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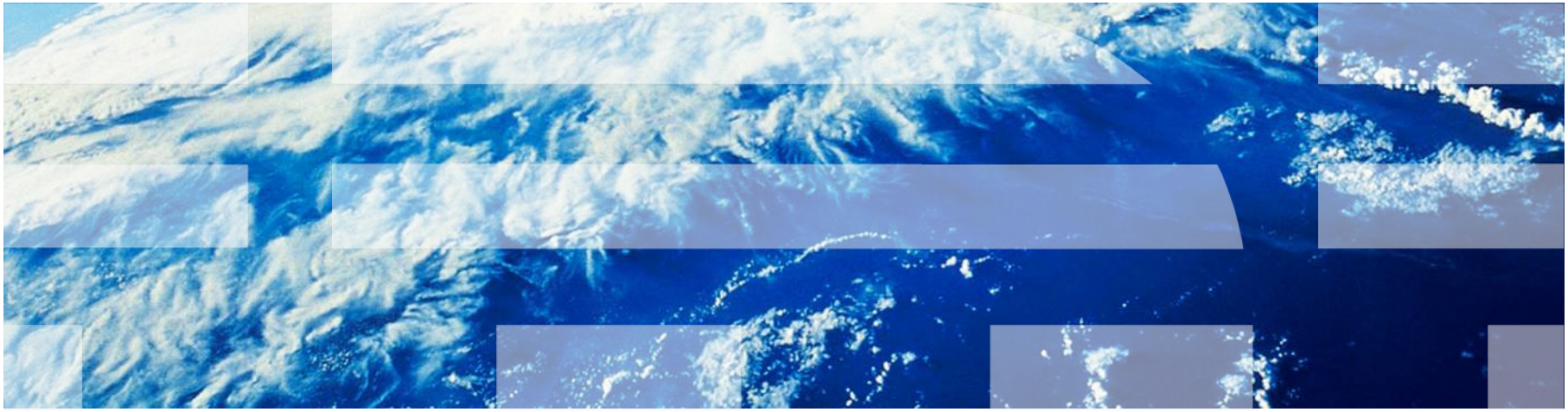
DevOps Introduction



Have you seen this before?

Where is the latest version of the service?

This deploy is not working, where is the older version?

Here, you can install it on production, it's tested

It worked on my machine

Who authorized this deployment?

What is the version of the service that is in production?

How much time we need to develop this service?

Software delivery is at the heart of today's top technology trends

Big Data
Insights on new products by more efficiently interpreting massive quantities of data

Cloud
Demand for apps requires fast, scalable environments for dev and test, as well as production

Social Business
Broader set of stakeholders collaborates to deliver continuous innovation and value

Instrumented Products
Industry requirements demand faster response to regulations and standards, with traceability and quality

Mobile
Modern workforce expects constantly updated software to connect to enterprise systems

Intelligent/ Connected Systems
Software component in smart products driving increased value and differentiation

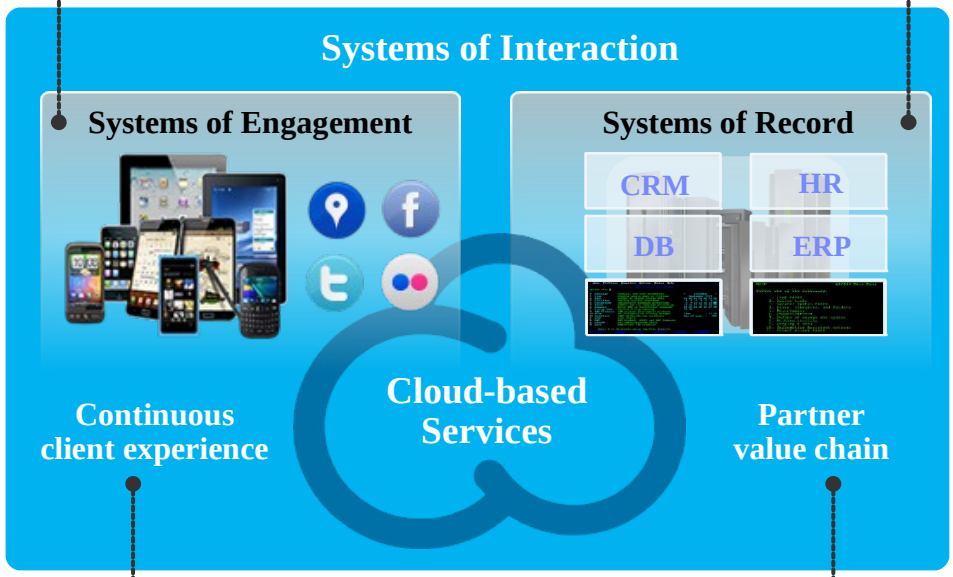
Lack of continuous delivery impacts the entire business enterprise

Line-of-business
Takes too long to introduce or make changes to mobile apps and services

Operations
Rapid app releases impact system stability and compliance

>70%
of budgets devoted to maintenance and operations

4-6 weeks
to deliver even minor application changes to customers



>45%
of customers experience production delays

>50%
of outsourced projects fail to meet objectives

Development/Test
Speed mismatch between faster moving front office and slower moving back office systems, delaying time to obtain feedback

Suppliers
Delivery in the context of agile

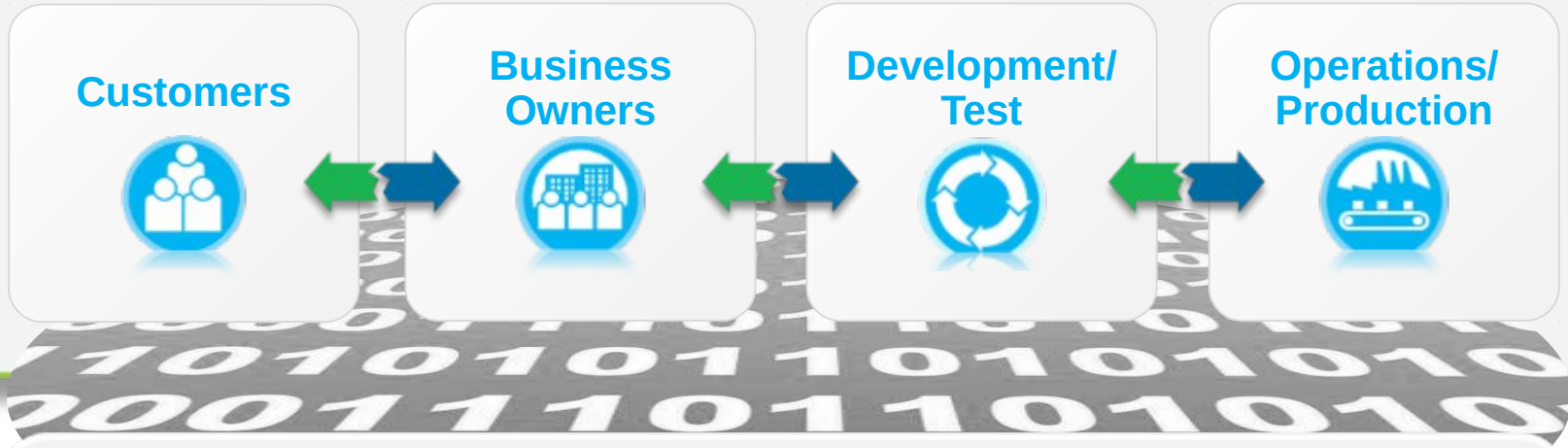
Deployment and release problems are serious business

