Developing in the Cloud Environment

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@RosalindRad

CELEBRATING
60 YEARS OF SHARE
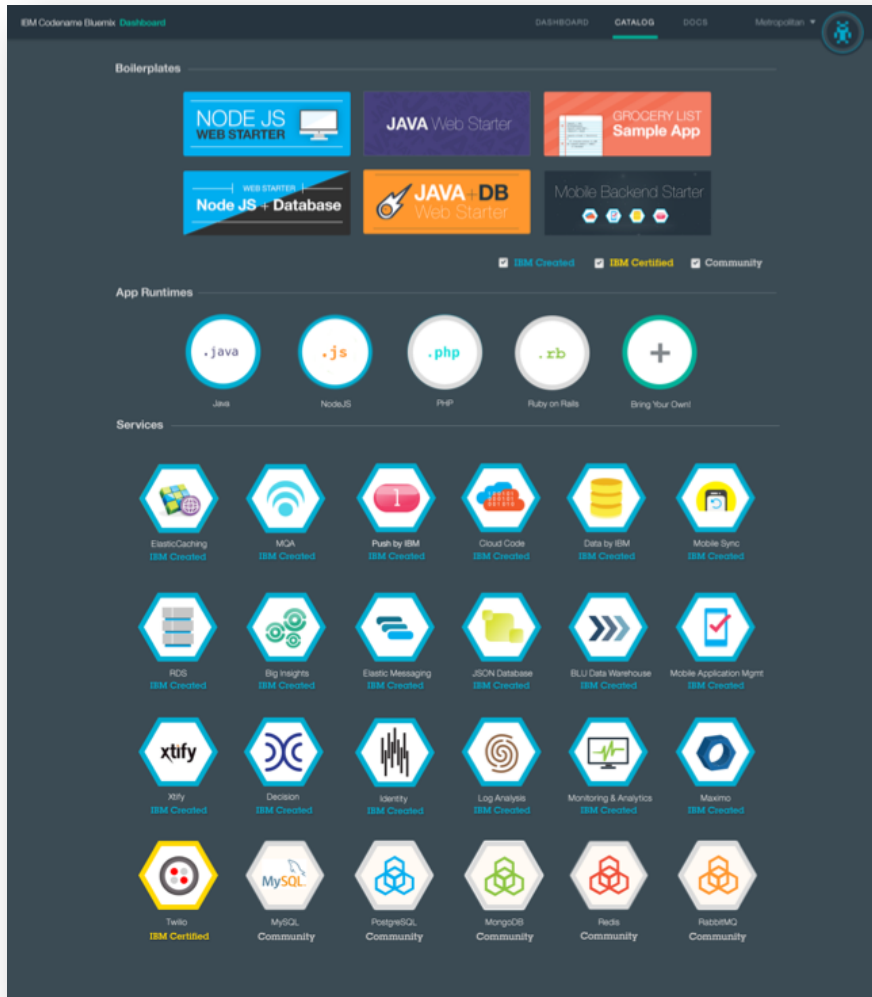Influencing IT Since 1955

Organizations are combining on-premise, off-premise and public clouds to create the next wave of applications and solutions

- Application will be composable
- Systems will be integrated
- Services will be orchestrated
- IT environments will be *hybrid*

On-Premise

Classic Data Center Private Cloud

Next Generation Management of Services

"SaaS"

"PaaS"

"IaaS/IaaS +"

Custom Infrastructure

Expert Integrated Systems

DevOps
Cloud Integration
Networking
IPC
SLA Management
Security
…..

