

DDD-6420

InterConnect 2016
The Premier Cloud & Mobile Conference

The Future of DevOps and UrbanCode

Preparing for Hybrid Cloud and Containers

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February 21–25
MGM Grand & Mandalay Bay
Las Vegas, Nevada

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Welcome to InterConnect 2016

DevOps Deploy Track Highlights

- 24 Breakout sessions
- 2 Panel Discussion
- 3 Engagement Center Sessions
- 2 Research Day Sessions
- 2 Customer Feedback Roundtables
- 1 Workshop



Who are these guys?

- Eric is a product manager with IBM where he ensures our continuous delivery offerings rock.
- Eric has been with the Urbancode team for over a decade living and breathing continuous delivery and DevOps. He's had roles including development, technical sales, and marketing.
- @EricMinick

Eric
Minick



- Steve is product manager focusing on IBM UrbanCode Deploy
- Steve has been with UrbanCode for 8 years. Previously he was apart of the WW DevOps SWAT team.
- @Steve_Boone

Steve
Boone



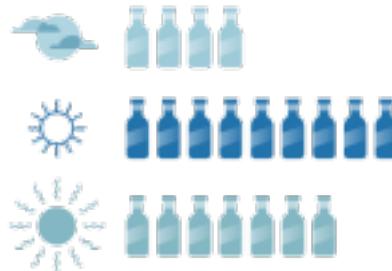
Businesses are experiencing digital transformations

New channels and business models



Engage new audiences

Real time insight driven processes



Create new business moments

Digital innovation



Leverage digital services & a broad ecosystem

Don't be a Headline

- *Failures in deployment and release can cost enterprises **millions of dollars***
- *Manual processes **do not scale** for todays complex applications and environments*

DealBook WITH FOUNDER ANDREW ROSS SORKIN

MERGERS & ACQUISITIONS | INVESTMENT BANKING | PRIVATE EQUITY | HEDGE FUNDS | I.P.O./OFFERINGS

Knight Capital Says Trading Glitch Cost It \$440 Million

By NATHANIEL POPPER AUGUST 2, 2012, 9:07 AM ▾ 356 Comments

Runaway Trades Spread Turmoil Across Wall St.



DAILY NEWS NEW YORK NEWS POLITICS SPORTS ENTERTAINMENT OPINION

U.S. | WORLD | CRIME | THE WEEK | NEWS PICS | BLOGS

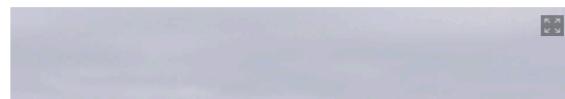
United Airlines to honor free tickets from computer glitch

Lucky fliers were able to pick up airfare for \$0, \$5 and \$10 for a couple hours on Thursday, and the airline said it will allow them to use the tickets.

BY VICTORIA TAYLOR / NEW YORK DAILY NEWS / Saturday, September 14, 2013, 11:11 AM

A A A

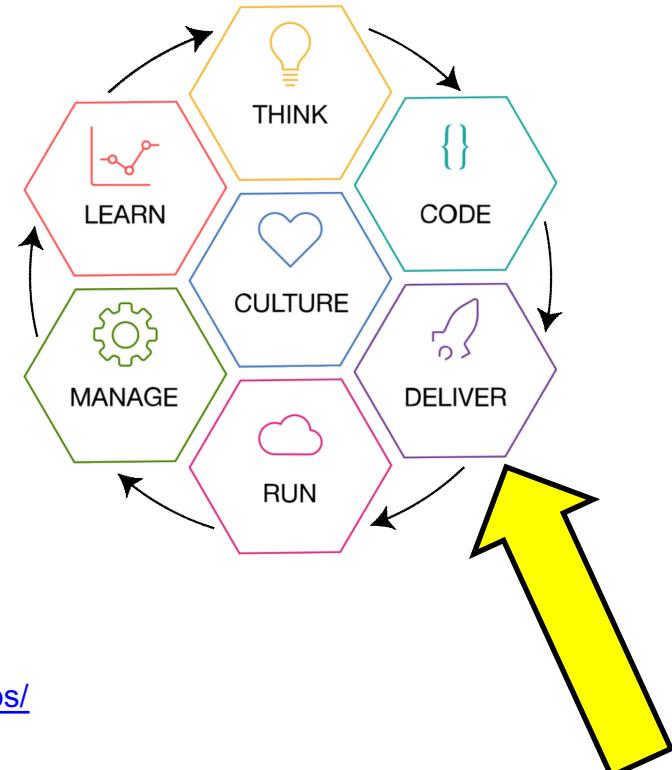
f Share 400 t Tweet e



That's why DevOps is HOT!

In short:

- DevOps exists to help the business win
- The foundations are found in Agile and Lean
- Culture is very important
- Feedback is fuel for innovation
- Automation helps
- The scope is broad, but centered on IT



<http://devops.com/2015/05/13/surprise-broad-agreement-on-the-definition-of-devops/>

IBM UrbanCode Deploy

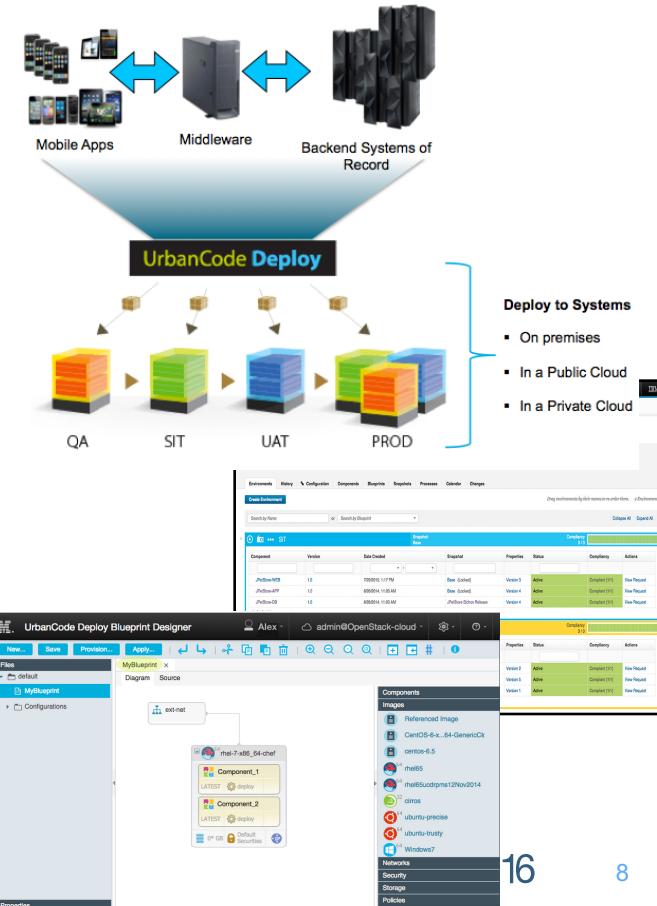
Deploy Applications through environments quickly and correctly, speeding time to market

