

# IBM SolutionsConnect 2013

L'IBM TechSoftware nouvelle génération

28, 29 et 30 août  
IBM Client Center Paris



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*Transformez vos opportunités en succès*



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## DevOps

*The new assembly line of software: Software defined environments*

Ashok Reddy

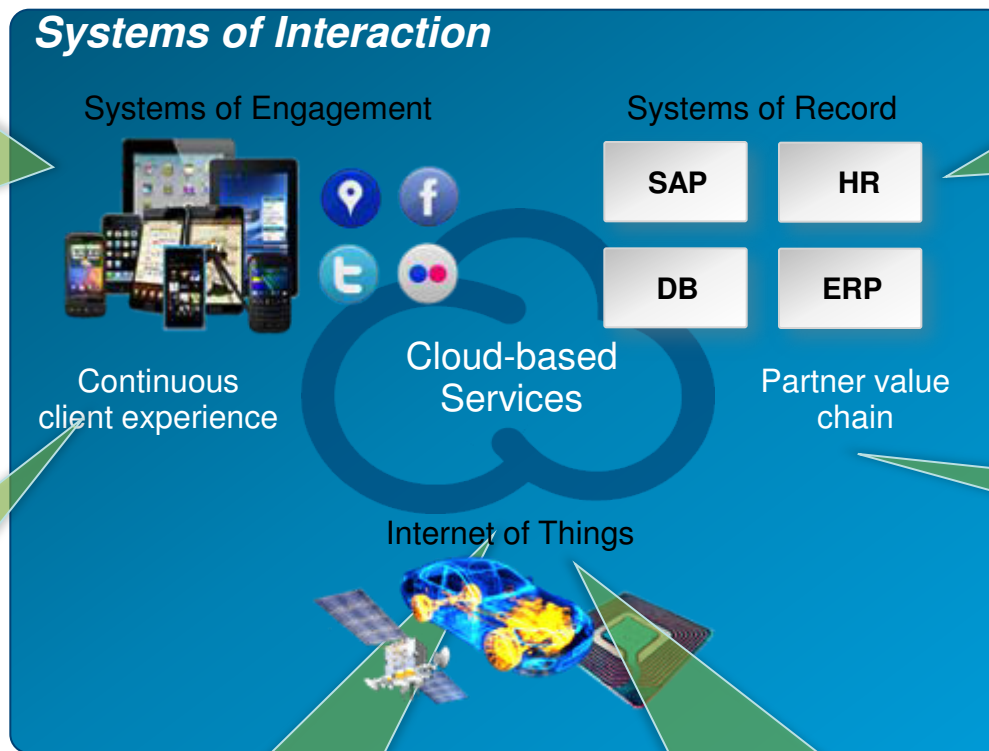
Vice President, Product Management & Design

IBM Software Group, DevOps and Rational

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## Market Trends: Software Driven Innovation



Rapidly deliver differentiating digital content, applications and services to grow revenues & obtain new customers

Integrate, evolve and maintain stability of services and comply with any regulations

Provide differentiating client experience to meet the needs of empowered users

Enable a software supply chain

Leverage cloud to enable flexibility and offer new services

Deliver software based innovation to enable machine to machine interactions



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## Challenges: Software Driven Innovation

### Line-of-business

Takes too long to introduce or make changes to digital apps and services

### Operations

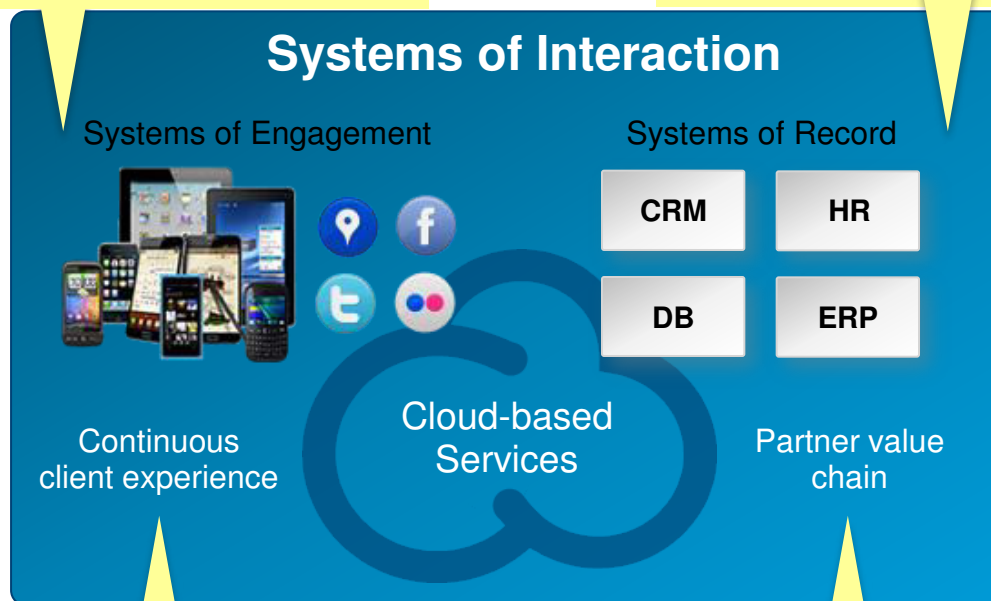
Rapid app releases impacts system stability and compliance

**>70%**

of resources devoted to maintaining existing systems and products

**4-6 Weeks**

to deliver application changes to customers



**>80%**

of applications rolled back

**>50%**

of partnered projects fail to meet objectives

### Development/Test

Speed mismatch between faster moving front office and slower moving back office systems, delaying time to get feedback