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

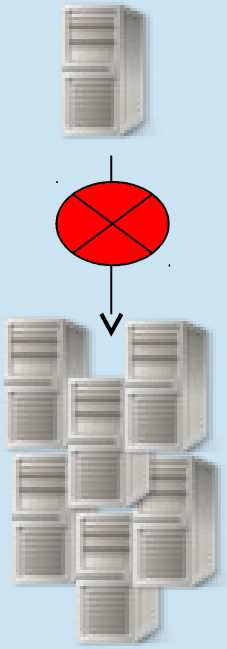
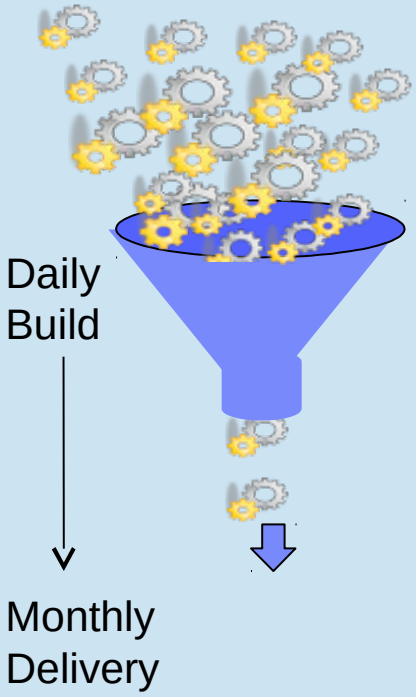
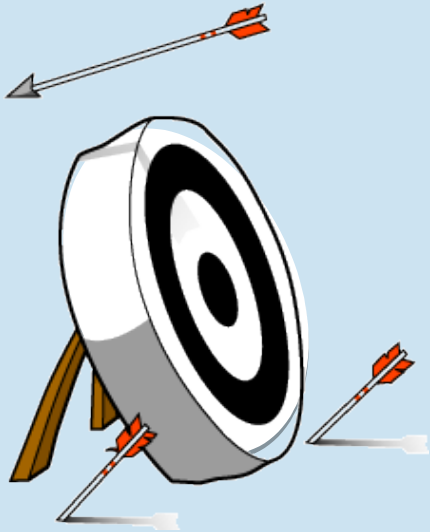


Software glitch costs trading firm Knight Capital $440 million in 45 minutes

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

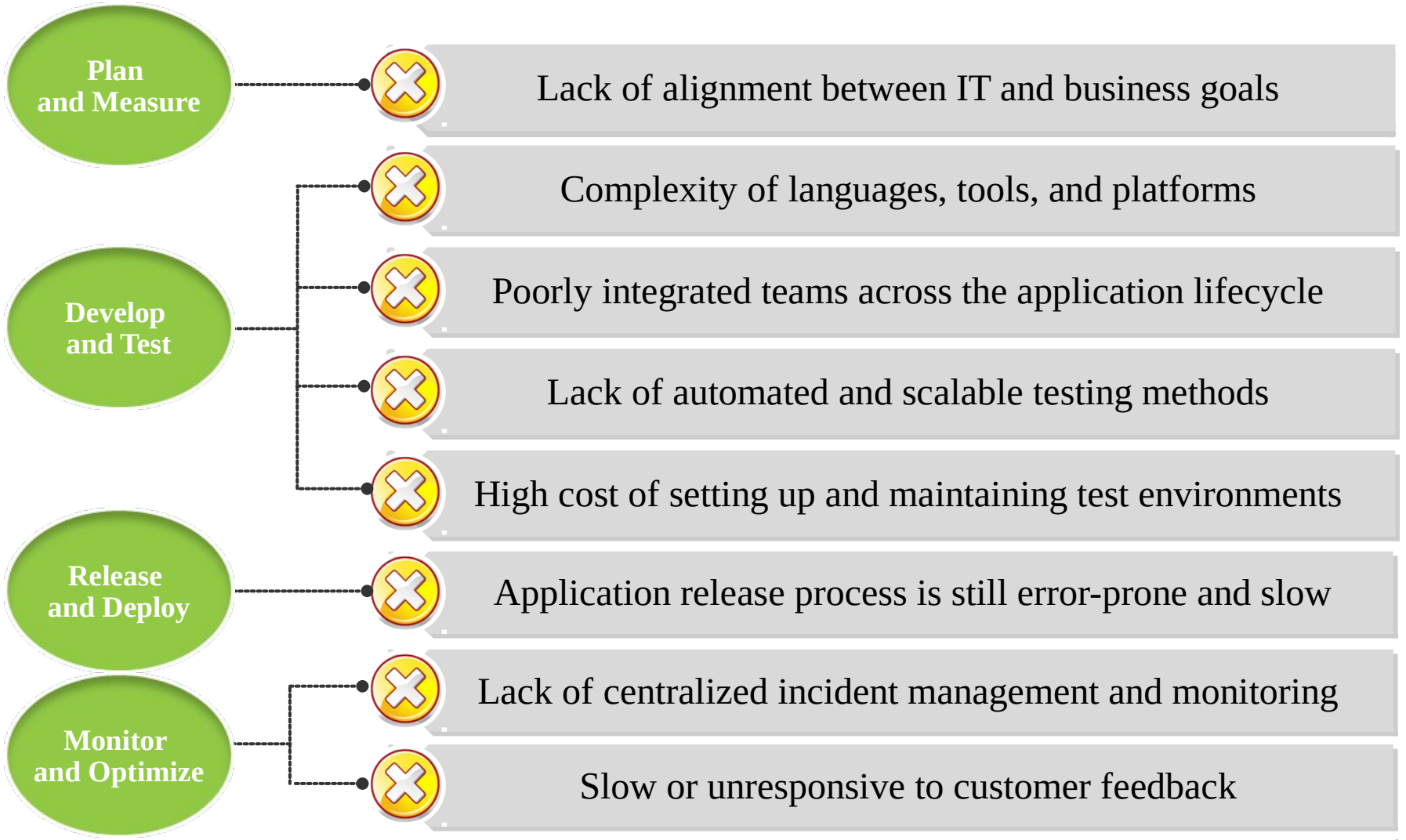
A bad software upgrade at RBS Bank left **millions unable to access money for four days**

What's going wrong?

Differences in dev and ops environments cause failures	Backlog of agile releases that Ops cannot handle	Manual (tribal) processes for release lack repeatability/speed	Lack of feedback and quality metric leads to missed service level targets
			