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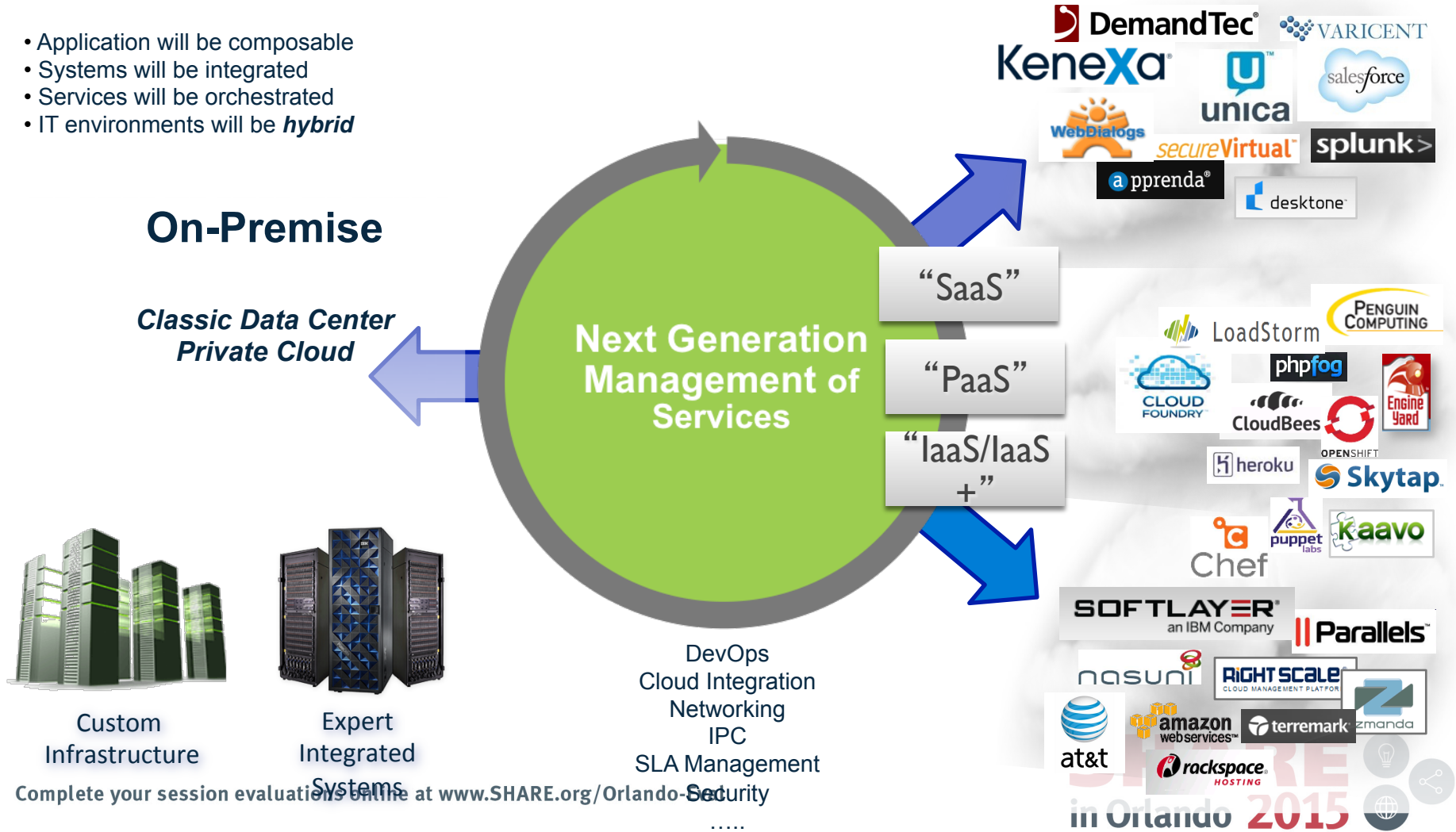
IBM Bluemix

Run Your Apps
The developer can chose any language runtime or bring their own. Just upload your code and go.

DevOps
Development, monitoring, deployment and logging tools allow the developer to run the entire application

APIs and Services
A catalog of open source, IBM and third party APIs services allow a developer to stitch together an application in minutes.

Cloud Integration
Build hybrid environments. Connect to on-premises systems of record plus other public and private clouds. Expose your own APIs to your developers.

