Digital Transformation & Innovation with Containers

Graham Berry
EMEA Sales Lead - OpenShift
Why Containers?
Software Disrupts Business

- Retail: Amazon.com, Alibaba.com
- Finance: Square, Apple Pay
- Media: Netflix, Spotify
- Transportation: Uber, Lyft
- ?
Creating value depends on your ability to deliver applications faster.

<table>
<thead>
<tr>
<th>Cloud-native applications</th>
<th>AI &amp; machine learning</th>
<th>Analytics</th>
<th>Internet of Things</th>
<th>Innovation culture</th>
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Containers, Kubernetes, and hybrid cloud are key ingredients. OpenShift is the best platform to deliver container-based applications.
Why is Innovation Important?

If change is happening on the outside faster than on the inside the end is in sight.

*Jack Welch, former CEO, GE*
IT Must Evolve to Innovate

Development Process
- Waterfall
- Agile
- DevOps

Application Architecture
- Monolithic
- N-Tier
- Microservices

Deployment & Packaging
- Physical Servers
- Virtual Servers
- Containers

Application Infrastructure
- Datacenter
- Hosted
- Cloud
Container Usage

30% Of organisations using Containers in production-2019

75% Of organisations using containers in production by 2022

Source: Gartner
Container Market Opportunity

451: Container market to be $2.7B by 2020, from $762m in 2016

Containers Revenue (Sm)
We can localize clusters in different markets if we need to and therefore serve our customers on a worldwide scale.

Dr. Alexander Lenk
Lead Architect Connected Vehicle, Digital Backend, Big Data, Blockchain
BMW Group
The importance of Developers to the Enterprise
The most successful companies today are those that understand the strategic role that developers will play in their success or failure. Not just successful technology companies – virtually every company today needs a developer strategy.”

https://thenewkingmakers.com/
"...Transition to software development platforms first, infrastructure second..."
Top Performing Organisations expect to develop 40% of their new **mission critical** applications in house
DEVELOPERS DRIVE THE PLATFORM

58%

Of developers said they are the primary decision makers

<20%

Of developers said they had little to no influence

Source: Cloud development Survey 2017 - Evans Data Corp
Developer Productivity

Developing New Features: 25.0%

Operational Based Code: 75.0%
Craftwork

How to Build an Application:

1. Have idea
2. Get budget
3. Submit hardware acquisition request
4. Wait
5. Get hardware
6. Deploy framework/appserver
7. Deploy testing tools
8. Test testing tools
9. Code
10. Configure production servers
11. Push to production
12. Launch
13. Order more servers to meet demand
14. Wait
15. Deploy new servers
16. Perform additional steps as required

Assembly Line

How to Build an Application with PaaS:

1. Have idea
2. Get budget
3. Code
4. Test
5. Launch
6. Automatically scale
OpenShift enables developer productivity

- Self-service provisioning
- Consistent environments
- Automated build & deploy
- CI/CD pipelines
- Configuration management
- App logs & metrics

**CODE**
- SPRING & JAVA™ EE
- LANGUAGES
- LINUX

**REVIEW**
- MICROSERVICES
- DATABASES

**BUILD**
- FUNCTIONS
- APPLICATION SERVICES

**TEST**
- CODE

**DEPLOY**
- REVIEW
- MONITOR

* coming soon
Building next-gen applications

OpenShift Service Mesh
- Integrated Service Mesh for enhanced security and network segmentation of microservices applications. Combines Istio, Kiali (UI), and Jaeger (Tracing) projects.

OpenShift Serverless
- Integrated serverless, enabling scale-to-zero FaaS services and event sources - built on the Knative framework.
- Support for Azure Functions
- Integrated with Camel-k for rich set of initial event sources: HTTP, Kafka, AMQP
Enabling greater developer productivity

**CodeReady Workspaces**
Web-Based IDE (Eclipse Che), Collaborative Development, integrated with CI/CD.

**OpenShift ODO**
Advanced developer CLI

**OpenShift Plugins**
Integration plugins - VSCode, Azure DevOps, Eclipse IDE, JetBrains
THE RED HAT UNIVERSAL BASE IMAGE

What if you could...

"Build once, deploy anywhere"
Chat Banking

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Introducing Emirates NBD Chat Banking via WhatsApp, a **24/7 secure and simple way** to get your banking needs on the go.

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- **Check for the green badge**
  Check for the green badge next to Emirates NBD’s name and start chatting

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So what container platform should I choose?
3-4 YEARS AGO
Fragmented landscape

TODAY
Kubernetes consolidation

OTHER ORCHESTRATORS
(Cloud Foundry Diego, Nomad, Blox, etc.)