Key software delivery bottlenecks we must eliminate

Bottlenecks impact delivery cycles, cause rework, and waste resources



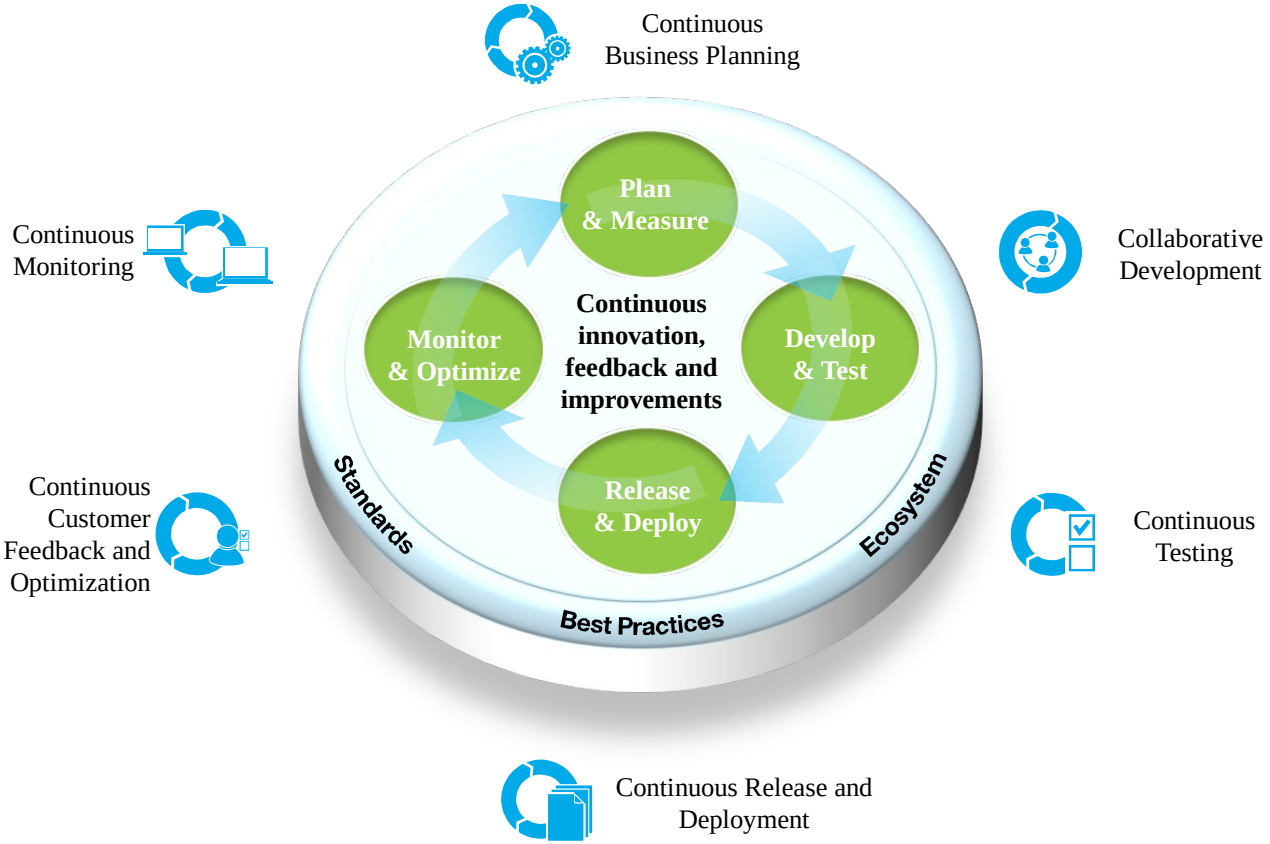
What is “DevOps”?

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

Accelerate software delivery
faster time to value

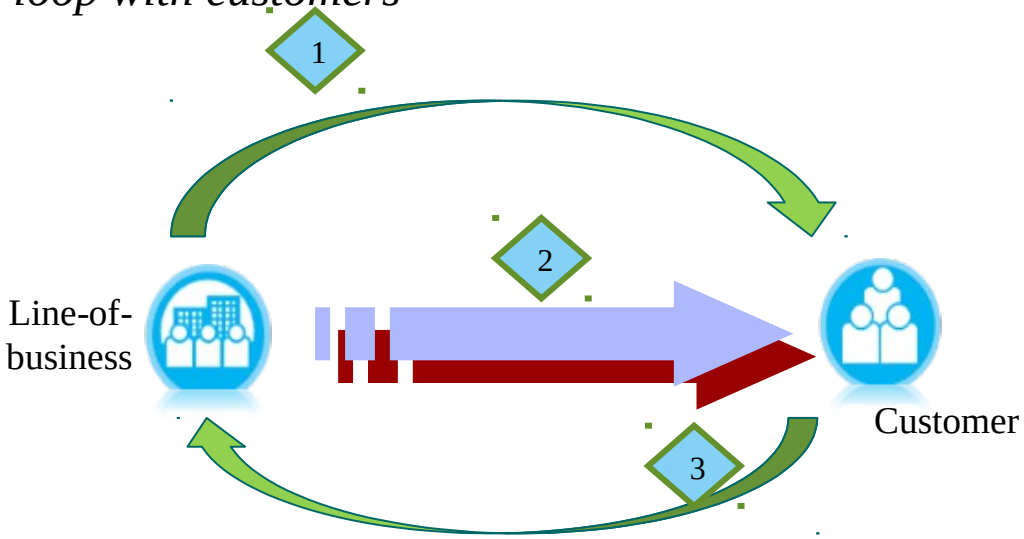
Balance speed, cost, quality and risk
increased capacity to innovate

Reduce time to customer feedback
improved customer experience



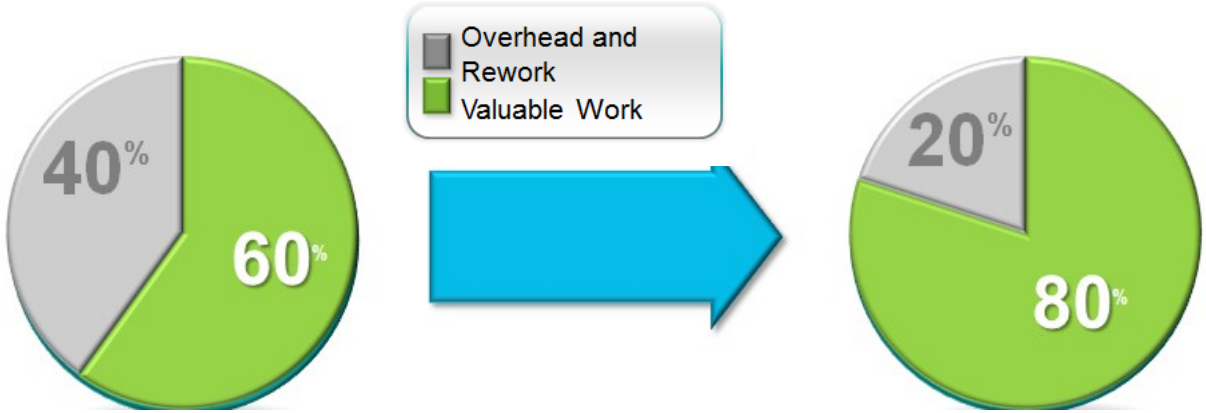
DevOps approach

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



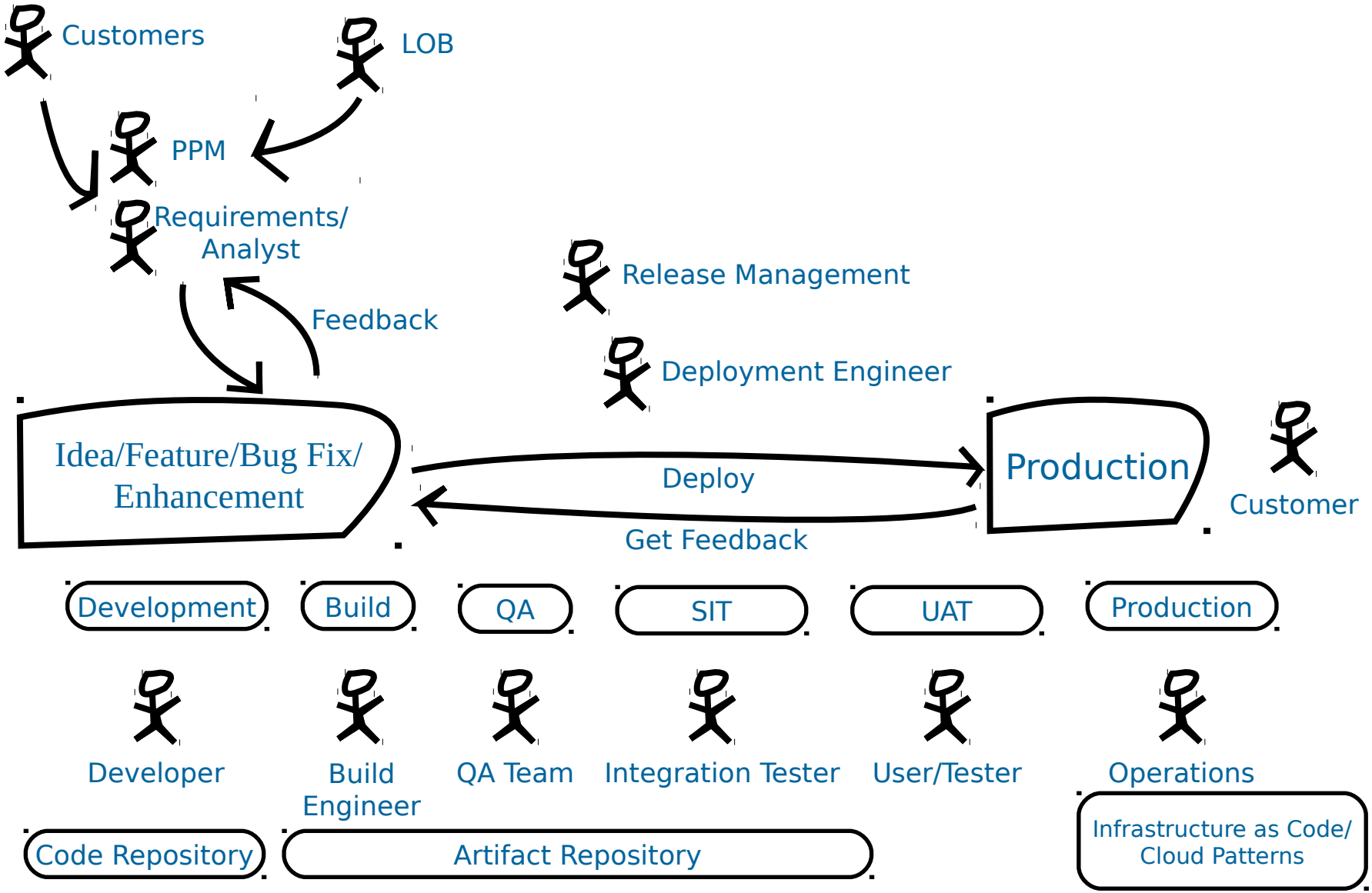
1. Get ideas into production fast
2. Get people to use it
3. Get feedback