Flexible Pricing
Pay as you go and subscription models offer choice and flexibility

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Focused on our users

Bluemix was built from the ground up with a **user-based** and **design-centric approach.** It addresses these **personas** and key **needs.**
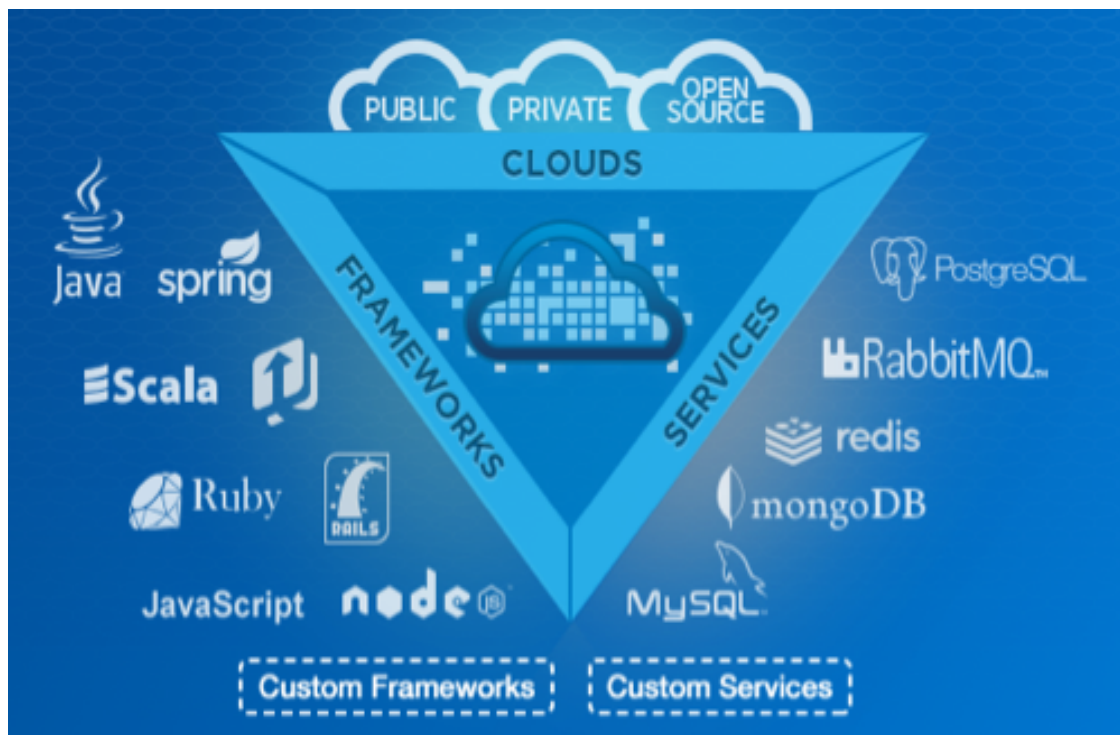
Our users include novice, born-on-the-cloud, and enterprise **developers.**

Want to **compose applications quickly** with useful APIs, to avoid tedious backend config.

Expect fast time-to-value, simplicity, flexibility, clear documentation.

Seconds to Deploy

Friction Free

Useful APIs

Continuous Integration

Choice of Tools

Failing Fast

Any Language

Mobile Ready

Focus on Code

Embracing Cloud Foundry as an open source PaaS

Continuing our history of embracing and extending Open Source

accenture
High performance. Delivered.

hp

BNY MELLON

EMC²

(intel)

SAP

rackspace

Pivotal

vmware

GE

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

ERICSSON

verizonwireless

PUBLIC **PRIVATE** **OPEN SOURCE**

CLOUDS

FRAMEWORKS

SERVICES

Java   spring

PostgreSQL

Scala

RabbitMQ

Ruby   RAILS

redis

mongoDB

JavaScript   node®

MySQL

Custom Frameworks   Custom Services

TOTAL CONTRIBUTORS

1,118

Average per month
2013 average: 133
12mo average: 98
Lifetime average: 58

LINES OF CODE

646k

PULL REQUESTS	PUBLIC REPOSITORIES
1025+	**133+**

Complete yo **docker** online at w

openstack
CLOUD SOFTWARE

CHEF
CODE CAN

jQuery
write less, do more.
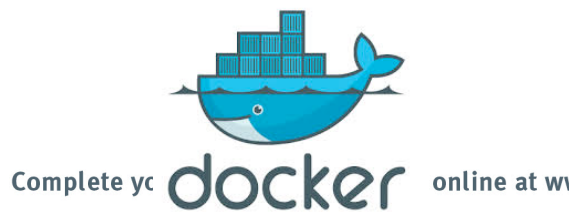
List of Cloud Platform Services