Red Hat bet early on Kubernetes. It has now become the dominant orchestration ecosystem
Red Hat has a strong history with Kubernetes
Red Hat Container Strategy Is Paying Off

Major market share developments in the first quarter of 2019 include:

- Red Hat OpenShift: 44%
- Docker: 23%
- Pivotal: 6%
- Rancher: 3%
- Canonical: 2%

Container revenue market share

OPENSHIFT - 44% OF THE MARKET

Why customers choose Red Hat OpenShift

- Trusted enterprise Kubernetes
- Cloud-like experience everywhere
- Empowering developers to innovate

Open source innovation
THE CLOUD-NATIVE APP DEV CHALLENGE
84% of organizations have a multi-cloud strategy

With Red Hat your container application is portable.

OpenShift offers one uniform environment across public and private cloud environments.

- Automated operations
- Multi-tenant
- Secure by default
- Network traffic control
- Over-the-air updates
- Monitoring & chargeback
- Pluggable architecture

BARE METAL, VSPHERE, RHV, OPENSTACK, AWS, AZURE, GOOGLE, IBM Cloud
OpenShift 4 Platform

**CLUSTER SERVICES**
Metrics, Chargeback, Registry, Logging

**APPLICATION SERVICES**
Middleware, Service Mesh, Functions, ISV

**DEVELOPER SERVICES**
Dev Tools, Automated Builds, CI/CD, IDE

**AUTOMATED OPERATIONS**

**KUBERNETES**

Red Hat Enterprise Linux or RHEL CoreOS

**Best IT Ops Experience**

CaaS ↔ PaaS ↔ FaaS

**Best Developer Experience**
With OpenShift you can deliver all your applications in a whole new way.
DIGIPOLIS PROVIDES FIRST CLASS CITIZEN SERVICES TO CITY OF GHENT

“We were behind, our systems were outdated, and we acknowledged that we needed to take a big step to be more open in our IT approach,” “We recognized we needed a container platform, managed with APIs, to meet our goal of deploying new services faster and more frequently.”

“During testing, the Red Hat solution was fully operational in four days, while a rival platform was still experiencing issues after two weeks.”
Amsterdam Airport Schiphol flies to the Cloud with Red Hat OpenShift

Amsterdam Airport Schiphol, Europe’s fourth-busiest airport, wanted to improve its passenger experience and become the best digital airport. To support this shift, it decided to migrate several of its IT systems to the cloud to become more flexible, secure, and efficient.

“We are shifting to working in agile, dedicated teams with a lot of autonomy. From an infrastructure perspective, we would like to stay in control, but we want to let other teams make their own choices within that framework. Red Hat OpenShift helps us do so.”

“Red Hat OpenShift Container Platform as truly stolen my heart. It is innovative and lets us deploy quickly and easily control our containers.”
Red Hat OpenShift Container Platform lets us move applications seamlessly and easily across multiple providers with no downtime. We can also use public cloud to scale up or down as demand requires.

— Kerry Peirse
General Manager, IT Infrastructure and Operations
Cathay Pacific Airways Limited
More than 1,000 OpenShift customers
One Platform, Flexible Consumption Models

**HOSTED SERVICES**

- IBM Cloud
- Red Hat OpenShift

- Managed service offering on AWS and Google (Coming soon)
  *(OSD on v3.11 & 4 available)*

**SELF-MANAGED**

- Jointly engineered, operated, and supported by IBM and Red Hat

- Jointly engineered, operated, and supported by Microsoft and Red Hat

- Enterprise-grade Kubernetes platform that you manage
Why is Red Hat the best choice?

THE 4 C’s

**CODE**

Kubernetes commits

Red Hat is a leading Kubernetes developer & contributor with Google¹.

We make container development easy, reliable, & more secure.

**CUSTOMERS**

1,000+ customers²

We have years of experience running OpenShift Online & OpenShift Dedicated services.

**CLOUD**

We have strong partnerships with cloud providers, ISVs, & CCSPs.

We have an extensive container catalog of certified partner images.

**COMPREHENSIVE**

Our comprehensive portfolio of container products and services includes developer tools, security, application services, storage, & management.

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Source: [¹ Stackalytics, Contribution by Companies](https://www.stackalytics.com/contribution-by-companies), (Release: All, Project type: Kubernetes, Module: containers, Metric: Commits)

Thank You

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