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



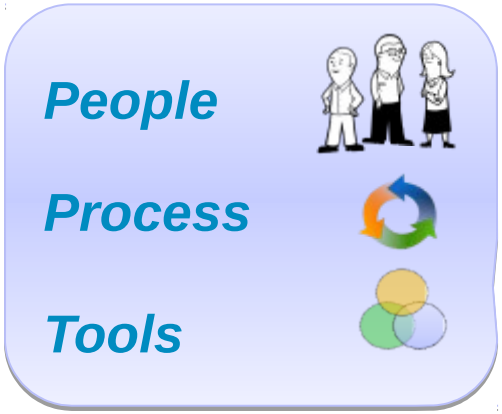
Eliminate any activity that is not necessary for learning what customers want

A Holistic View of DevOps

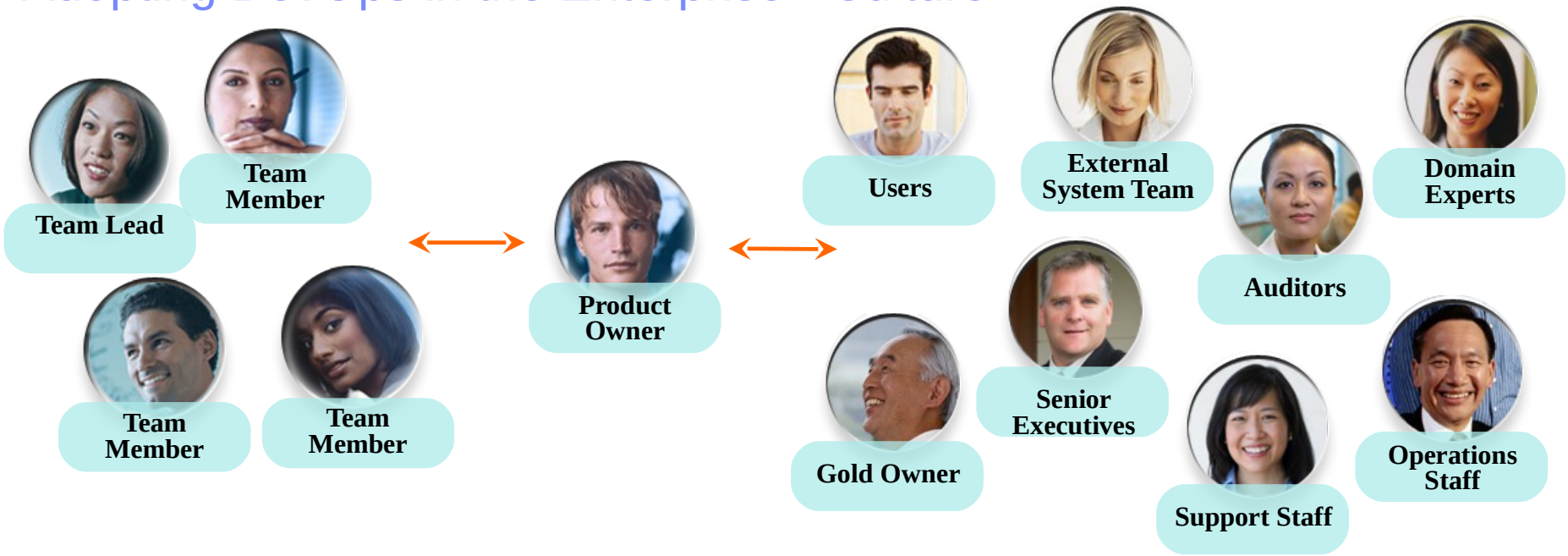


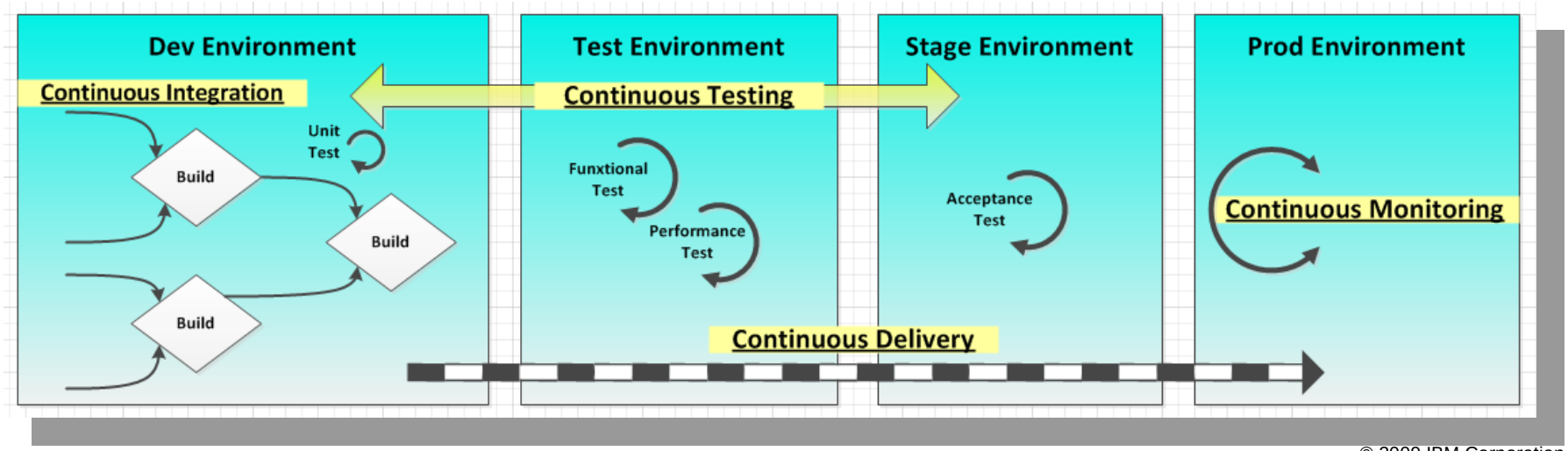
DevOps Principles and Values

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

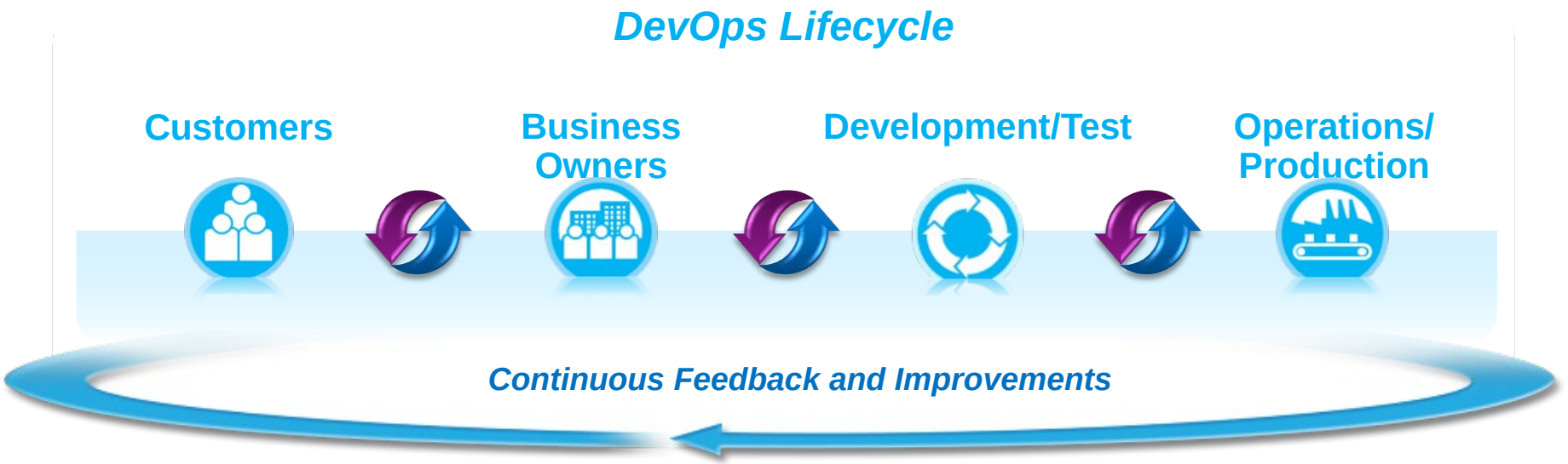


Adopting DevOps in the Enterprise - Culture





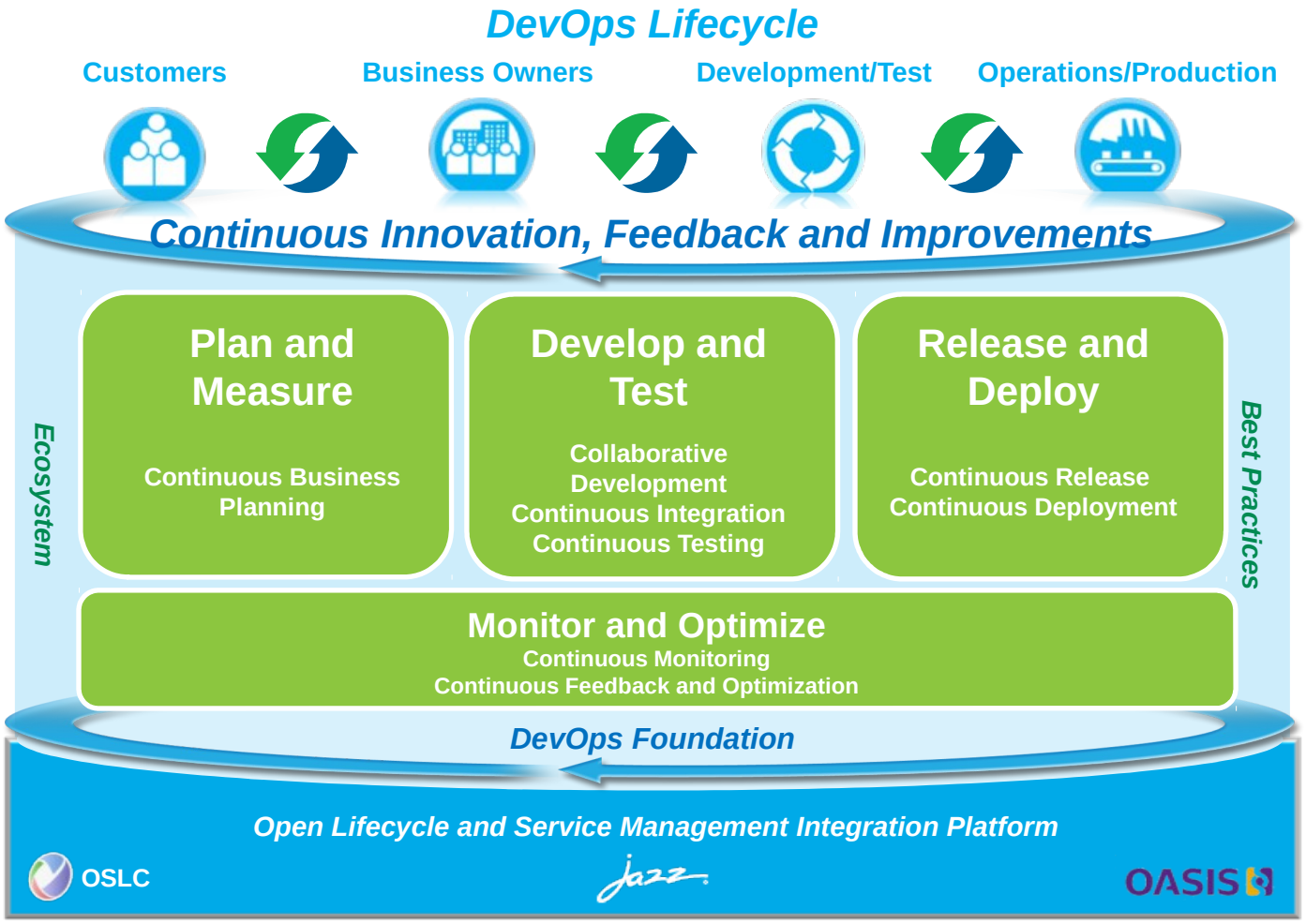
Adopting DevOps in the Enterprise - Process