Orchestrates across tiers and layers of the stack from Mobile to Mainframe including:

- Deploying web content, database schema and business logic
- Configuring middleware identifying drift
- Deploying to PaaS systems including Bluemix

Ensure governance, controls and visibility consistently from Development to Production

Eliminate environmental inconsistencies with Cloud Blueprints for infrastructure as code



IBM UrbanCode Release

The screenshot shows the UrbanCode Release interface for the 'Pets Online 1.1.x' release. The interface is divided into several sections:

- Pets Online 1.1.x** View this release
- Default Lifecycle** View this lifecycle
- Phases:** LATEST, DEV, CERT, QA, PT, PROD
- Environments:** Upcoming (orange), Latest (purple)
- Applications:** JPetStore, Pet Breeder Site, Pet Grooming Reservations, Pet Sourcing, Pet Transport
- Release Version:** JPeteStore (1.1), Pet Breeder Site (2.0.1), Pet Grooming Reservations (2.0.1), Pet Sourcing (2.0.1), Pet Transport (2.0.1); DEV-1 (12/10 05:00a), Baseline (11/25 11:37a); CERT-1 (Schedule 11/21 01:00p), Baseline (1.1.1, 1.1.2, 2.0.0); QA-1 (12/9 09:45a), Baseline (1.1.1, 1.1.2, 2.0.0); PT-1 (11/26 12:49p), Baseline (1.0.2, 1.0.1); PROD-1 (11/21 03:01a), Baseline (1.0.1, 1.1.0, 1.0.1).
- Status Indicators:** DEV-1 has a red exclamation mark; QA-1 has a green checkmark; PT-1 has a green checkmark; PROD-1 has a green checkmark.
- Timestamps:** DEV-1 (12/10 05:00a), QA-1 (12/9 09:45a), PT-1 (11/26 12:49p), PROD-1 (11/21 03:01a).
- Page Navigation:** 1 to 5 of 5 items, Page: 1/1, Page Number: 1.
- System Information:** Updated: 11/25/13, 8:55 AM, Rows Per Page: 10, 25, 50, 100.

- Facilitate Release Planning
- Track application changes
- Manage release dependencies
- Enforce quality gates
- Accelerate delivery
- Increase visibility
- Better governance and control
- Improve stakeholder engagement

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Last year was great



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IBM is a Strong Performer

The Forrester Wave™ : Application Release Automation, Q2, 2015

IBM Receives Highest Score in Current Offering in Application Release Automation Evaluation



"IBM UrbanCode Release Automation Solution has strong abstraction in moving releases, release planning and management, and integration with the MSD life cycle."

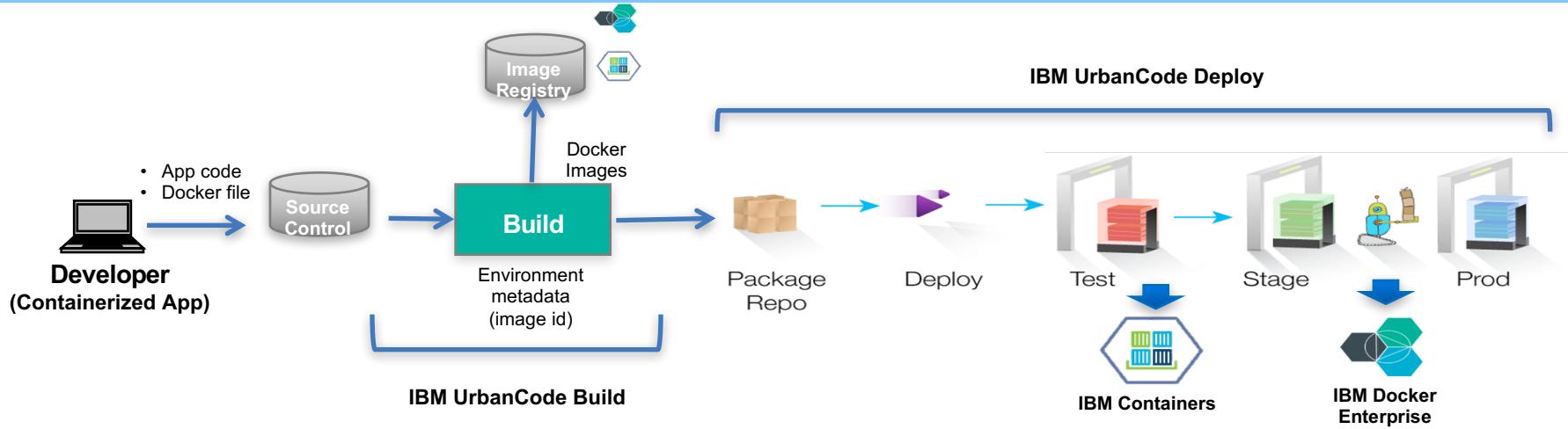
Faster Application Release is a Critical Business Differentiator

"Application release automation tools remove errors from manual processes by standardizing and automating the movement of applications between environments. [It] is the critical final step in the delivery pipeline of applications to improve the customer experience."

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2015 Highlights: Every Deploy Customer Gets Patterns

2015 Highlights: Multi-Container Application Delivery Pipeline for Docker



✓ Delivery Process Automation

- Define, wire and automate complex multiple container deployments

✓ Environment and Configuration Management

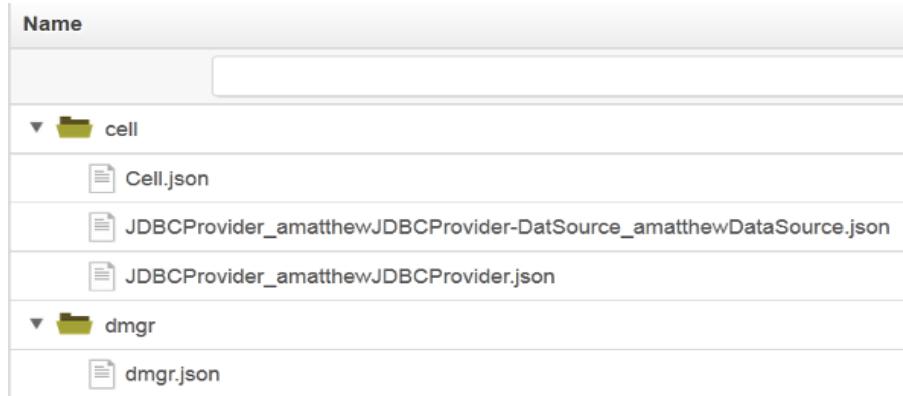
- Manage Docker containers through delivery stages (dev, test, prod)
- Orchestrate across multiple hosts (IBM Containers, Private Docker Enterprise) for hybrid scenarios
- Version Management and Snapshots

