BRING CLOUD ON-PREMISE WITH A KUBERNETES-NATIVE INFRASTRUCTURE

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personal
- Traveller, Raleigh is home, wanted to be an Architect, ended up in Chemicals & then IT.

professional - 18+ yrs
- Red Hat
- VMware, NetApp, Cisco, GSIs

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**personal**
- Virginia hare scrambler, plays chess.

**professional**
- 🧙 Red Hat
- Cloudscaling, Time Warner Cable, FederalCloud.com, Cisco and a couple of startups

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skype/twitter/github/irc/.com, life: noslzzp

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AGENDA

1. Business and IT Goals and Challenges
2. Open Hybrid Cloud
3. Kubernetes-native infrastructure
   a. Concept
   b. Use Cases
   c. Value and differentiation
4. Summary
BUSINESS GOALS

INNOVATE FASTER

ACHIEVE MISSION OBJECTIVES

IMPROVE CUSTOMER SATISFACTION

GROW REVENUE

REDUCE COSTS

PROTECT THE REPUTATION
I.T. AND APP DEV GOALS

- Deliver Innovative Software Apps
- "Cloud-Like" Agility and Simplicity, Anywhere
- Security & Compliance
- Reduce TCO
ON-PREMISE I.T. AND APP DEV CHALLENGES

- SLOW AND REACTIVE
- HIGH COSTS
- COMPLEX LEGACY OPERATIONS
- REACTIVE SECURITY
- PEOPLE & PROCESS
HOW DO I.T. AND DEVELOPERS MOVE FORWARD?

- Build a DevOps culture
- Move to cloud-native app dev
- Operationalize a secure, hybrid cloud
KUBERNETES POWERED OPEN HYBRID CLOUD

Gives developers the freedom to innovate faster across on-premise and public clouds
RED HAT MAKES OPEN HYBRID CLOUD REAL

Containers | VMs | Serverless Functions

Red Hat OpenShift 4 + Red Hat OpenShift Container Storage + Red Hat Enterprise Linux CoreOS

BARE METAL | VIRTUAL | PRIVATE CLOUD | PUBLIC CLOUDS

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### TOP BRANDS ARE REALIZING BUSINESS VALUE WITH RED HAT OPEN HYBRID CLOUD

<table>
<thead>
<tr>
<th>Brand</th>
<th>Platform</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATHAY PACIFIC</td>
<td>OpenShift on AWS, &amp; Private Cloud</td>
<td>Increased application development throughput by a factor of 10x from 20 to 200 changes a day</td>
</tr>
<tr>
<td>Hilton</td>
<td>OpenShift on AWS</td>
<td>Improved Time to Market by speeding development time from months to days</td>
</tr>
<tr>
<td>Schiphol Amsterdam Airport</td>
<td>OpenShift on AWS, Azure, &amp; Private Cloud</td>
<td>Launched a new cloud platform in 10 days and cut development time for new services and APIs by 50%</td>
</tr>
</tbody>
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CUSTOMER FEEDBACK...

- Apps and data ON-PREMISE for various reasons (e.g. compliance, performance, etc.)
- Need Containers, Serverless Functions, and VMs
- Don’t want to pay for the expensive hypervisor tax & the associated complexity
CUSTOMER FEEDBACK...

- Cloud Agility & Simplicity for both Infrastructure & Apps
- Granular security
KUBERNETES-NATIVE INFRASTRUCTURE CONCEPT IS THE ANSWER...

Containers | VMs | Serverless Functions

Red Hat OpenShift 4 + Red Hat OpenShift Container Storage + Red Hat Enterprise Linux CoreOS

BARE METAL | VIRTUAL | PRIVATE CLOUD | PUBLIC CLOUDS
BARE METAL SERVERS

● Enterprise open source software stack on opinionated bare metal configurations
● Delivered through OpenShift
● **Kubernetes** as the single control hub for apps and infrastructure lifecycle management:
  ○ Containers, functions, and VMs
  ○ Compute, network, storage, etc.
Kubernetes Operators to automate the Day 1-2 ops for both apps & infrastructure

- RHEL CoreOS as the immutable, lightweight OS with “over the air updates”
OPEN SOURCE TECHNOLOGIES IN USE

Kubernetes Operators Framework
Rook
KubeVirt
INITIAL TARGET USE CASES

Developer Cloud
(Web & mobile app dev)

Latency sensitive
applications

Sample Target Apps

Containers

VMs

mongoDB
kafka
Couchbase

RED HAT ENTERPRISE LINUX

Windows

Microsoft SQL Server
A COMPLIANCE DRIVEN APPROACH

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Compliance as code
- Compliance and remediation as a software process
- Essential for immutable system and container images

Security Automation
- Required to maintain security in complex architectures

Zero Trust philosophies
- Enables policy driven security contexts for devices, identities and applications
Kubernetes-native infrastructure concept can help operationalize the Open Hybrid Cloud vision, and enable business innovation.
BENEFITS TO I.T. AND APP DEV

Simplify, accelerate, and achieve cost efficiency with IT operations

Faster time to value by accelerating application development

Enable “cloud-like” experience, on-premise

Security & Compliance
THE DIFFERENTIATION...

Accelerates operationalizing the Hybrid and Multi Cloud Strategy

Agility & lower TCO as a result of simplified architecture and operating model (no vTax!)

Attract and retain talent to work on cutting edge technology
WANT TO DIVE DEEPER?

3:15PM - 4PM; May 9th
“A Kubernetes-native infrastructure deep dive”
IT & App Dev agility & simplicity is key to business innovation.

Kubernetes-native infrastructure can help achieve agility, simplicity, and attract talent, while ensuring security and cost efficiency.

Please contact your Red Hat sales team so we can have a focused discussion on your needs.