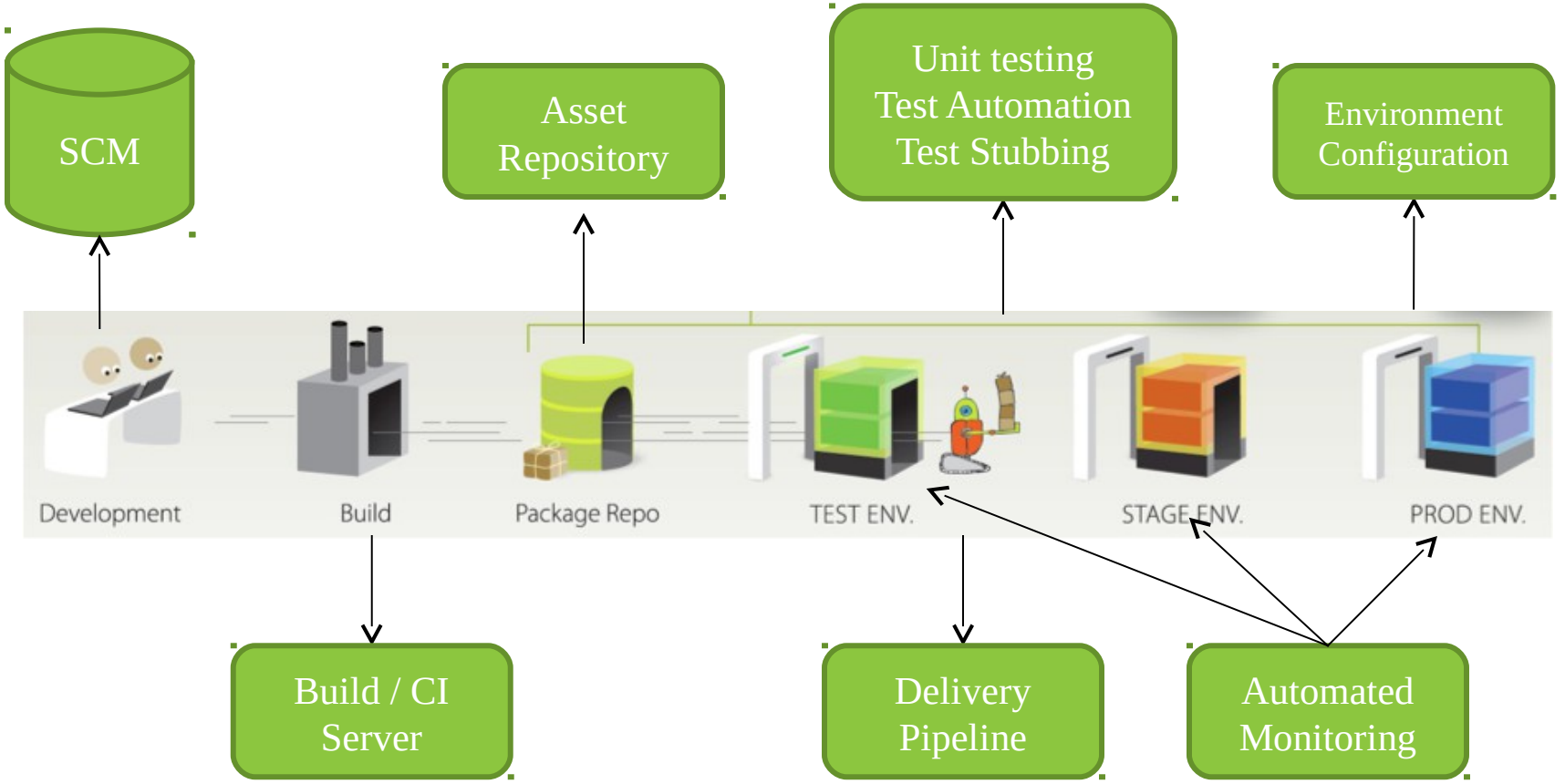
Key Capabilities

1. Collaborative Development & Continuous Integration
2. Continuous Business Planning
3. Continuous Release and Deploy
4. Continuous Testing
5. Continuous Feedback