### Suppliers

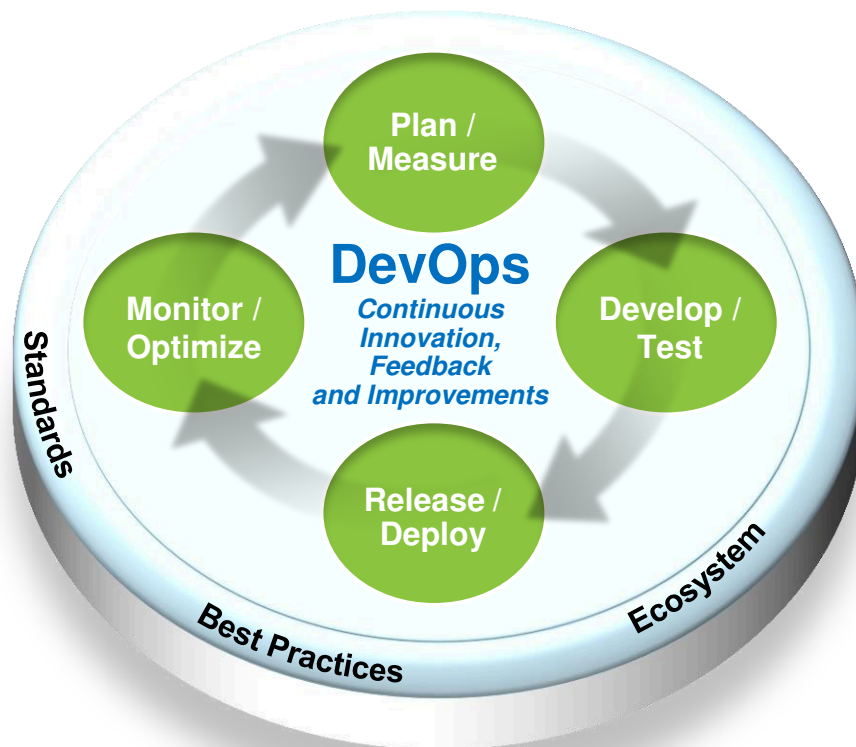
Delivery in the context of rapid changes

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## DevOps: Continuous Delivery of Software Driven Innovation

-  Business User
-  Business Developer / Data Analyst
-  Domain Specialized Developer, Tester
-  Backend Service Developer
-  Platform Operations
-  Infrastructure Operations



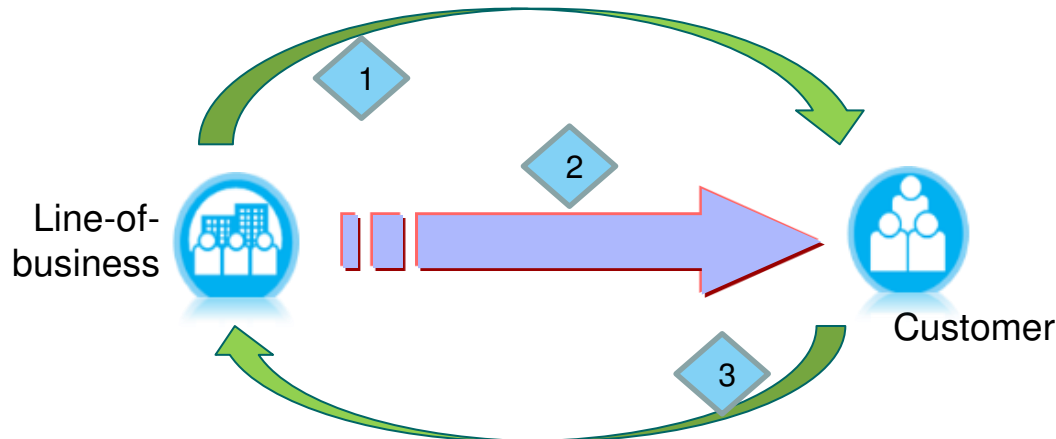
*Enterprise capability for continuous software delivery that enables clients to seize market opportunities and reduce time to customer feedback*

**Accelerate software delivery** - By enabling collaboration across software supply chain  
**Balance speed, cost, quality & risk** - By eliminating waste & automating manual processes  
**Improve client experience** - By speeding the customer feedback loop

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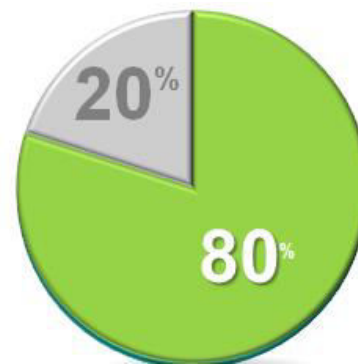
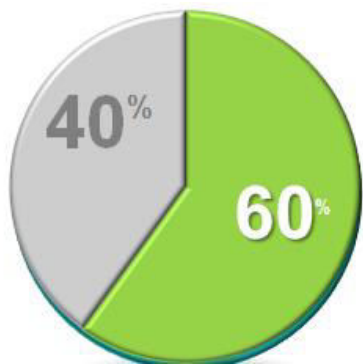
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**DevOps approach:** Apply Lean principles to software innovation and delivery to create a continuous feedback loop with customers