✓ Security, approvals and notifications

- Customize user permissions, quality gates, and inform stakeholders of deployment actions

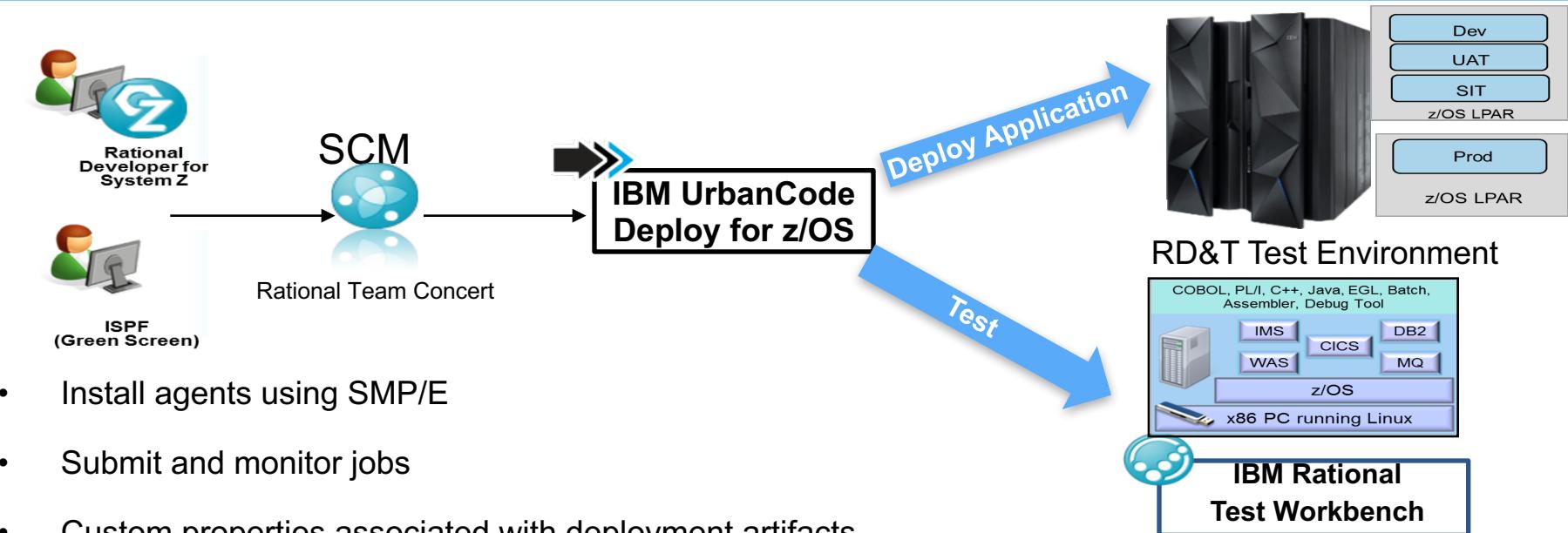
2015 Highlights: New WebSphere Application Server Configure Plugin

- Use JSON to manage/store WAS configuration
- Easily version and compare WAS configuration
- Template WAS configuration for reuse



```
{  
  "name": "myJDBCProvider",  
  "path": "/websphere.cell@/JDBC Providers/myJDBCProvider",  
  "teamMappings": [],  
  "inheritTeam": "true",  
  "description": "Discovered WebSphereJDBCProvider",  
  "roleName": "WebSphereJDBCProvider",  
  "roleProperties": {  
    "websphere.jdbcprovider.xa": "false",  
    "websphere.jdbcprovider.name": "myJDBCProvider",  
    "websphere.jdbcprovider.classpath": "${User-defined_JDBC_DRIVER_PATH}/databaseBinary.jar",  
    "websphere.jdbcprovider.provideridtype": "User-defined JDBC Provider",  
    "websphere.jdbcprovider.implementationclassname": "something.example.com",  
    "websphere.jdbcprovider.nativepath": "",  
    "websphere.jdbcprovider.description": "Custom JDBC2.0-compliant Provider configuration",  
    "websphere.jdbcprovider.isolatedclassloader": "false"  
  }  
}
```

2015 Highlights: Systems of Record Integration Improvements



- Install agents using SMP/E
- Submit and monitor jobs
- Custom properties associated with deployment artifacts
- Out-of-the-box template models standard z/OS artifact deployment
- Initial support for deployments to IBM iSeries
- Automate deployment actions using the Integrated File System and execute shell scripts

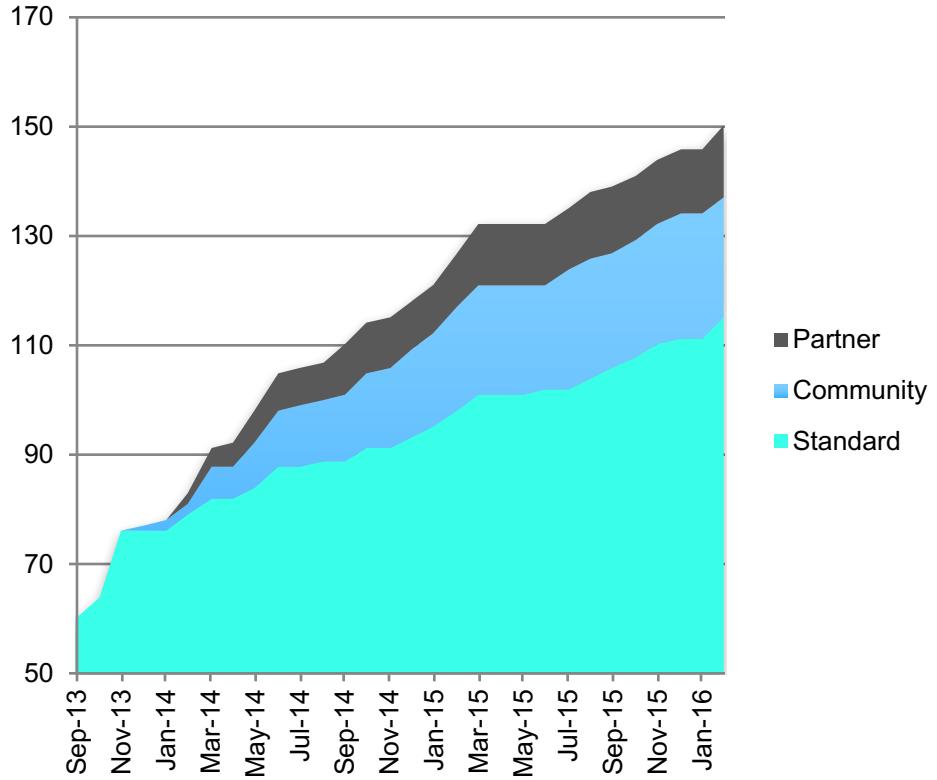
2015 Highlights: Application Templates for Easy Onboarding