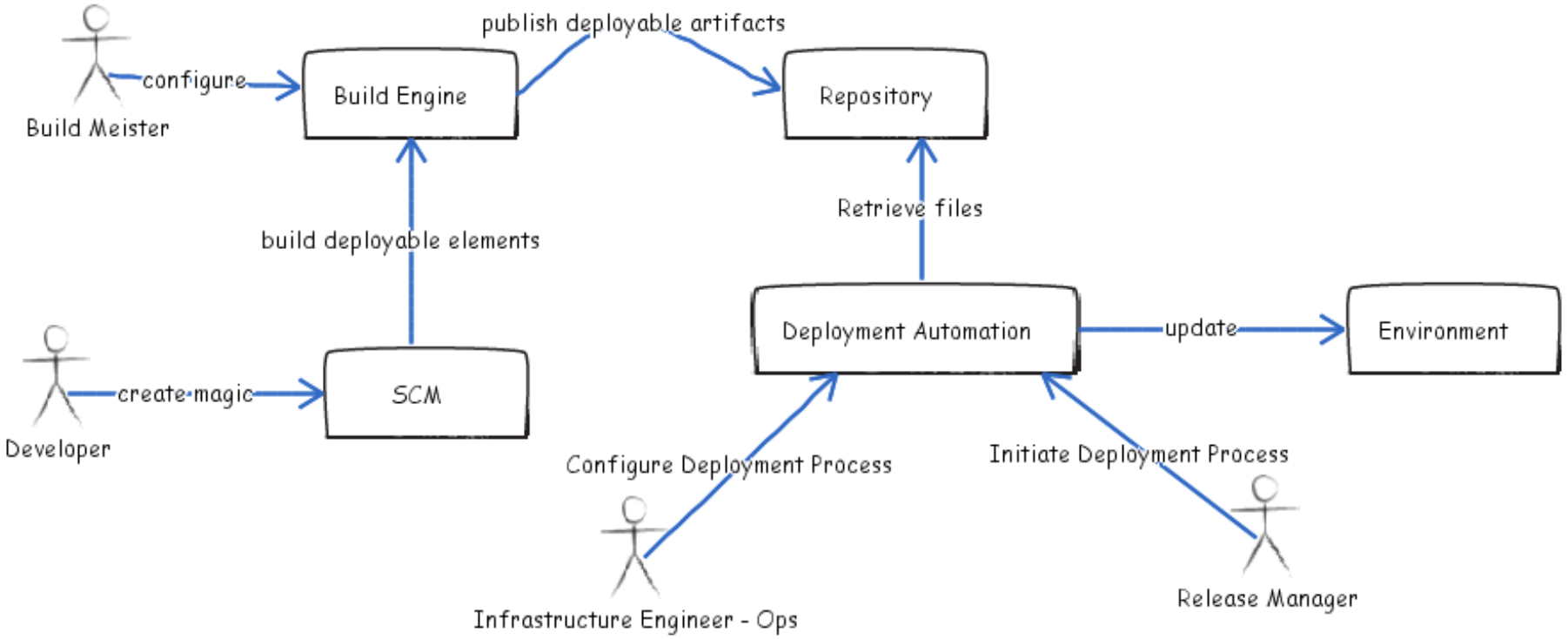
Adopting DevOps in the Enterprise



Implement a DevOps Toolchain

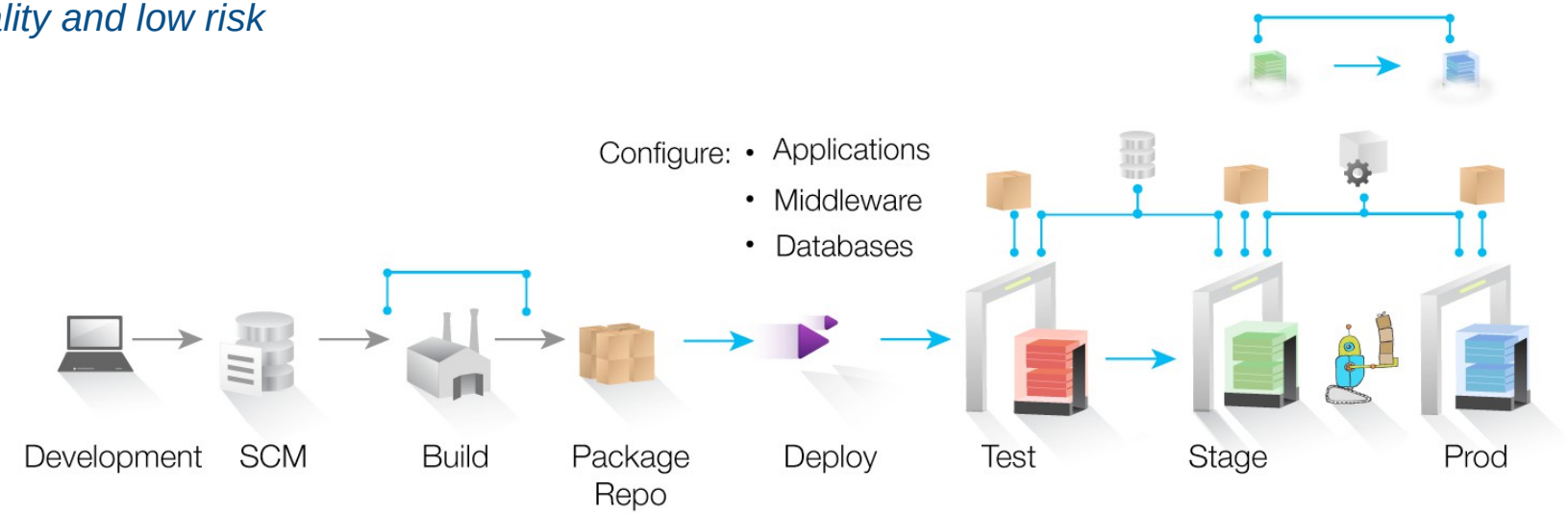


Delivery Pipeline – Basic Usage Model



Introducing **UrbanCode**

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

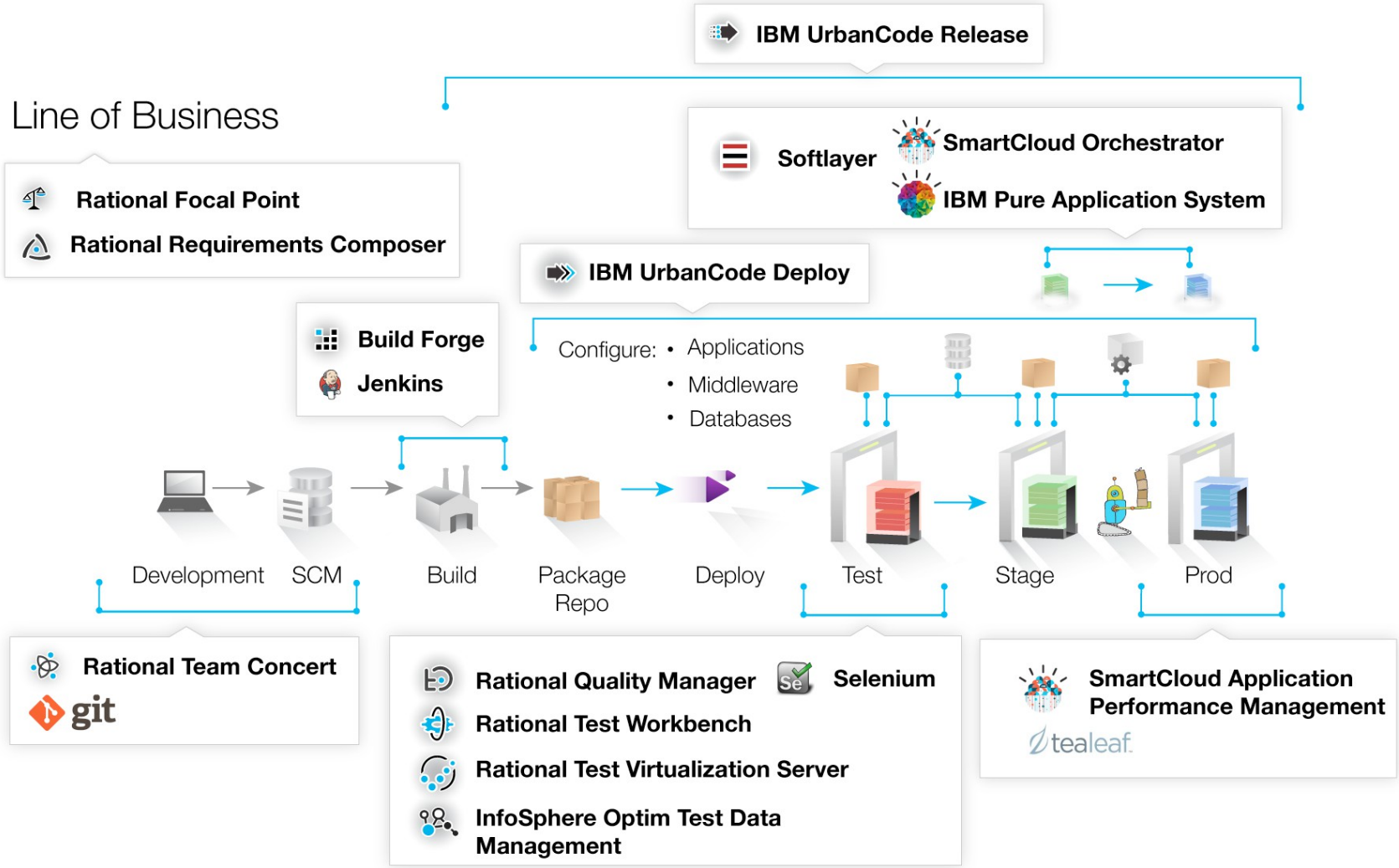
Reduce risk

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

IBM UrbanCode Deploy 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.

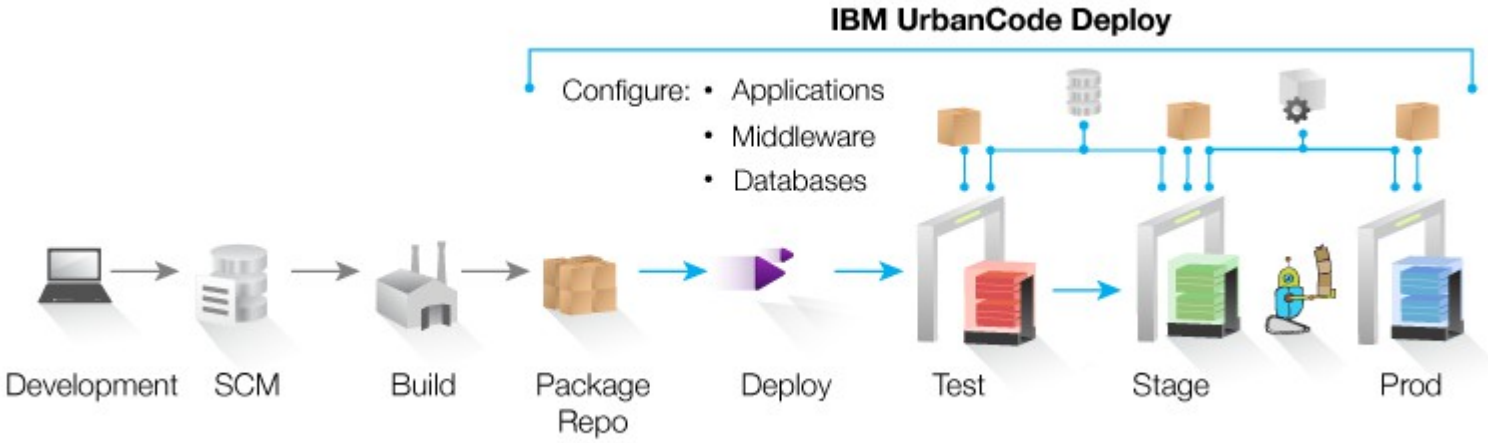
IBM UrbanCode Release is an intelligent collaboration release management solution that replaces error-prone manual spreadsheets and streamlines release activities for application and infrastructure changes.

Continuous Delivery Pipeline – IBM DevOps Tool Chain



UrbanCode Deploy

Automate the deployment of applications across environments



- Manage application components and versions
- Manage environment configuration from dev/test through production

- Compliance: audit trails quality gates
- Easy to use graphical process designer
- Inventory: what is where
- Plugin Ecosystem

Hundreds of Integration steps

- **Deployment Sources**
  - Build Servers
  - SCM Tools
  - Maven Repositories
  - Other Repos: (ie: FRS)
- **J2EE Platforms**
  - Application Servers
  - Message Queues
  - Message Brokers
- **Infrastructure**
  - Public / Private Cloud
  - Load Balancers
- **BI & EAI Platforms**
  - Tibco
  - Business Objects
  - Informatica
- **Microsoft Platform**
  - IIS
  - SharePoint
  - BizTalk
  - SQL RS
- **Databases**
  - MS SQL Server
  - Oracle
  - JDBC

What troubles operational releases?