IBM, Open Source and Third Party APIs

Runtimes
- Java Liberty
- Node.js
- Ruby on Rails
- "Bring Your Own Buildpack"

DevOps
- Monitoring and Analytics
- Git Hosting
- Deployment Automation
- Web IDE
- Agile Development

Data Management Services
- IBM Relational Database
- IBM JSON Database
- Mongo DB
- MySQL
- PostgreSQL
- Mobile Data
- Mobile Sync
- BLU Data Warehouse
- MapReduce

Mobile Services
- Push
- CloudCode
- Mobile App Mgmt
- Mobile Quality Assurance
- Twilio

Internet Of Things
- Historian
- MQTT

Web & App Application
- Data Cache
- Session Cache
- Elastic MQ
- Decision
- SSO
- Redis
- RabbitMQ
- Log Analysis

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Unified DevOps experience

Built in monitoring
Integrated diagnostics for detailed application behavior
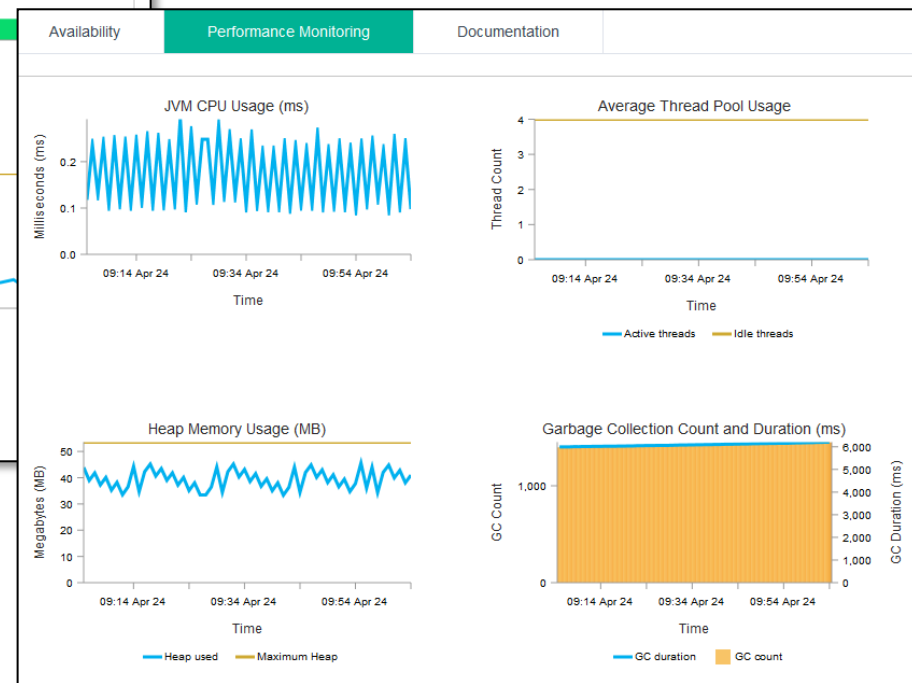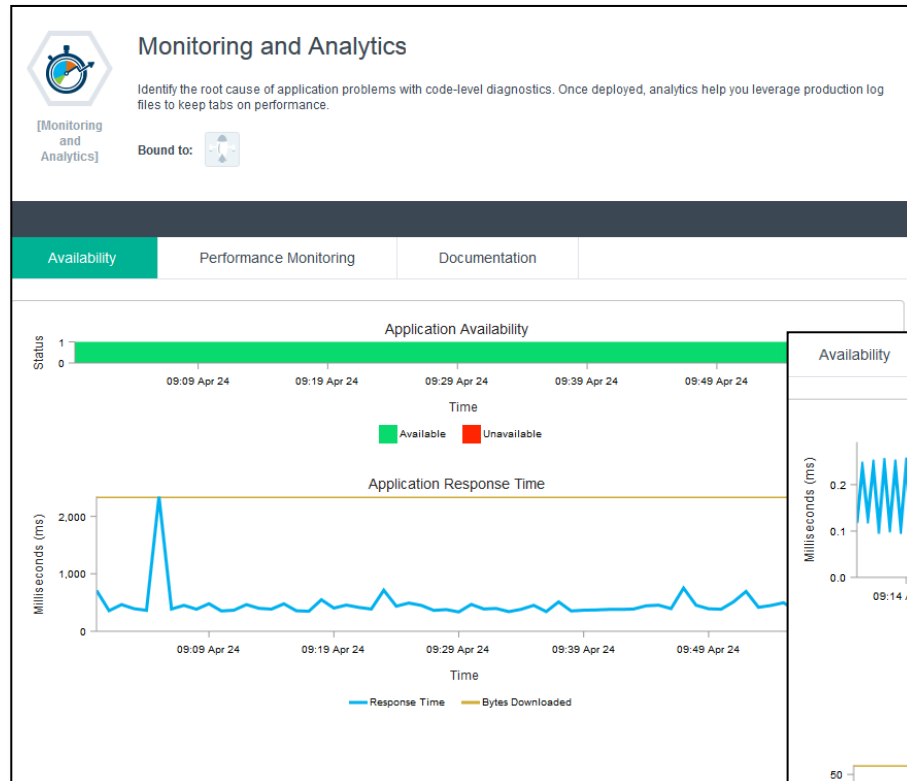
Scaling

