Strategies for Successful Container Adoption

When, Where and How To Start Your Container Journey

Ed Seymour, Migration Lead for Containerization
Katrina Novakovic, Business Architect
EMEA Office of Technology

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WHO ARE WE?

Ed Seymour
Migration Lead for Containerization
Red Hat EMEA Office of Technology

Katrina Novakovic
Business Architect
Red Hat EMEA Office of Technology
Strategies for Successful Container Adoption

I need to know why moving our app to the cloud didn’t automatically solve all our problems.

You wouldn’t let me re-architect the app to be cloud-native. Just put it in containers.

You can’t solve a problem just by saying techy things. Kubernetes.

Source: https://twitter.com/Chuckernetes/status/1169690858578481153
What We’re Covering Today

**WHY?**
What is driving a change in technology and platform?

**WHO?**
Who will be affected by change, what do they need?

**WHAT?**
What can we change, how shall we change it?

**HOW?**
Understanding the challenge, and developing a strategy

**WHO DOES?**
Delivering measurable change
How Does This Start?
Frequent Customer Conversations

- Improve I.T. value
- Move with the I.T. market
- Increase I.T. efficiency
- Portable cloud strategy
- Automate I.T. provision
- Faster to market
- Improve software delivery
- More consistent

I.T. OPTIMIZATION  CLOUD  APPLICATION DEVELOPMENT
Use Case Focus Suggests Strategy
Direction Towards Specific Approaches

- **I.T. OPTIMIZATION**
  - **REDUCE INFRASTRUCTURE OPERATIONAL OVERHEAD**
    - **REHOST**
  - **REDUCE PLATFORM OPERATIONAL OVERHEAD**
    - **REPLATFORM**
  - **IMPROVE SOFTWARE DELIVERY PERFORMANCE**
    - **REFACTOR**

- **CLOUD**

- **APPLICATION DEVELOPMENT**

OPPORTUNITIES TO IMPROVE WAY OF WORKING
Where Do We Find Biggest Benefits?

Building a Business Case for Adoption

1.5% INFRA UTILISATION
59.7% APP DEV & TEST
19.4% APP OPERATIONS
19.4% PLANNING & DESIGN

3 YEAR TOTAL BENEFITS

Source: “The Total Economic Impact™ Of Red Hat Consulting’s Container Adoption Program And Red Hat Open Innovation Labs”, Forrester 2018
Priorities Change

COST, EFFICIENCY AND HOW WE WORK

USER EXPERIENCE AND INNOVATION

IMPROVING SPEED

IMPROVING SPEED

IMPROVING SPEED

STARTING THE JOURNEY

UNDERWAY

LEADING THE JOURNEY

Source: Global IT Trends & Priorities Research, November 2018, Qualtrics and Red Hat
Building Transformation

Space to Innovate
Delivering greater Software Delivery Performance introduces more opportunities to innovate

Package and Abstract existing technology
Benefit from economies of scale through greater standardisation of delivery and common operational processes and tools

Refactor & Modernize
Incrementally adopt Cloud Native design principles
What Changes?

We Can’t Just Deploy New Technology

- **How we organise and work together, and the broader culture of the working environment**
- **The ways of working that contribute to business outcomes**
- **The technology choices that underpin and support the required improvements**
## Factors Influencing Migration

**Have We Understood The Impact of Change**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>QUESTION</th>
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<tbody>
<tr>
<td>CODE</td>
<td>CAN WE CONTAINERIZE?</td>
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<tr>
<td>FRAMEWORK</td>
<td></td>
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<tr>
<td>ARCHITECTURE</td>
<td>IS THIS APPROPRIATE FOR KUBERNETES?</td>
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<tr>
<td>DEPENDENCIES</td>
<td>CAN DEPENDENCIES BE MAINTAINED, WHAT IS AT RISK?</td>
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<tr>
<td>DEV TOOLS &amp; PROCESS</td>
<td>WHAT IS THE IMPACT ON EXISTING DEV TOOLS &amp; WAYS OF WORKING?</td>
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<td>OPS TOOLS &amp; PROCESS</td>
<td>SIGNIFICANT CHANGES ARE NECESSARY, ARE WE READY?</td>
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<tr>
<td>SDLC</td>
<td>WHAT CHANGES ARE NEEDED TO GOVERNANCE &amp; RELEASE MANAGEMENT?</td>
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Where Do We Start