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



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

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## DevOps Tool Chain

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



### 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



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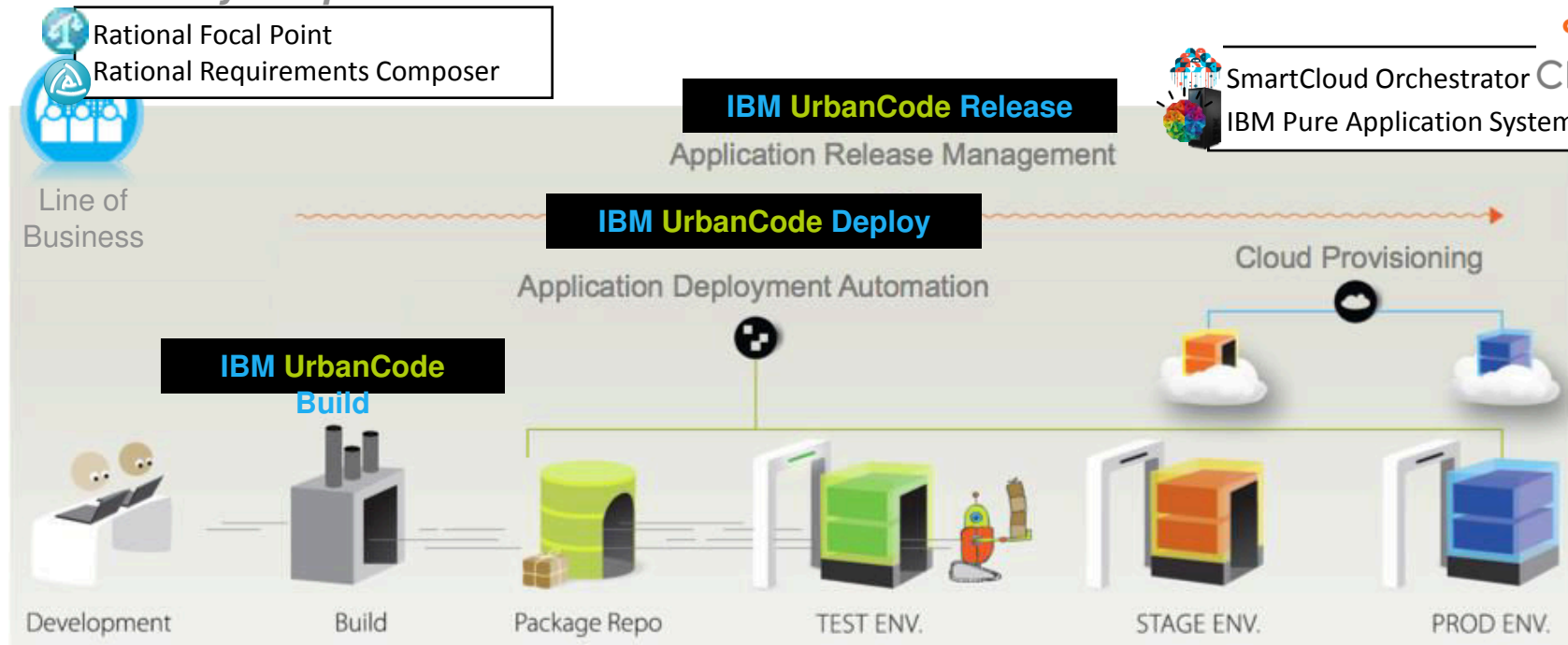
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## Example DevOps Tool Chain

*Incrementally adopt when/if needed*

### IBM SmartCloud

SmartCloud Orchestrator Chef  
IBM Pure Application System



Rational Team Concert

Rational Quality Manager  
Rational Test Workbench  
Rational Test Virtualization Server

SmartCloud Application Performance Management

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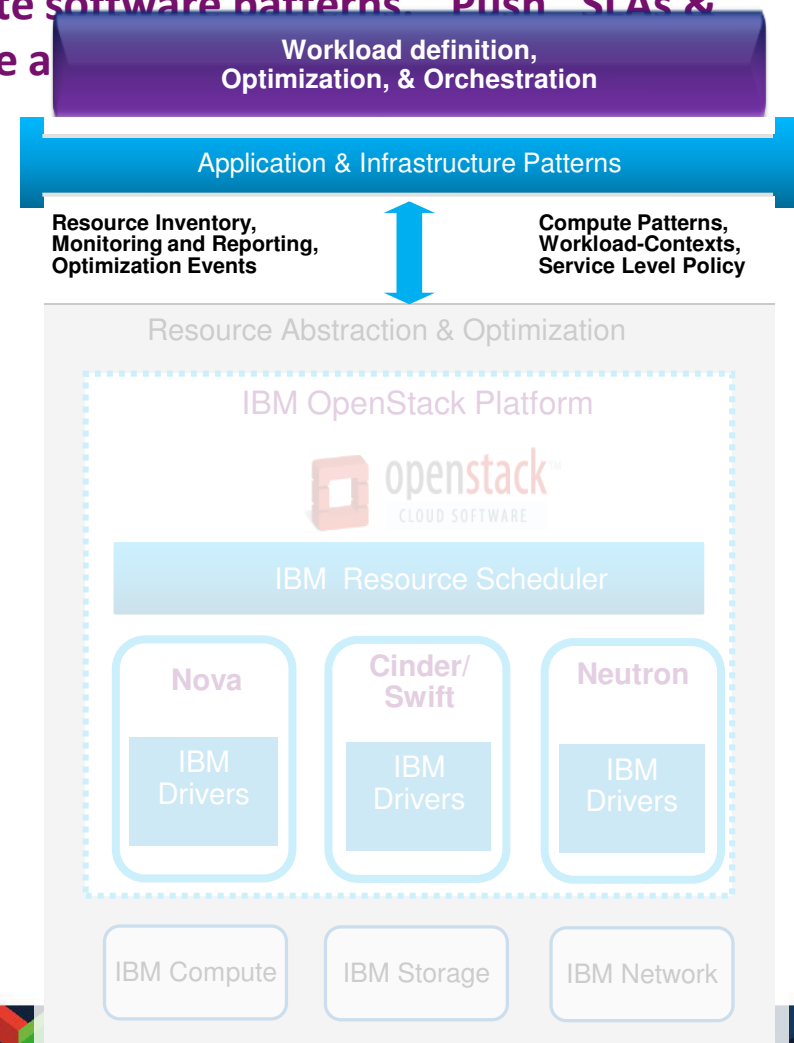


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Provide tooling to define and continuously update software patterns, 'Push' SLAs & policies from patterns to automate infrastructure and delivery

- **Continuous Delivery Pipeline supports agile delivery**
- **Accelerate delivery of applications by enriching patterns as they progress through the lifecycle**
  - Tools that allow existing deployments to be captured as infrastructure patterns
  - Improve quality by earlier use of production-like environments (shift-left) to minimize configuration differences between dev, test, and production
- **Manage environment to support workload in an agile, incremental fashion**
  - Automate core infrastructure layers through end to end analytics and integration with SmartCloud
  - Define environments based on application needs via Open APIs to encourage broad ecosystem
  - Tight integration with OpenStack HEAT engine