- Predefine what a set of applications and environments will look like
- Allows administrators to do heavy lifting in order to help less familiar users get onboarded quicker
- Gives administrators a way to ensure groups of environments are consistent in their governance (Dev, UAT, Prod)

The screenshot shows the 'IBM UrbanCode Deploy' application interface. In the top navigation bar, 'Applications' is selected. Below it, a sub-menu shows 'Applications' and 'Templates'. A modal dialog box titled 'Create Application' is open. Inside the dialog, there are fields for 'Name' (containing 'Jp'), 'Description', 'Teams' (containing 'Deploy Team'), 'Application Template' (set to 'None'), and 'Notification Scheme' (set to 'None'). At the bottom of the dialog are 'Save' and 'Cancel' buttons.



Crossed the 150 Plugin Line for Deploy!



**UC Release
moved to a
plugin model in
2015!**

IBM UrbanCode Release

- Enterprise Deployments with cross plan dependencies
- Improved deployment page with Filtering and task level dependencies

The screenshot shows the 'Pipeline' view in the IBM UrbanCode Release application. At the top, there's a navigation bar with 'IBM UrbanCode Release' and 'Pipeline Views'. Below it, a breadcrumb navigation shows 'Home > Pipeline View'. The main area is titled 'Pipeline' and includes a 'Select a release:' dropdown set to 'Pets Online 1.1.x'. Below this, there are two buttons: 'View this release' and 'Default Lifecycle'.

The central part of the screen displays a grid of deployment stages:

Phases	LATEST	DEV	CERT	QA	PT	PROD
Environments	Upcoming	DEV-1 1/27 02:00p	CERT-1 12/10 04:21p	QA-1 1/27 04:45p	PT-1 1/2 03:27p	PROD-1 1/22 02:34p
Applications	Release Version	JPetStore 1.3	Vaseline 2.0.1	Vaseline 1.1.0	Vaseline 1.1.0	Vaseline 1.0.1
JPetStore		JPetStore 2.0.1	Vaseline 2.0.1	Vaseline 1.0.2	Vaseline 1.0.2	Vaseline 1.0.2
Pet Breeder Site		Pet Breeder Site 2.0.1	Vaseline 2.0.0	Vaseline 1.0.3	Vaseline 1.0.3	Vaseline 1.0.1
Pet Grooming Reservations		Pet Grooming Reservations 2.0.1	Pet Grooming Reservations 2.0.1	Pet Grooming Reservations 1.1.0	Pet Grooming Reservations 1.1.0	Pet Grooming Reservations 1.0.1
Pet Sourcing		Pet Sourcing 2.0.1	Pet Sourcing 2.0.1	Pet Sourcing 1.0.3	Pet Sourcing 1.0.3	Pet Sourcing 1.0.1
Pet Transport		Pet Transport 2.0.1	Pet Transport 2.0.1	Pet Transport 1.1.0	Pet Transport 1.1.0	Pet Transport 1.0.2

A 'Key' panel on the right side provides a legend for the status icons used in the grid:

- Gate: Pending (green), Upcoming (orange)
- Gate Failure: Completed (green), Selected (teal)
- Environment: Failure (red), Latest (purple)
- Snapshot: Compliance (yellow), Later (purple)

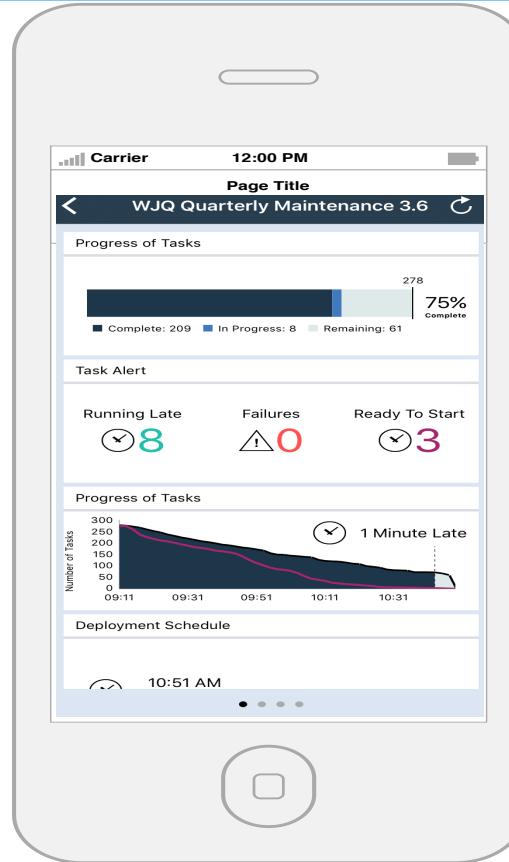
At the bottom, there are pagination controls (1 to 5 of 5 items, Page: 1) and a footer with 'Updated: 1/27/14, 9:19 AM' and 'Rows Per Page: 10 25 50 100'.

New Mobile App

Release dashboard at your fingertips

UC Release integrated today.

Download it today



IBM UrbanCode Build

- Translated into roughly a dozen languages
- Information Radiator
- Hygieia Integration for a DevOps Dashboard

The screenshot shows the IBM UrbanCode Build web interface. At the top, there's a navigation bar with links for Projects, Current Activity, Search, Reporting, CodeStation, Templates, Teams, Agents, and System. Below that is a breadcrumb trail: Projects > store_frontend > Build Docker Image. Underneath the breadcrumb is a sub-navigation bar with tabs for Main, Changes, My Activity, Configuration, Dependencies, Triggers, and Security. The main content area has a title 'Most Recent Status Assignments' with a 'View All' button. A table lists one status assignment: Success (Status), 108 (Build), 1.0.108 (Stamp), 167 (Job), and 6/29/15 4:42 PM (Date). Below this is a section titled 'Recent Activity' with a 'View All' button. Another table lists recent activity: Build 109 (Process: Build Docker Image, Latest Stamp: 1.0.108, Status: Running, Date: 6/29/15 4:42 PM, Duration: 0 s); Build 108 (Process: Build Docker Image, Latest Stamp: 1.0.108, Status: Complete, Date: 6/29/15 4:42 PM, Duration: 23 s); and Build 107 (Process: Build Docker Image, Latest Stamp: 1.0.107, Status: Complete, Date: 6/29/15 3:27 PM, Duration: 24 s).