LEGACY PLATFORM

OPENS SHIFT
The Challenge Ahead May Seem Daunting

1. IDENTIFY THE TECHNOLOGY LANDSCAPE
2. UNDERSTAND THE ORGANISATION & ITS CAPABILITIES
3. SET DIRECTION BASED ON CANDIDATE TEAMS & APPS
4. WORK INCREMENTALLY WITH A FOCUS ON BUSINESS OUTCOMES
5. SCALE AND EXPAND TO SUPPORT NEW USE-CASES
Application Survey: Pathfinder

Open Source: https://github.com/redhat-cop/pathfinder

1. Simple questionnaire to assess applications
2. Review individual application results
3. Report aggregate view of applications
4. Identify candidates for migration
Team Survey: Ready to Innovate
Team-Based Factors that Influence Software Delivery Performance

**ARCHITECTURE**
Loosely coupled architectures favour higher delivery performance

**AUTOMATION**
Removing manual steps and increasing repeatability improves performance

**WAYS OF WORKING**
Do your approaches support agile ways of working, and follow DevOps principles?

**WORKING ENVIRONMENT**
Inquisitive, experimental and collaborative environments have a positive influence on software delivery

**LEADERSHIP & VISION**
A clear mission, that best meets customer needs, with agility to adapt as required

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**TECHNICAL**

**APPROACH**

**ORGANISATIONAL**
Strategies for Successful Container Adoption

Open Source: https://github.com/redhat-cop/rti

1. Take team’s details
2. For each area of interest attempt to identify level
3. Expand section if more detail is needed
4. Score level for both Development and Operations perspectives
5. Capture notes during discussions
Prioritise Application Migration
For Example, Cross Reference Team Capabilities with Value & Effort

APP TYPES
- HIGH VALUE LOW EFFORT
  - FORMING
  - EMERGING
  - LEADING
- HIGH VALUE MED EFFORT
- MED VALUE LOW EFFORT

TEAM CAPABILITIES
- FORMING
- EMERGING
- LEADING

BACKLOG
Adaptive and Incremental
Identify, Experiment, Evaluate, Then Scale

1. SELECT PILOT APPS
   Use application and team assessment to prioritise and identify migration short-list

2. SCALE-OUT
   Work through remaining applications, improving capabilities, increasing throughput and scaling the platform accordingly

3. MIGRATE PILOT APPS
   Teams migrate applications with support from SMEs, review progress and identify challenges and opportunities

4. DEVELOP ADOPTION KNOWLEDGE
   Establish, and recruit to, the Adoption Core Team to support subsequent workload transformations

FOCUSED ON DELIVERING BUSINESS OUTCOMES
How Do We Measure Improvement?
Metrics Focused on Business Outcomes

SOFTWARE DELIVERY PERFORMANCE

<table>
<thead>
<tr>
<th>EFFICIENCY</th>
<th>QUALITY</th>
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<tr>
<td>FREQUENCY</td>
<td>FAIL % IN PRODUCTION</td>
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<tr>
<td>LEAD TIME</td>
<td>MEAN TIME TO RESOLUTION</td>
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SDLC

DEVELOPMENT  TESTING  PRODUCTION
Key Takeaways

1. BE CLEAR ON BUSINESS REASONS FOR CHANGE

2. IT IS NOT JUST TECHNOLOGY

3. PRIORITISE ADOPTION ROADMAP

4. REMAIN AGILE, FOCUS ON OUTCOMES
Questions?
Thank you

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