Strategies for OpenShift Application Onboarding

Freddy Montero, Architect, Container Practice
Mariah Flaim, Senior Consultant, Northeast Region
May, 2019
AGENDA

● Strategy Overview
● Where to Begin
● Refactoring your dev process
● Refactoring your team
BEFORE WE BEGIN...
WHY?

FASTER SERVICE DELIVERY

INCREASE SERVICE QUALITY

REDUCE RISK OF DELIVERY
AT A GLANCE

LIFT & SHIFT

LIFT & RESHAPE

STRANGLER
MONOLITHIC APPS

HTML
Javascript
Web
Service
Service
Service
Service
Service
Data Access
Application Server
LIFT & SHIFT

BUILD APP
(Build Machine)

Application Binary (e.g. WAR)

build

Existing Build Process

BUILD IMAGE

Source-to-Image (S2I)

Builder Image

Image Registry

DEPLOY

Application Container

deploy

RED HAT OPENSHIFT

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LIFT & RESHAPE

BUILD APP
- Red Hat OpenShift
- Git Repository
- Developers

BUILD IMAGE
- Red Hat OpenShift
- Source-to-Image (S2I)
- Builder Image
- Image Registry

DEPLOY
- Red Hat OpenShift
- Application Container
- Deploy
STRANGLER APPS

Application Server

role: frontend

Invoke API

SERVICE

POD

CONTAINER

role: backend

POD

CONTAINER

role: backend

POD

CONTAINER

role: backend

role: backend

HTML
Javascript
Web
Service
Service
Service
Service
Data Access

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WHERE TO BEGIN...
3 STEP APP ASSESSMENT

STEP 1: ANALYZE & PRIORITIZE APPLICATION TECHNOLOGIES
STEP 2: CONSIDER BUSINESS PRIORITIES
STEP 3: CONSIDER THE PEOPLE ON YOUR TEAMS
STEP 1: APP TECHNOLOGIES

Weed out application type that are a bad fit for onboarding

<table>
<thead>
<tr>
<th>Technology</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAINFRAME</td>
<td>● NOT A CANDIDATE</td>
</tr>
<tr>
<td>DESKTOP APPS</td>
<td>● NOT A CANDIDATE</td>
</tr>
<tr>
<td>COTS (NOT APPLICATION SERVERS)</td>
<td>○ HOLD</td>
</tr>
<tr>
<td>DATABASES</td>
<td>○ HOLD</td>
</tr>
<tr>
<td>SOURCE CODE YOU OWN, DEPLOY, AND MAINTAIN (JAVA, .NET, PHP, PYTHON, NODE)</td>
<td>● GO</td>
</tr>
</tbody>
</table>
STEP 2: BUSINESS PRIORITIES

Identify which applications provide more business value
STEP 3: PEOPLE & TEAMS

Look for teams with enthusiasm and commitment to be early adopters.
IN SUMMARY

**REPURCHASE (Drop & Shop)**
Replace by Commercial off-the-shelf (COTS) or Software-as-a-Service (SaaS).

**REFACTOR (Extend / Rewrite)**
Redesign code to take advantage of the new platform (extend, strangle, rewrite).

**REPLATFORM (Lift & Reshape)**
Change the underlying platform (runtime, framework, middleware, operating system).

**REHOST (Lift & Shift)**
Package existing application in a container with as few changes as possible.

**RETIRE**
Decommission end-of-life application.

Keep and don't touch for now.

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REFACTORING YOUR DEV PROCESS
CI/CD WITH OPENSINGHT

CI/CD PIPELINE
- IMAGE BUILD & DEPLOY
- PROMOTE TO TEST
- PROMOTE TO UAT
- PROMOTE TO PROD

OPENSINGHT IMAGE REGISTRY

OPENSINGHT CLUSTER
- NON-PROD
  - DEV
  - TEST
  - UAT

OPENSINGHT CLUSTER
- PROD

RELEASE MANAGER
- GO LIVE?
- PROMOTE TO PROD

DEVELOPER
- SCM SERVER
- BINARY
- OR

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CI/CD + OPENSHIFT = ❤️

EXISTING CI/CD DEPLOYS TO OPENSHIFT

HYBRID JENKINS INFRA WITH OPENSHIFT

JENKINS-AS-A SERVICE ON OPENSHIFT
EXISTING STRATEGY

EXISTING CI/CD INFRA
Jenkins, Bamboo, TeamCity, etc

run job

build
deploy

S2I Build
APP
APP

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HYBRID STRATEGY
JENKINS AS A SERVICE STRATEGY
JENKINS PIPELINES IN OPENSHEIFT WEB CONSOLE
WELCOME

TO THE CI/CD WORLD

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STOP THROWING WORK OVER THE WALL

OpenShift and CI/CD will allow you to ship faster
... as long as your team doesn’t slow you down
A MOVE TOWARD DEVOPS

People
• Cultural paradigm shift
• Cross-training of skills
• Collaboration of teams

Process
• Agile methodologies
• Continuous feedback loops
• Appropriate error resolutions

Technology
• Automate manual process
• Standardize software versioning, patch levels, and provisioning mechanisms
• Notifications and proactive software and hardware monitoring
START A DEVOPS REVOLUTION WITH OPENSSHIFT

Incorporating DevOps practices with OpenShift leads to evolving existing processes and improving performance

Culture
• Break downs silos
• Achieve greater transparency

Architecture
• Rethink the composition of applications
• Better manage environment consistency
THANK YOU

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twitter.com/redhat
Q & A
WANT TO LEARN MORE?

Monoliths in OpenShift: Application onboarding strategies for containers

Speakers: Ryan Goodson, Justin Goldsmith

Thursday 1:45-2:30 PM

JOIN US IN THE RED HAT CONSULTING DISCOVERY SESSION THEATER
LOCATED IN THE CUSTOMER SUCCESS ZONE IN THE ECOSYSTEM EXPO
DISCOVERY SESSION THEATER

TUESDAY
7:45 - 8:30 PM - 4 ways to jump start an open source & agile automation culture

WEDNESDAY
10:15-11:00 AM - Day-in-the-Life: Designing Software for Open Innovation Labs
11:15-12:00 PM - How Volkswagen used microservices & automation to develop self-service solutions
12:15-1:00 PM - Container adoption at scale: Metrics-driven framework and other lessons learned
3:15-4:00 PM - The road to RHEL 8: Best practices for optimizing your operating system
4:15-5:00 PM - Adoptando RHEL 8: Las mejores practicas para optimizar tu Sistema Operativo
5:15-6:00 PM - A DevOps survival guide: Small changes lead to big results
6:15-7 PM - Digital Nudge: How automation, machine learning, A.I., and more shape our digital decisions

THURSDAY
10:45-11:30 AM - OpenShift DevSecOps: Making your enterprise more secure for tomorrow, today
11:45-12:30 PM - To the Edge and Beyond: Network Automation for Telecommunications
12:45-1:30 PM - People first, digital second: Using open principles to drive transformation at Heritage Bank
1:45-2:30 PM - Monoliths in OpenShift: Application onboarding strategies for containers