Fully integrated environment for deploying and managing your application
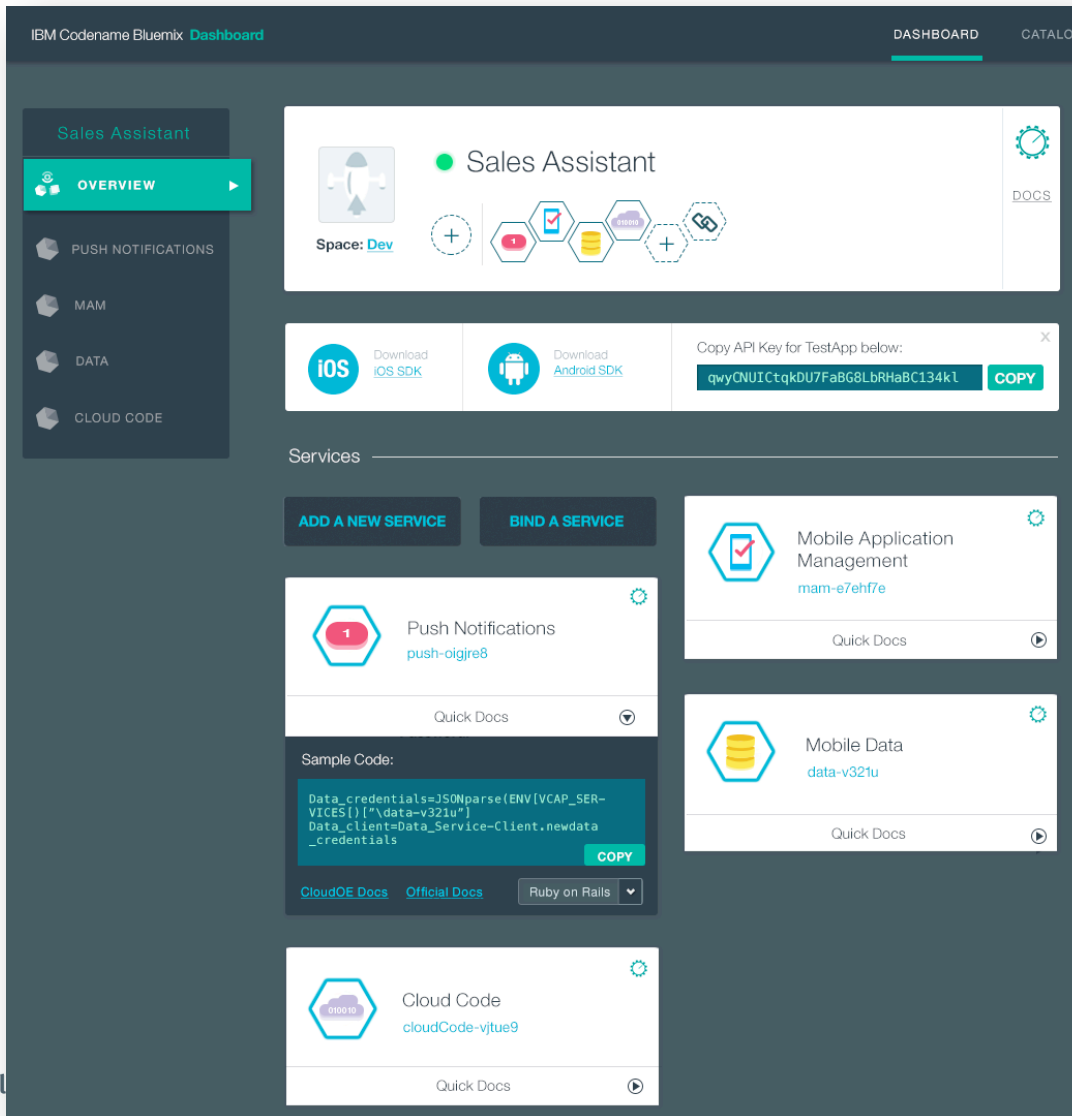
Single Dashboard
Single view of application health, usage and status