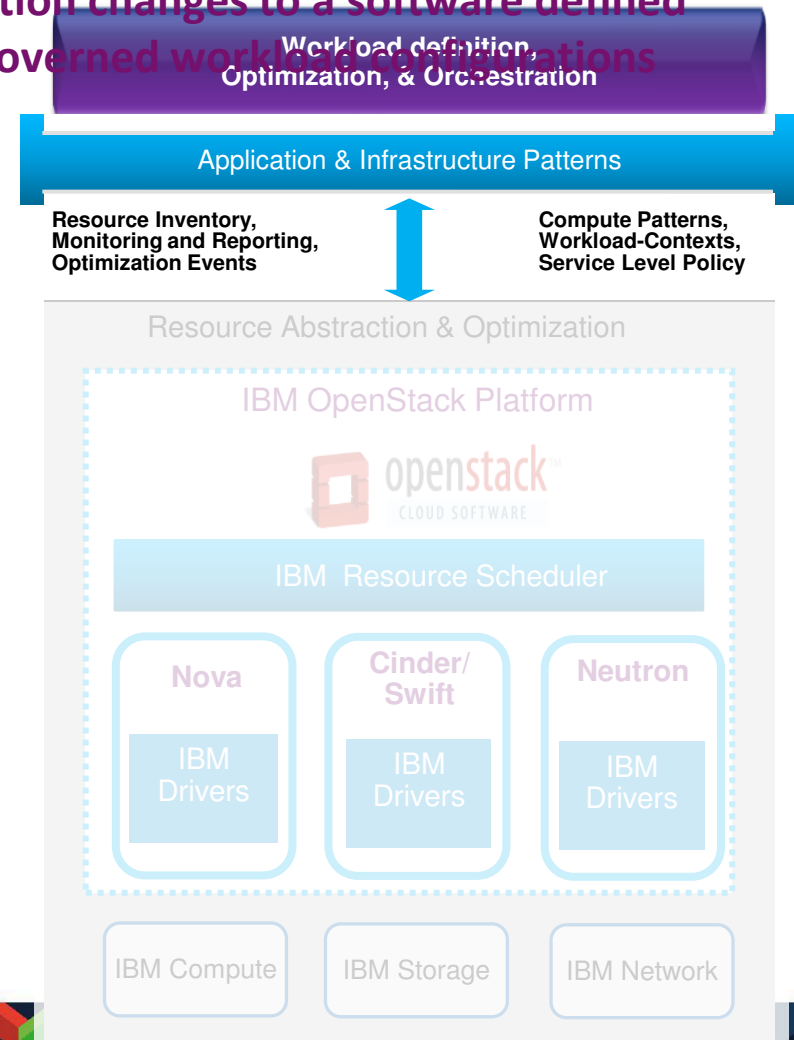


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**UrbanCode Deploy continuously delivers application changes to a software defined environment while reducing quality risks using governed workload configurations**

- **Infrastructure agnostic application blueprints**
  - Tie applications to software defined resources or imported SmartCloud workload patterns
  - Application portability across infrastructure vendors
  - Graphical tooling to create deployment processes
- **Environment-specific workload configurations**
  - Improved visibility to environmental differences throughout the delivery lifecycle
- **Built in audit trail, security, and reporting**
  - Visibility and control of workload changes to assist with regulatory or enterprise process requirements



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## Example Client Case Studies

**Panasonic**



### Redefining the Driver Experience

Software innovation in the dashboard: assembles the software for its products five times faster



### Better Business Agility

1600% increase in delivery velocity in 7 months, while maintaining quality



### Increased Capacity to Innovate

Cars.Com increased product releases from 40 to 300 per year

WebMD: Reduced cycle times from 6 months to 4 weeks, 4 min self service

### Predictable Release Schedules with Assured Regulatory Compliance



Cost Avoidance of over £1.5M (\$2.3M) a year  
Test team "down-time" virtually eliminated  
Release processes take 1-2 hours versus 2-3 days  
Developers gain autonomy and self-service for deploying applications

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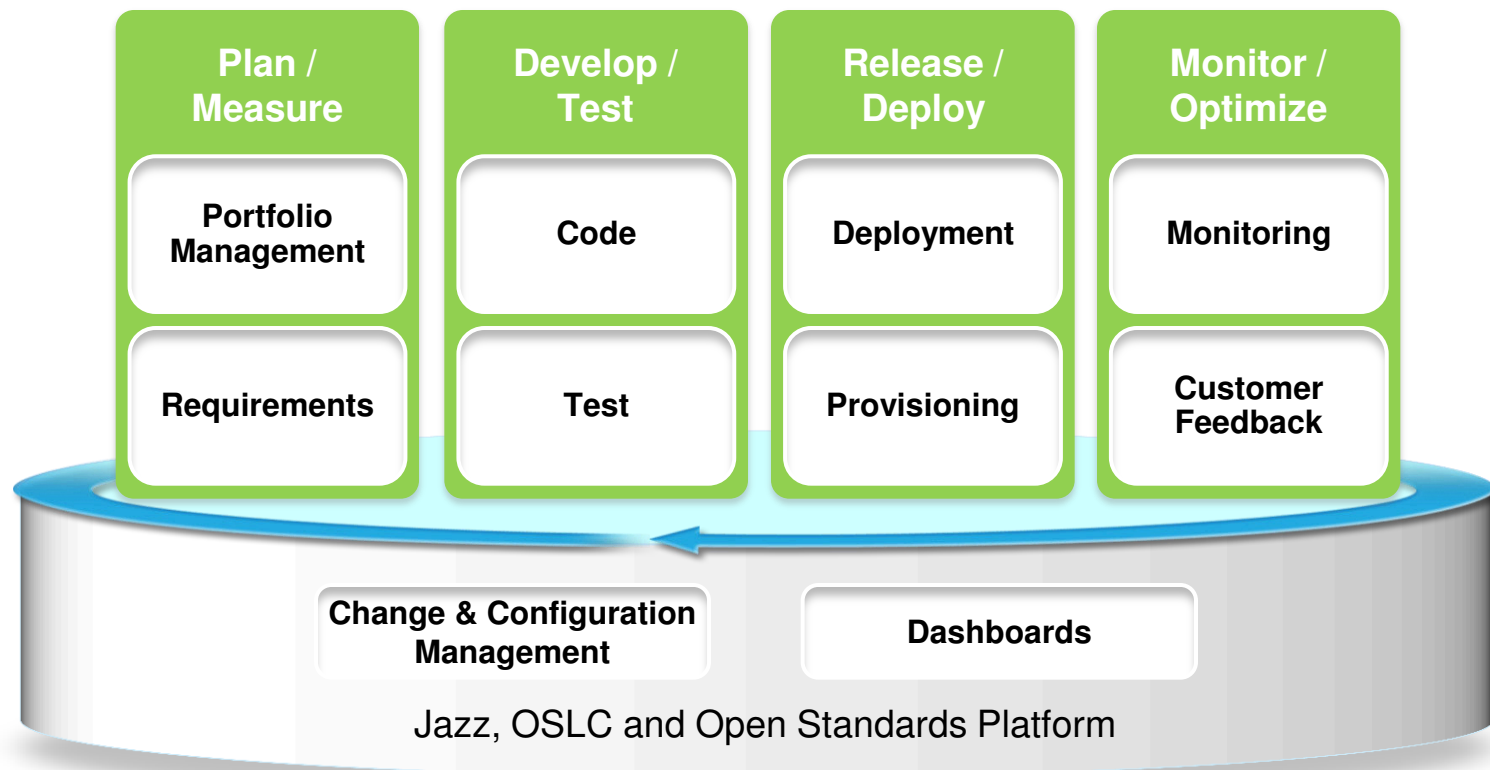