Releases encompass more than application deployment

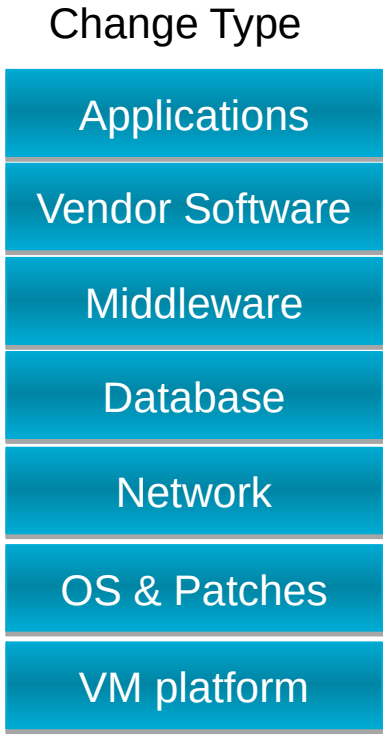
- Examples: Middleware, network, hardware changes in addition to application changes
- Steps known in development and integration, but missed in Prod

Interaction between applications in a release

- Ordering of application deployment steps fails to account for dependencies between applications or deployment steps.
- Required artifacts or applications missed or wrong application versions deployed.

Difficulty coordinating dozens of participants

- Late breaking changes to deployment instructions or targeted artifacts are not communicated.
- Work product quality and process check lists scattered about many tools and not digested for at-a-glance status



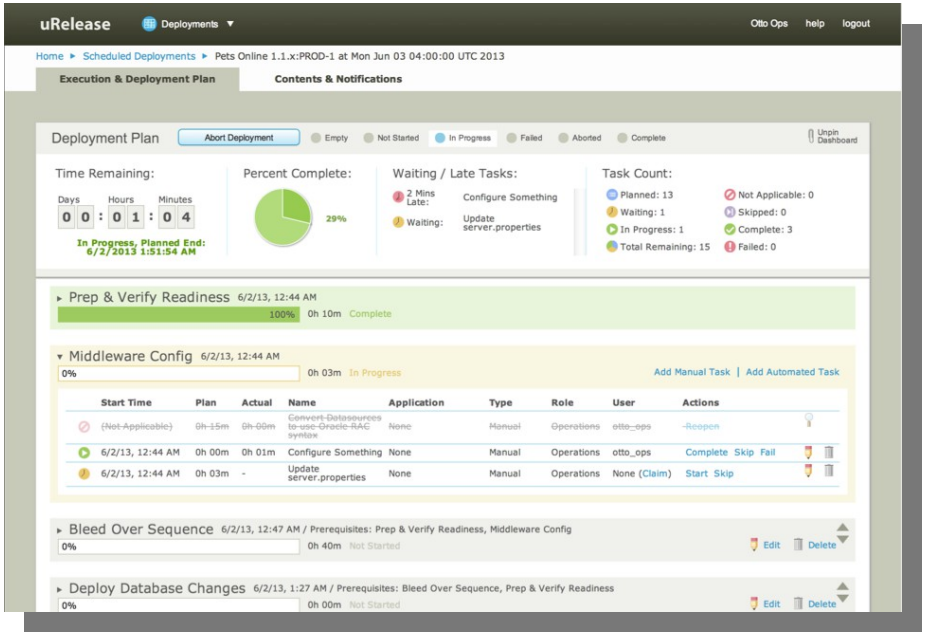
UrbanCode Release – Release planning and orchestration

Qualify with one question:

Do you have large monthly or quarterly releases that take hours/days and require dozens or that hundreds of people to get on a call?

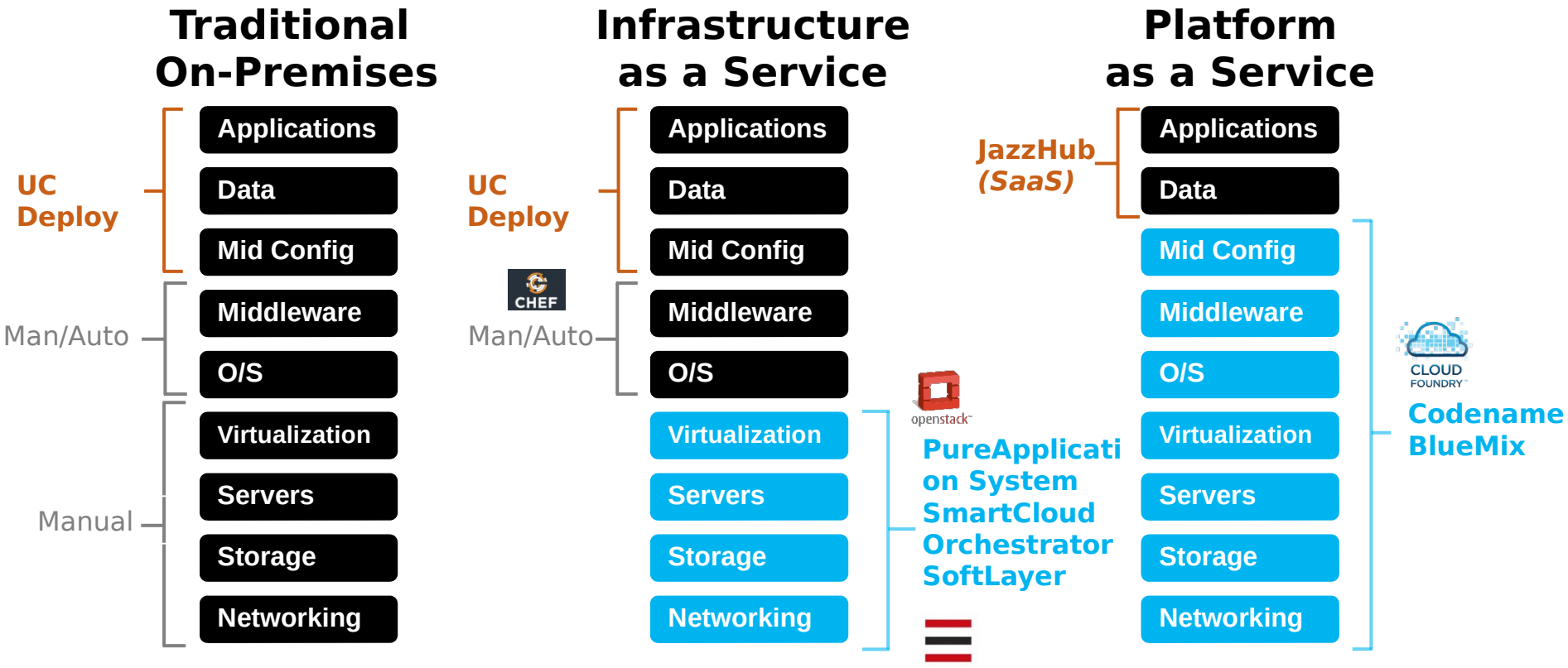
uRelease delivers

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



DevOps and Cloud Adoption

Automating for faster delivery with DevOps and cloud



Customization; higher costs; slower time to value

Standardization; lower costs; faster time to value

Questions

Image: FreeDigitalPhotos.net

धन्यवाद

Hindi

多謝

Traditional Chinese

ขอบคุณ

Thai

Спасибо

Russian

Gracias

Spanish

Thank You

English

Dziękuję

Polish

شكرا

Arabic

Obrigado

Brazilian Portuguese

多谢

Simplified Chinese

Danke

German

Grazie

Italian

Merci

French

நன்றி

Tamil

ありがとうございました

Japanese

감사합니다

Korean

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