
Manage infrastructure in addition to application changes		✓
Real-time status for long production releases		✓
Track the allocation of environments to releases		✓

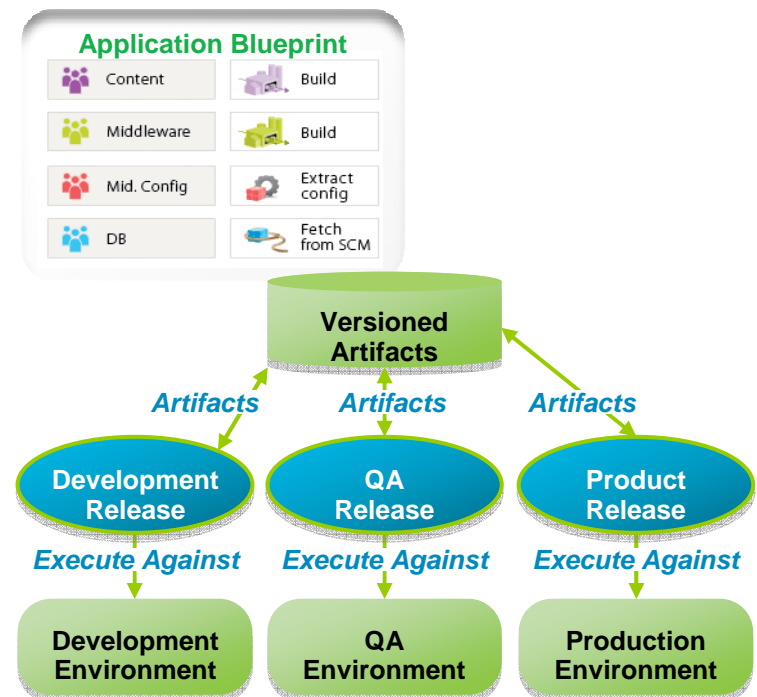


## IBM UrbanCode release and deploy solutions enable frequent application delivery at reduced cost & risk

- **IBM UrbanCode Deploy** orchestrates and automates the deployment of applications, middleware configuration, and database changes into development, test and production environments.
- **IBM UrbanCode Release** transforms error-prone and chaotic release planning into streamlined release events, replacing spreadsheets with a collaborative solution that eliminates breakdowns in communication

### UrbanCode solution help clients:

- **Reduce errors:** Automated software release and deployment
- **Improve productivity:** Push-button deployments for developer and operations
- **Faster time-to-market:** Automated release and deployment with built-in best practices provides
- **Compliance and auditability:** Enforced Security and traceability



# UrbanCode solutions deliver measureable business results



## **International Investment Firm** **Driving Down Costs**



Release process required considerable effort and delayed by manually-introduced errors

- Solution: Automated release process
- Results: Cost avoidance of over \$2.3M/year, reduced release time from 2-3 days to 1-2 hours and virtually eliminated test team down-time

## **Online Retailer** **Speeding Time-to-Market**



Significant delays getting application changes to production

- Solution: Scaled up continuous deployment
- Results: Deployment time reduced by over 95% with easy scale and deploying to over 250 servers within 2 months of implementation

## **Higher Education** **Speeding Time-to-Market**



Agile development teams constrained by slow deployment to dev and test environments

- Solution: Accelerate deployment by enabling development teams to self deploy with automation
- Results: Deployments cut from hours to minutes and a greater number of servers with fewer resources

## **SaaS Software Provider** **Reducing Risk**



Difficulty managing multiple customer configurations and versions of software deployed across servers

- Solution: Automate managing configuration and version deployment
- Results: Execute customer specific releases, reduced deployment outages by over 90%



# Thank You

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