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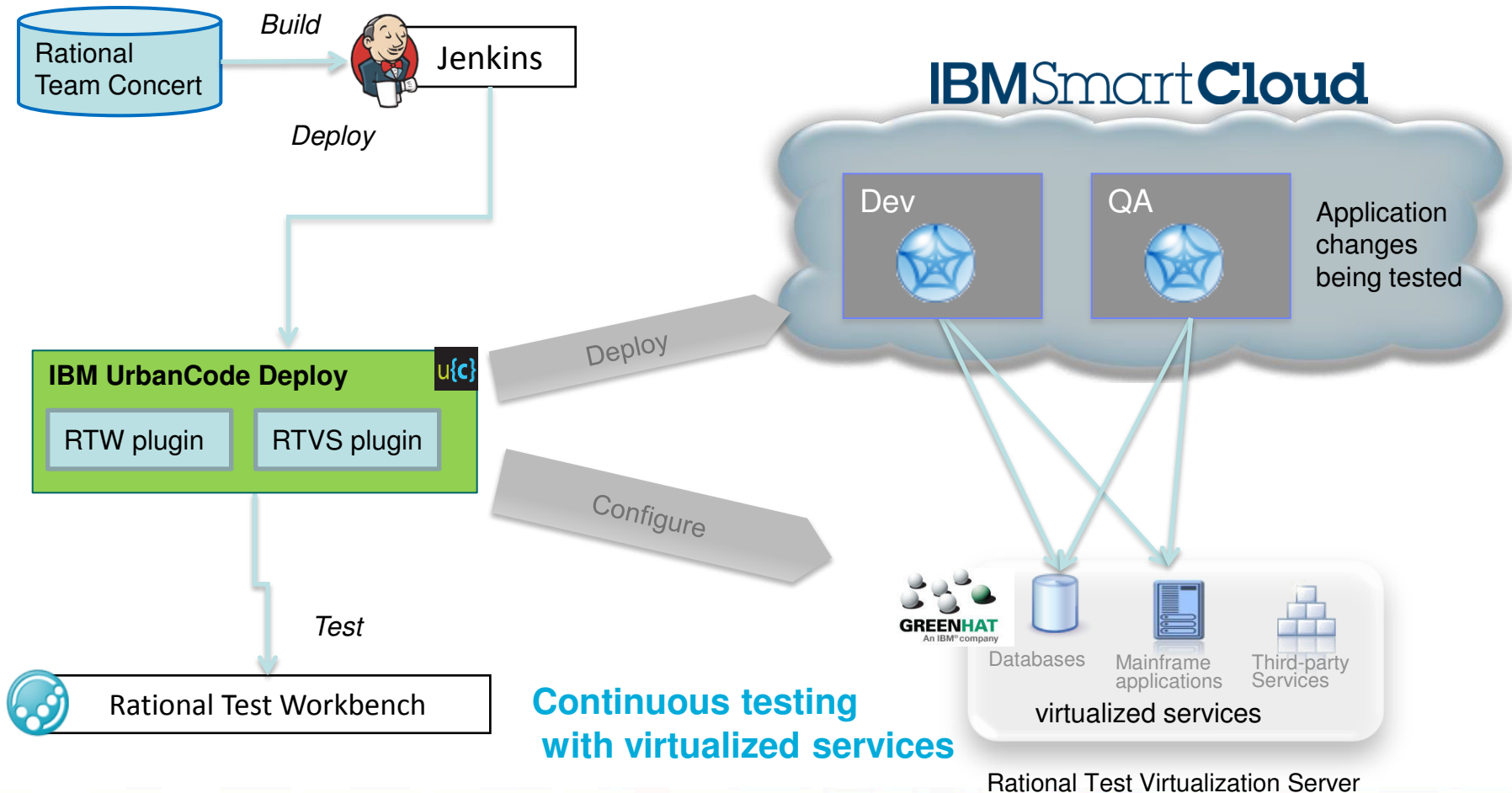
## DevOps Solution: Adoption paths, open platform and key capabilities



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Automating deployment and testing to production-like environments