Status	Build	Stamp	Job	Date
Success	108	1.0.108	167	6/29/15 4:42 PM

Build	Process	Latest Stamp	Status	Date	Duration
109	Build Docker Image		Running	6/29/15 4:42 PM	0 s
108	Build Docker Image	1.0.108	Complete	6/29/15 4:42 PM	23 s
107	Build Docker Image	1.0.107	Complete	6/29/15 3:27 PM	24 s

2016 Will be Exciting

Delivery in DevOps is changing FAST



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2016: Key Trends in Application Release Automation

- After App, Infrastructure
- Everyone looking to Cloud
- Software-defined everything
- Release together what is tested together
- Containers a “Next Big Thing”
- DevOps teams scale further adoption
- Future is Cognitive

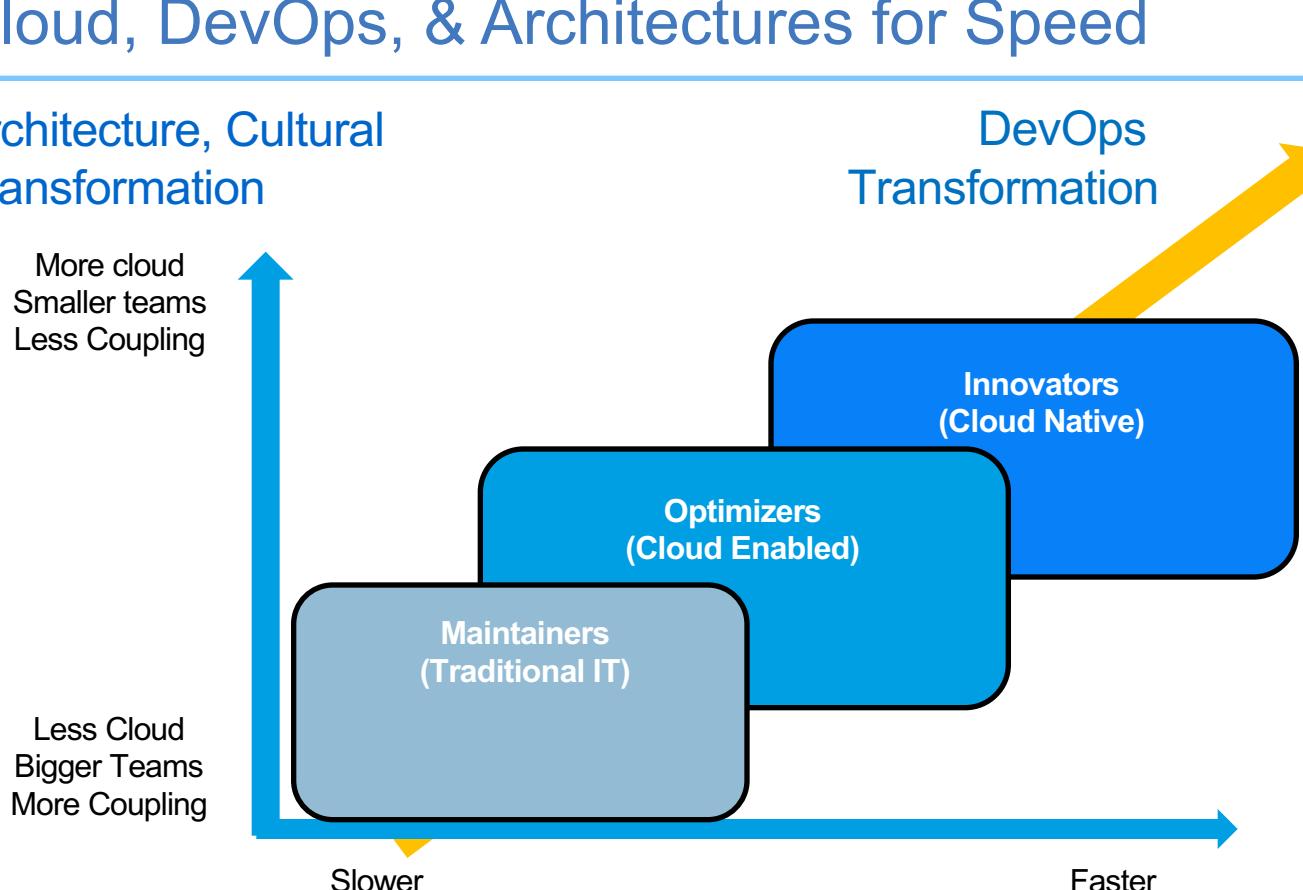


Cloud, DevOps, & Architectures for Speed

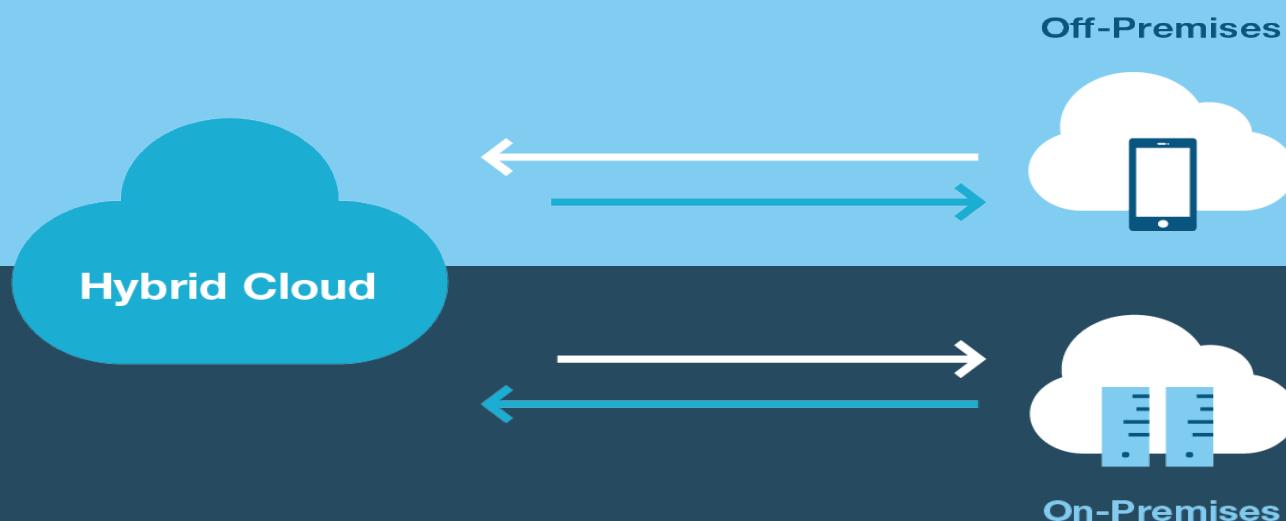
Architecture, Cultural Transformation

More cloud
Smaller teams
Less Coupling

DevOps Transformation



Digital transformations require hybrid cloud



Select a cloud strategy which delivers...