Health and Monitoring

Integrated monitoring and diagnostics with the ability to add on features such as code level tracing

Scaling

Ability to scale the application by adding new runtime instances

Bluemix Security

Exploiting IBM portfolio of capabilities

- Leveraging SoftLayer and IBM hosting experience
- Adheres to rigorous IBM security standards:
- Security in depth
- Intrusion protection / penetration testing
- Data isolation in virtualized components
- Automation of security:

Enable Developers

- SSO service for multiple applications and social logins
- Appscan for web and mobile to detect vulnerabilities

Bluemix Security

- Applications
- Data
- Runtime
- Middleware
- O/S
- Virtualization
- Servers
- Storage
- Networking

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Integrate Into Existing Applications

Security connect to and leverage data from your existing systems

API Management **Cast Iron Integration** **Secure Connector** **Data Mapper** **Private API Catalog**
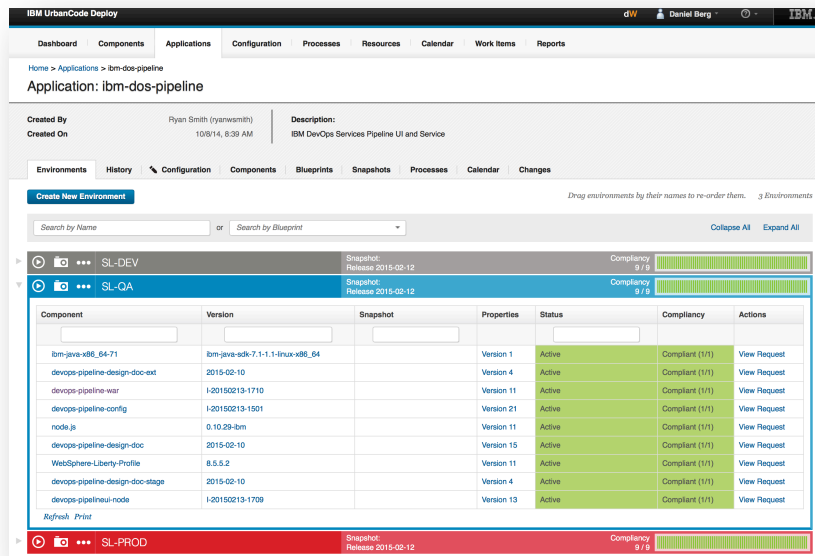
UrbanCode Deploy is how you deploy applications to Hybrid

Manage application components and versions

Manage configurations across all environments

- Offer secure 'self-service' capabilities
- Increase transparency
- Ensure governance and compliancy