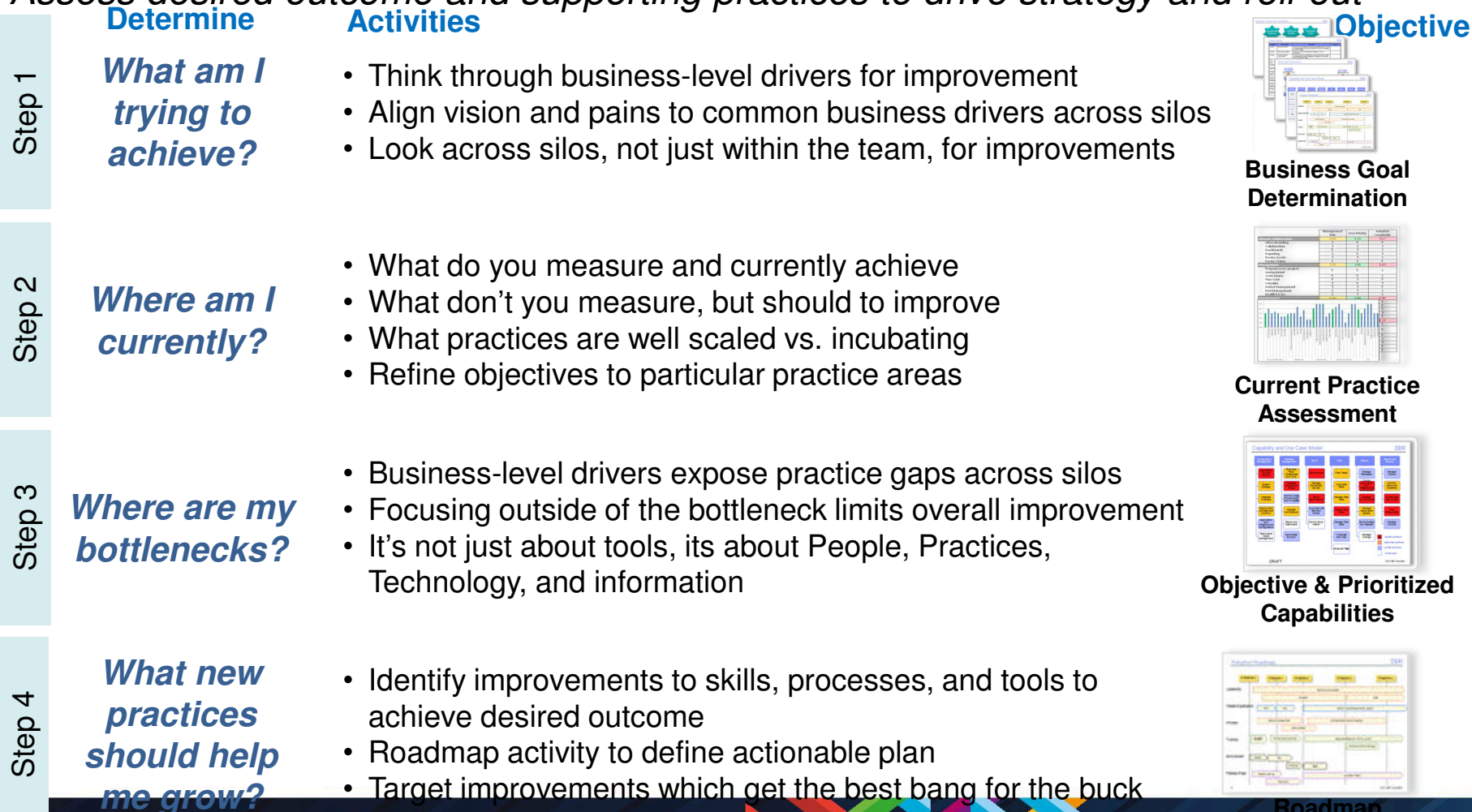
**Continuous testing  
with virtualized services**

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## Where do you start: DevOps Adoption Roadmap

Assess desired outcome and supporting practices to drive strategy and roll-out



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Industry norm

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## DevOps maturity model

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



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## US Tennis Association– US Open Tennis Championships

*increases scalability and flexibility*

### The need:

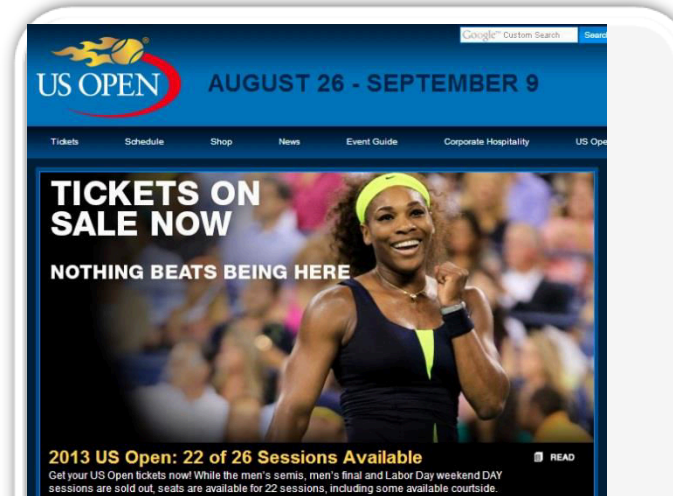
The US Open tournament is the most-attended single annual sporting event in the world. They needed to provide deeper analysis and a better understanding of how players perform against each other, all while ensuring that USOpen.org could handle peak traffic during the most popular matches.

### The solution:

The US Open uses predictive analytics, cloud computing and mobile technology to connect tennis fans. Before each match, a predictive analytics solution runs an analysis of competitors' historical head-to-head matchups, individual players' previous matches and stats against comparable player styles, to identify the keys to each match.

### The benefits:

- Generated more than 136 million page views over mobile phones and tablets, a 47 percent increase over the previous year
- Provided access on the tournament's official website, USOpen.org, to more than 10 million visitors worldwide for the fourth consecutive year
- Increased scalability and flexibility, improved resilience and lowered costs



*"We continue to look for new ways to innovate and strengthen our leadership position in the sports industry, and one of the ways we will do this is by delivering content and information about the US Open to fans in the way that they want to consume it, no matter where they are."*