- **Choice with consistency**
 - Public, Private, Hybrid
- **Industrialized hybrid cloud**
 - Flexible, Reliable, Scalable, Secure
- **DevOps productivity**
 - Seamless and flexible experience across the entire application lifecycle
 - IBM Bluemix Garage Method, Bluemix, DevOps Services for Bluemix
- **Powerful, accessible analytics (with Cognitive)**
 - Data analysis (structured/unstructured) to make better decisions
 - Client accessible cognitive services



Hybrid Cloud Deployments through a Single Point of Control

Manage application deployments across dev, test, and production spanning multiple clouds. UrbanCode Deploy with Patterns, available with UrbanCode Deploy.

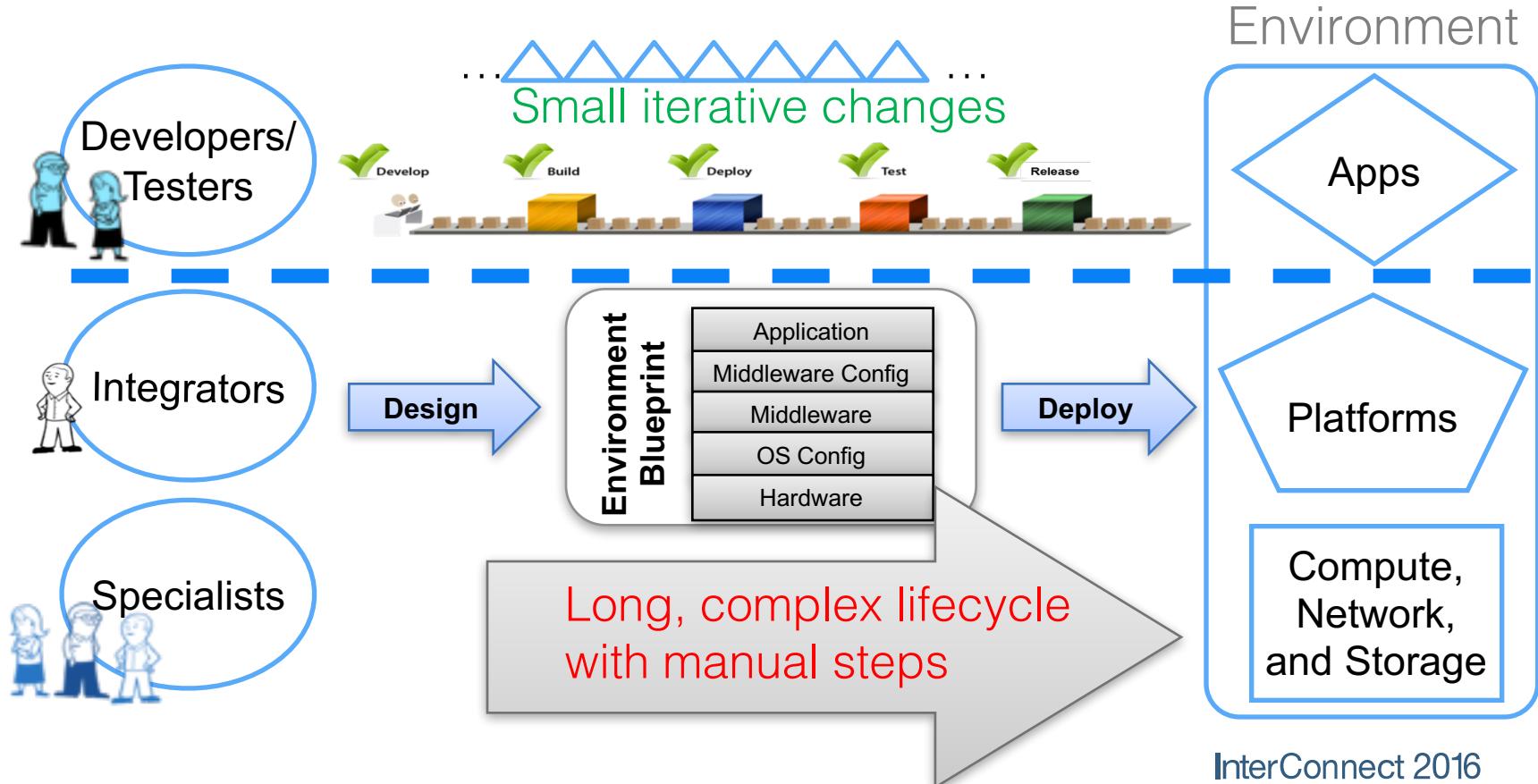


UrbanCode Deploy

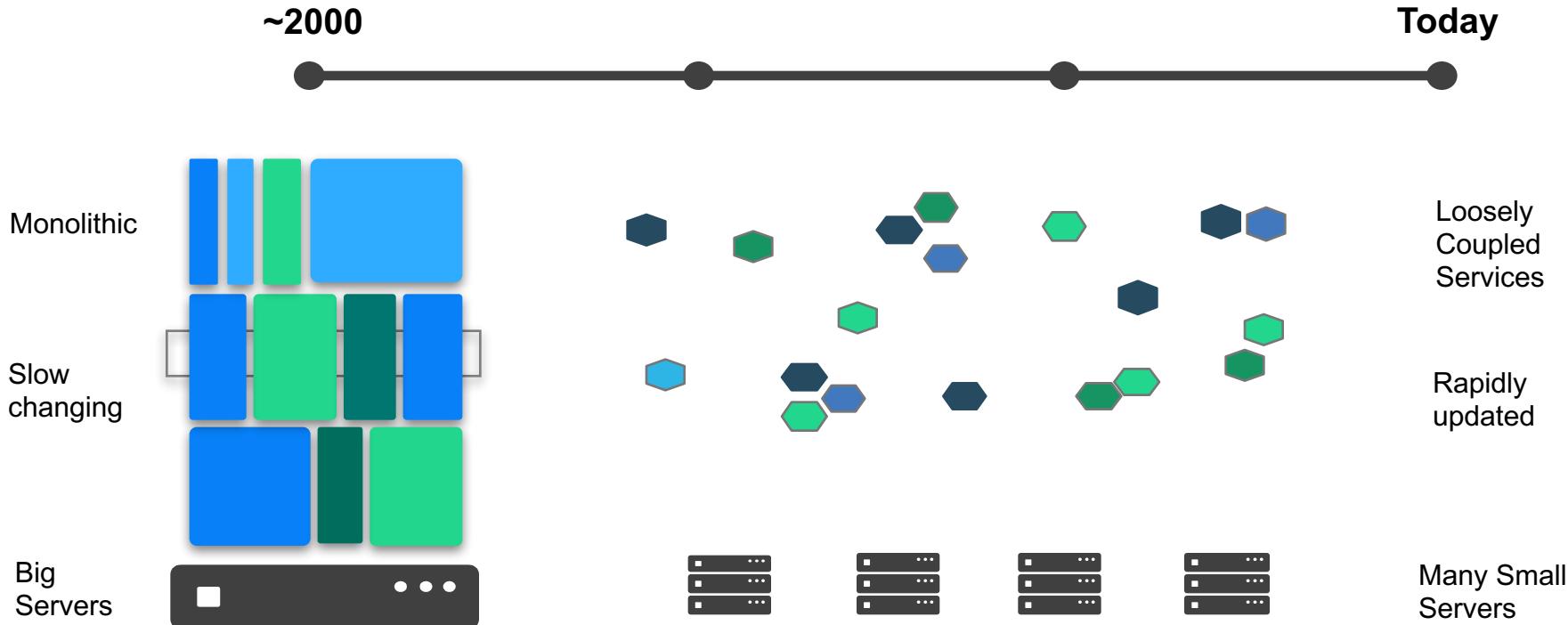
Enable full stack deployments (OS, patterns and applications) across hybrid cloud



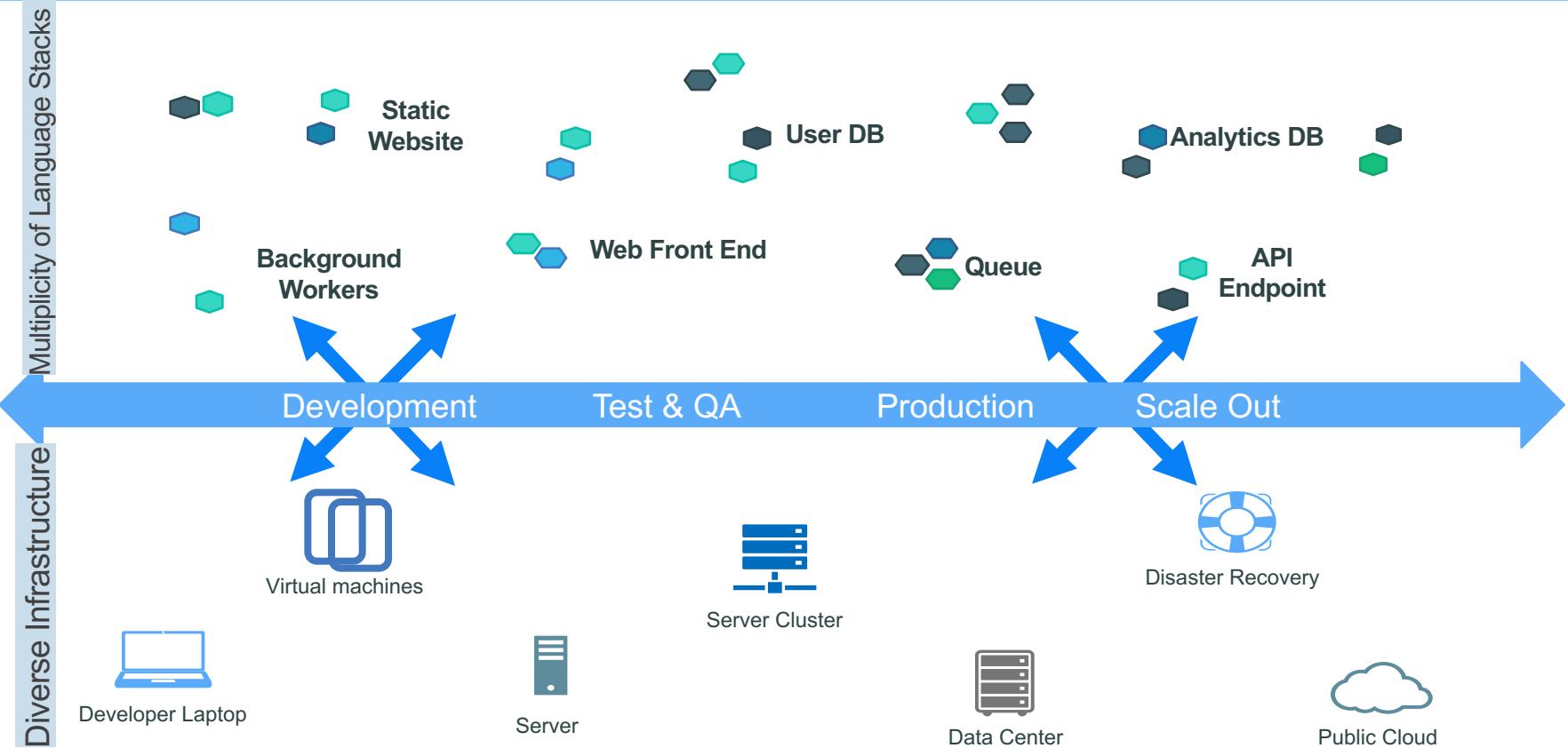
Faster and more consistent application environment deployments