Extend support to back-end Systems of Record
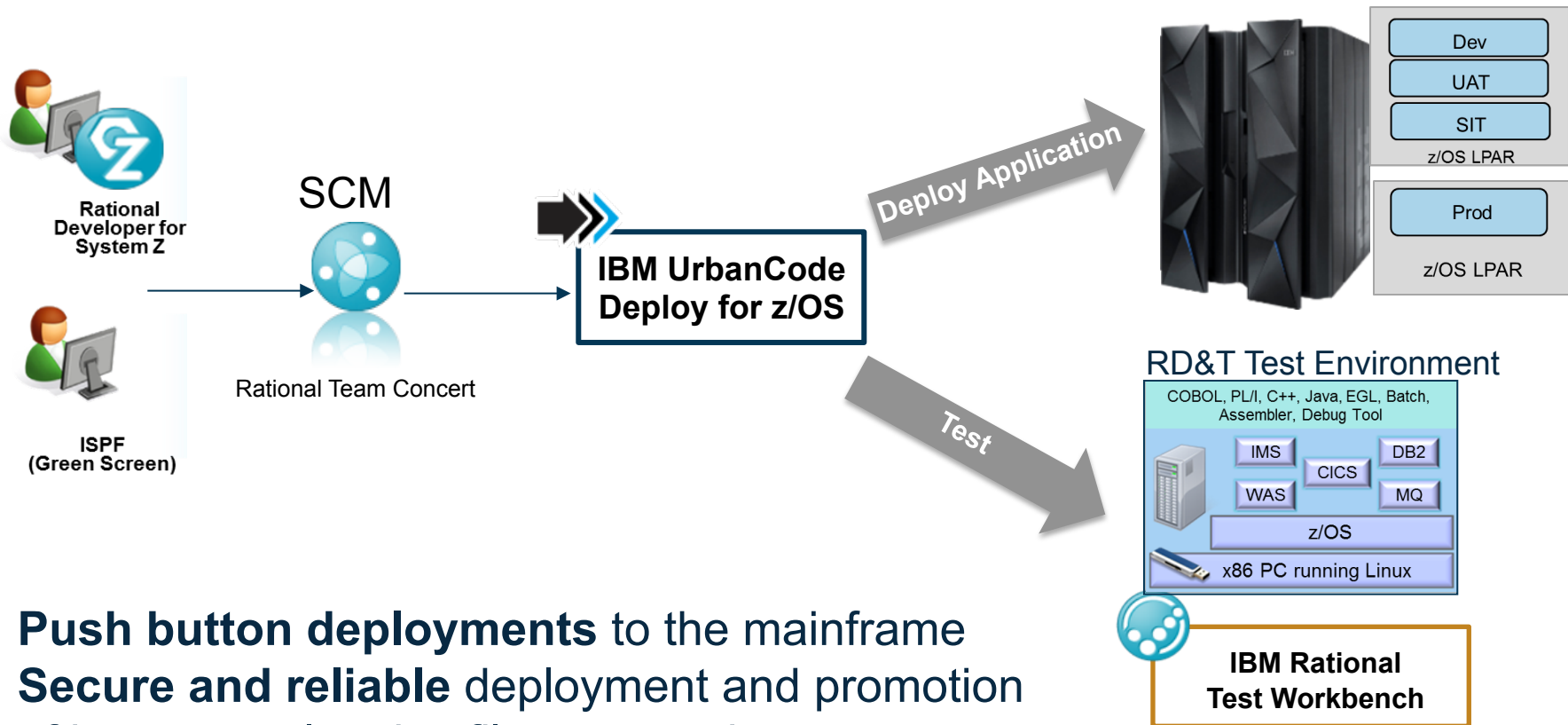
- **Push button deployments** to the mainframe
- **Secure and reliable** deployment and promotion of incremental native file system changes across environments
- **Greater visibility** of "what is where" with the ability rollback to any prior version at ease

New integrations for UrbanCode Deploy

developer.ibm.com/urbancode/plugins

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Dev/Test with Hybrid Cloud

IBM Bluemix

Off-Prem

git

Pipeline: All Stages

Build Image Stage
INPUT — Git URL
Last commit by Git @ IBM DevOps Servi...
Initial commit — just now

JOBS — View logs and history
JOBS RUNNING...
Build Software — Queued
Build Image — Not yet run