*– Phil Green, senior director of advanced media, USTA*



### Solution components:

- IBM DevOps: Develop/Test and Monitor/ Optimize

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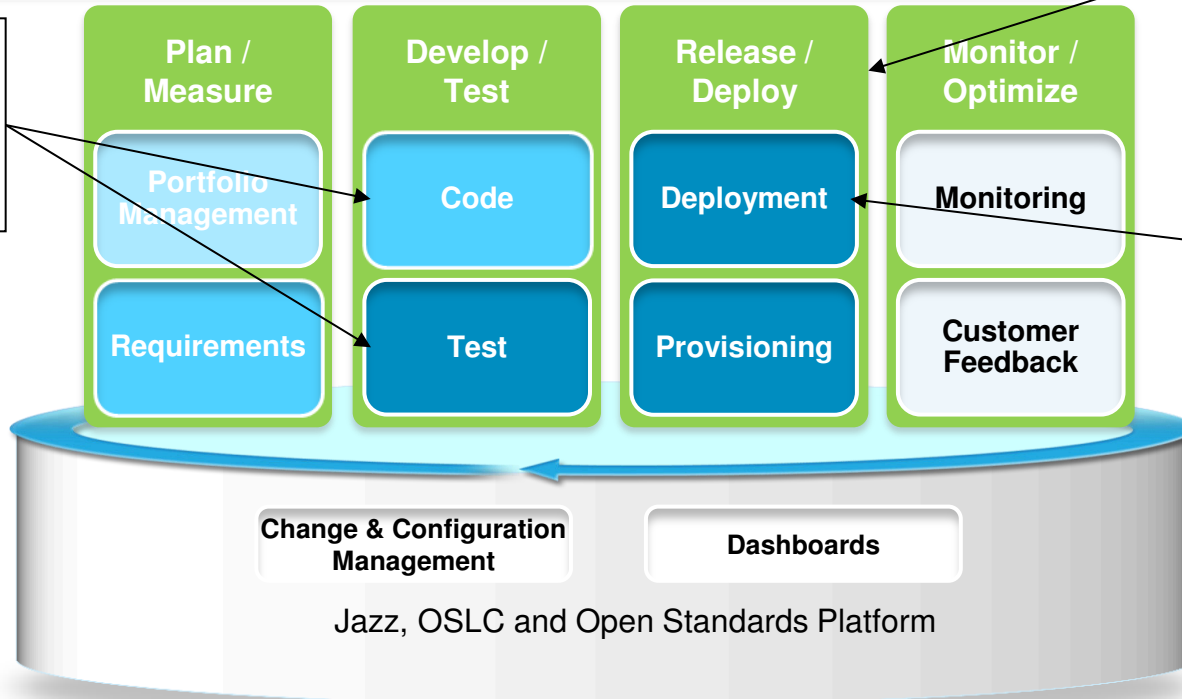
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## Fidelity International case study for Speeding Delivery

### Business Challenge

Board-level visibility strategic project to build new trading system with tight time-to-market

Considerable **manual effort and down-time** delays dev and test teams



Release process takes **2-3 days**

Increasing number of **failed deployments** as development pace increased

Impact of capability

High

Medium

Low

Minimal

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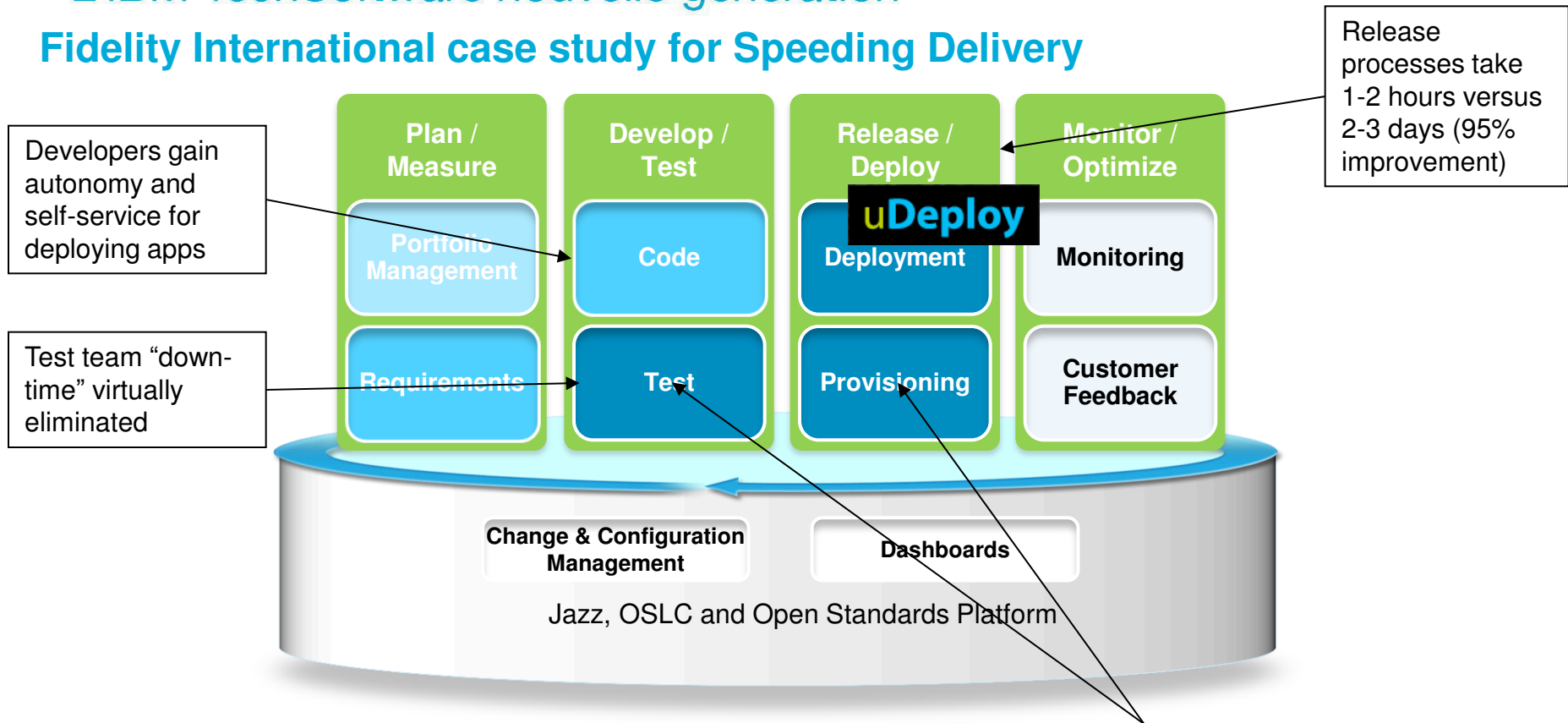
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## Fidelity International case study for Speeding Delivery



### Benefits

- Project successfully completed on-time
- \$2.3M operational cost avoidance

### Next Steps

- Software-defined environment better managed environments
- Improved test automation