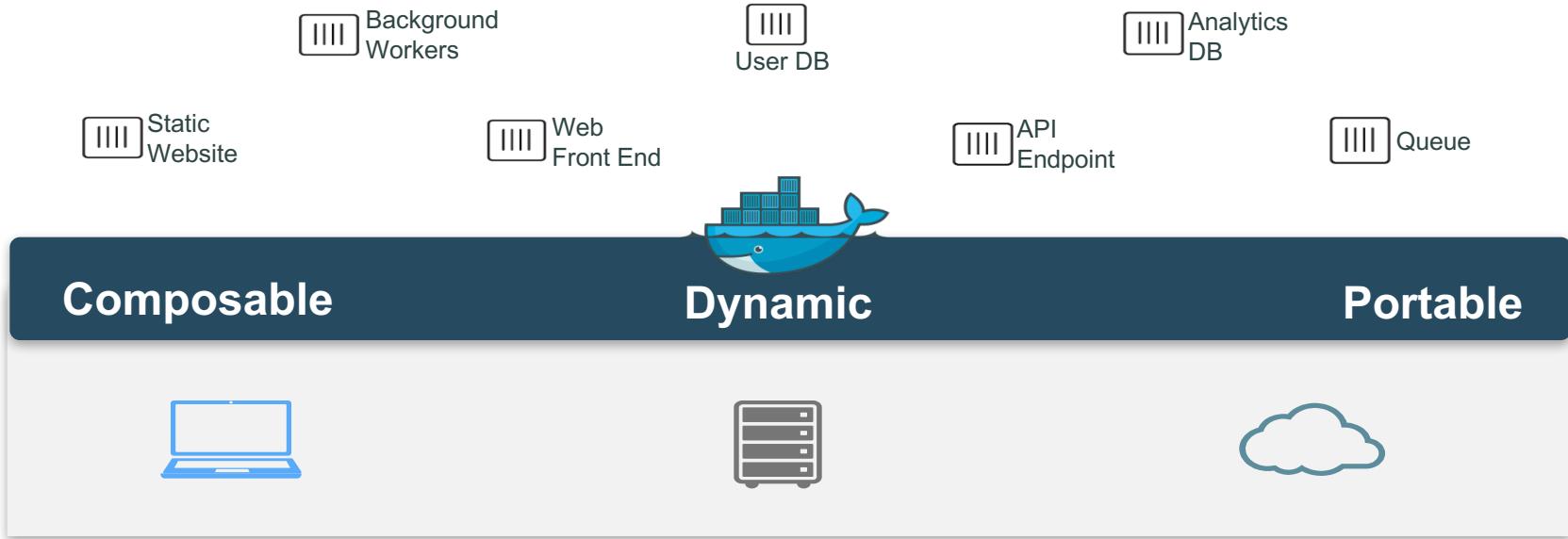
Architectural trend is more components & servers



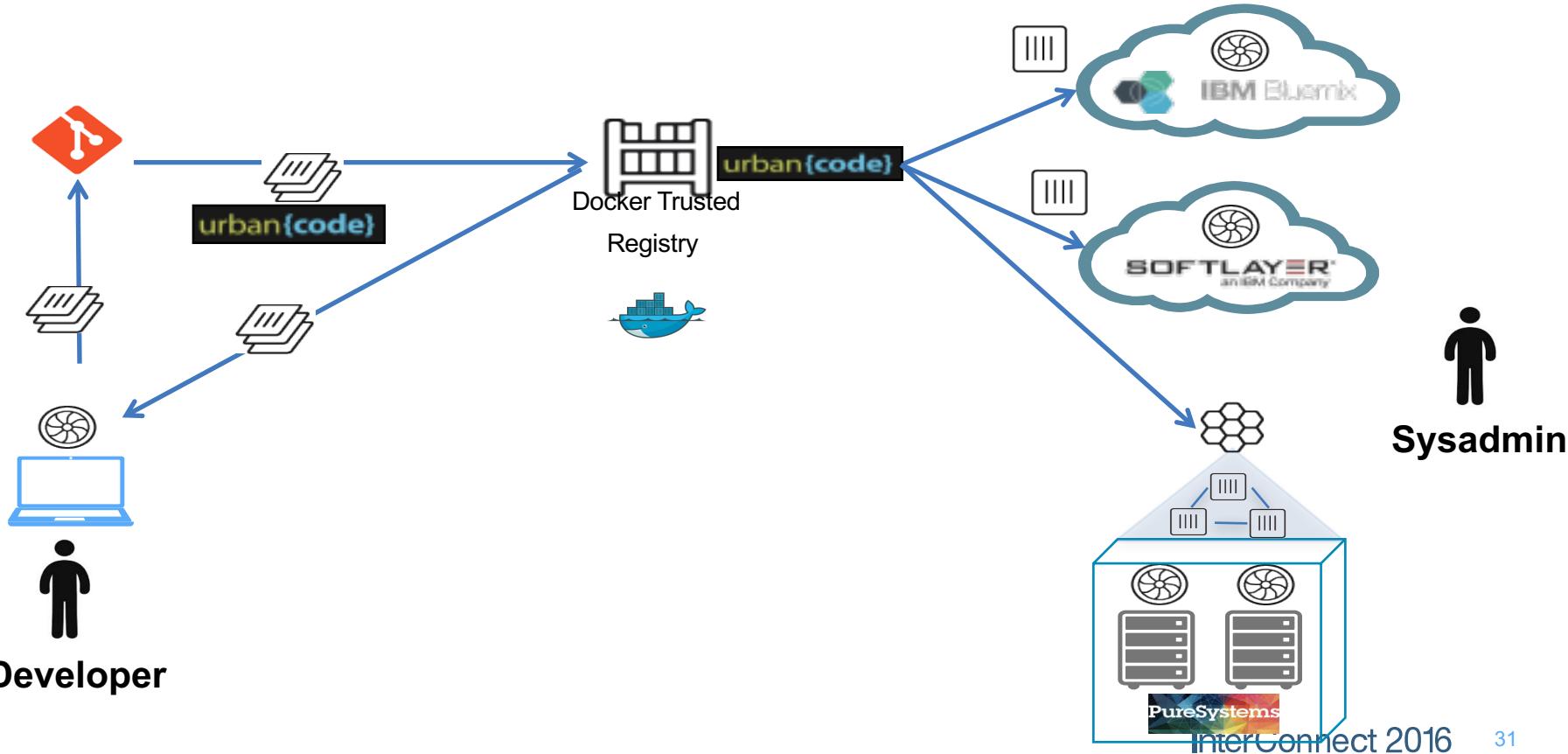
Distributed Applications Make it Harder



Containers for light-weight, low maintenance VMs



Build, Deploy and Keep Track of your Container



Developer

Benefits of Distributed Apps in Hybrid Clouds

Ship More Software

Accelerate development, CI and CD pipelines by eliminating headaches of setting up environments and dealing with differences between environments. On average Docker users ship software 7X more frequently

Resource Efficiency

Lightweight containers run on a single machine and share the same OS kernel while images are layered filesystems sharing common files to make efficient use of RAM and disk and start instantly.

Seamless Portability

Isolated containers package the application, dependencies and configurations together. These containers can then seamlessly move across environments and infrastructures.

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laptop or conference kiosk.



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