LAST EXECUTION RESULT
Build Software — DEPLOY TO

FVT
INPUT
Stage: Build Image Stage > Job: Build Image
No input available

JOBS — View logs and history
NO JOBS RUN
Deploy Container — Not yet run
Test Container — Not yet run

LAST EXECUTION RESULT
No results

IBM CONTAINERS

docker Image Registry

On-Prem

IBM UrbanCode Deploy

STAGING
docker

PROD
docker

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Summary

- Continuous Delivery supporting DevOps practices is a necessity for Hybrid Cloud

- IBM has a rich set of services to achieve Continuous Delivery

- DevOps toolchain will often include IBM and non-IBM solutions

DevOps

Steer — Develop/Test — Deploy — Operate

Standards · Practices · Ecosystem

Hybrid Cloud

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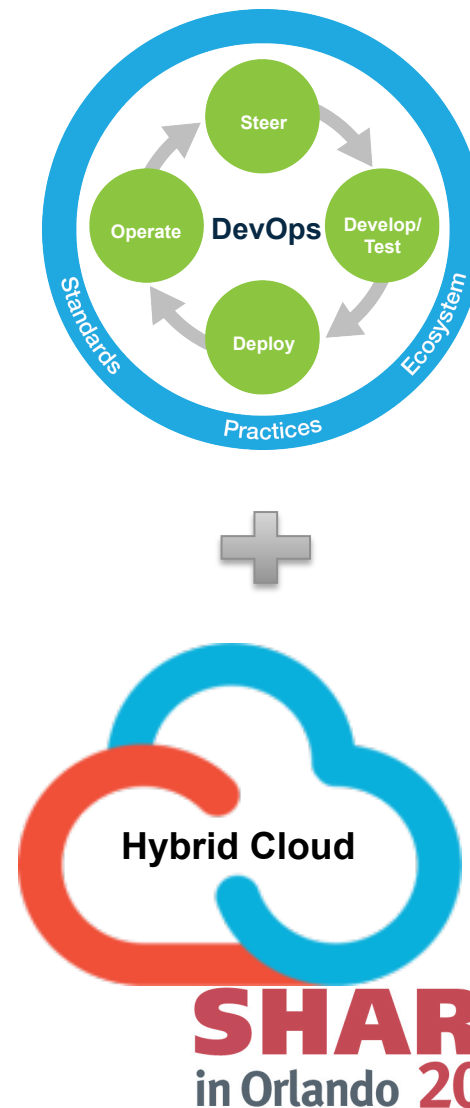
Mobile to Mainframe DevOps for Dummies Book

New!

Author: Rosalind Radcliffe, IBM Distinguished Engineer

Available as ebook and hard copy

• Meet the author while at SHARE

• Book signing at the IBM Booth #312
Atlantic Hall C
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https://ibm.biz/mmdevops

8 Chapters – 72 pages

1. Understanding the Value of the Mainframe
2. Typical Mainframe Application Development Challenges
3. DevOps and Mainframe: Mission Possible?
4. DevOps Best Practices for z Systems
5. Building for the modern omni channel world
6. DevOps Success Stories in the Enterprise
7. Making a DevOps transition
8. Where DevOps can take you

Why the unique power of the mainframe is perfect for developing hybrid cloud applications

How mobile front ends can rejuvenate those back-end systems to reach new customers

The special considerations of using DevOps to accelerate mainframe software delivery
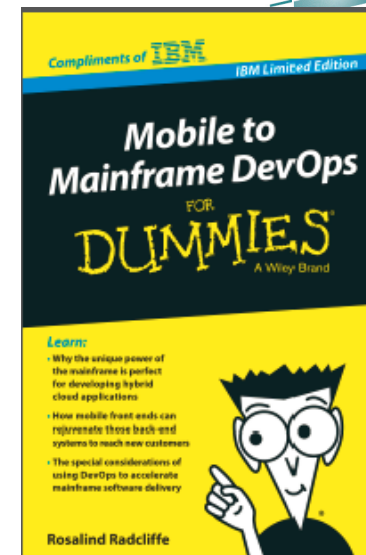
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