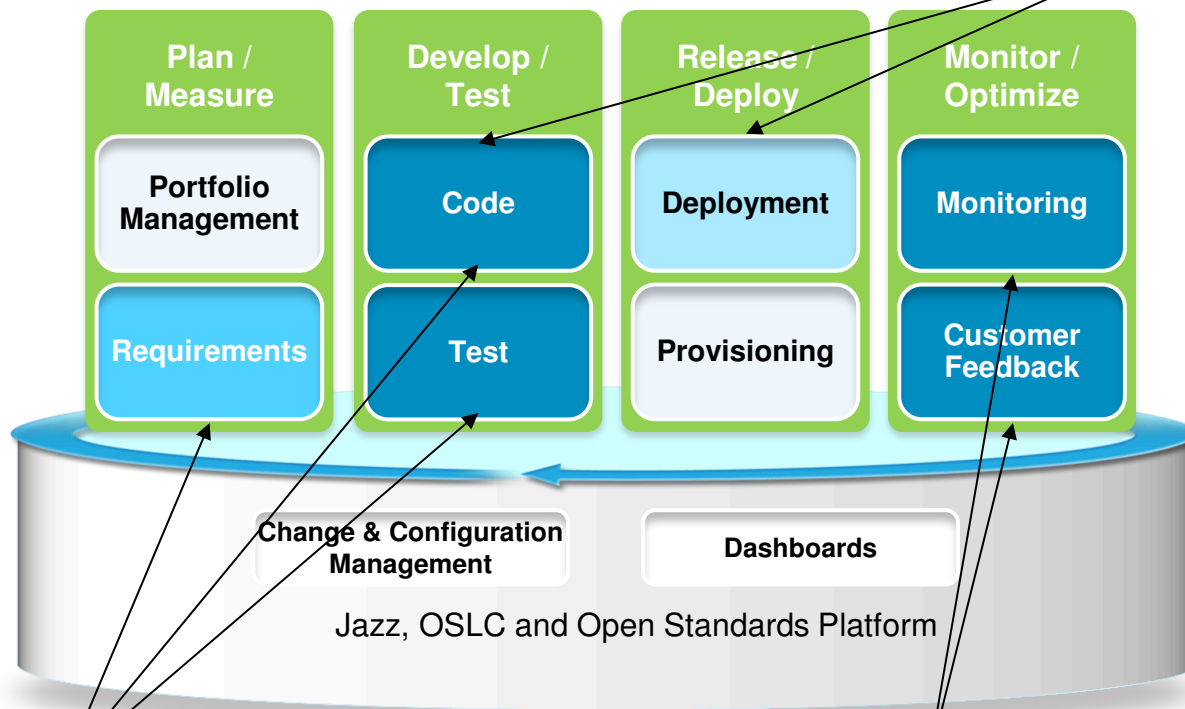
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## Mobile DevOps and capabilities

Repeatable process to continuously deliver Mobile apps

Continuous integration on multiple Mobile OSes  
Reduce time spent on setting up environments



uRelease

uDeploy

### Designing, developing and testing the Mobile app

Developing for multiple Mobile platforms  
Accelerate cycle times for dev/test



Worklight



Rational Test Workbench

### Determining effectiveness of Mobile app

Is the app working?  
Are users responding to the app?



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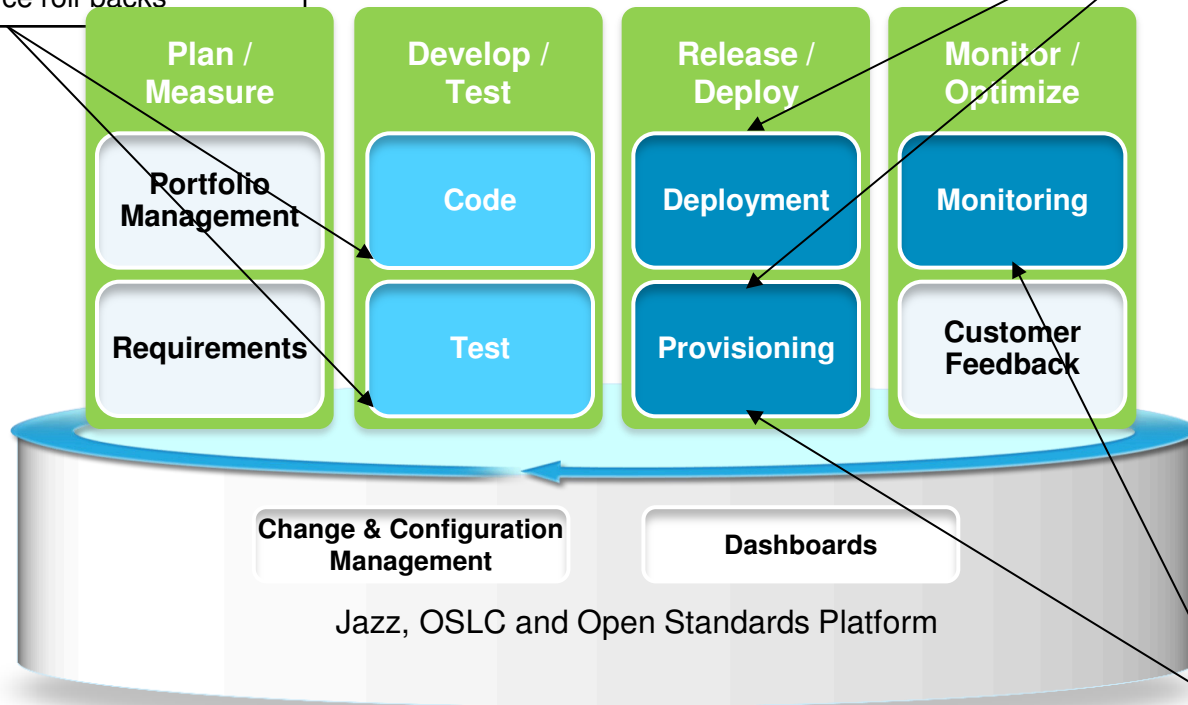
## Cloud DevOps and capabilities

### Shift-left of cloud-provisioned envs.

Self-service provisioning of product-like environment for dev/test team eliminate down-times and reduce roll-backs

### "Full-stack" provisioning and deployment

Unified management across application, platform and infrastructure layers



### Self-tuning infrastructure

Dynamically provision optimal environment based on real-time system status