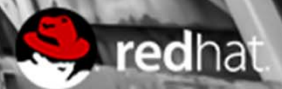




# Red Hat OpenShift

## Needham Conference

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January 2017  
@asheshbadani



# Forward Looking Statements

Certain statements contained in this presentation may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: risks related to the ability of the Company to compete effectively; the ability to deliver and stimulate demand for new products and technological innovations on a timely basis; delays or reductions in information technology spending; the integration of acquisitions and the ability to market successfully acquired technologies and products; fluctuations in exchange rates; the effects of industry consolidation; uncertainty and adverse results in litigation and related settlements; the inability to adequately protect Company intellectual property and the potential for infringement or breach of license claims of or relating to third party intellectual property; risks related to data and information security vulnerabilities; the ability to meet financial and operational challenges encountered in our international operations; ineffective management of, and control over, the Company's growth and international operations; and changes in and a dependence on key personnel, as well as other factors contained in our most recent Quarterly Report on Form 10-Q (copies of which may be accessed through the Securities and Exchange Commission's website at <http://www.sec.gov>), including those found therein under the captions "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations". In addition to these factors, actual future performance, outcomes, and results may differ materially because of more general factors including (without limitation) general industry and market conditions and growth rates, economic and political conditions, governmental and public policy changes and the impact of natural disasters such as earthquakes and floods. The forward-looking statements included in this presentation represent the Company's views as of the date of this presentation and these views could change. However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this presentation, January 10, 2017.





# How do you enable Digital Transformation?

It requires an evolution in....



## Applications

New ways of developing, delivering, and integrating applications



## Platform

Modernize existing and build new cloud-based infrastructure



## Process

More agile process across both IT and the business

# Containers Transform



Monolith



N-Tier



Microservices

## Applications



Datacenter



Hosted



Hybrid

## Infrastructures



Waterfall



Agile



DevOps

## Processes



# Containers - An Evolution in Application Deployment

- Enable efficiency and automation for microservices, but also support traditional applications
- Enable faster and more consistent deployments from Development to Production
- Enable application portability across 4 infrastructure footprints: Physical, Virtual, Private & Public Cloud



# The Business Benefits Of Containers via IDC



5 year  
ROI

**531%**



Average Annual  
Benefits per 100  
Developers

**\$1.29M**

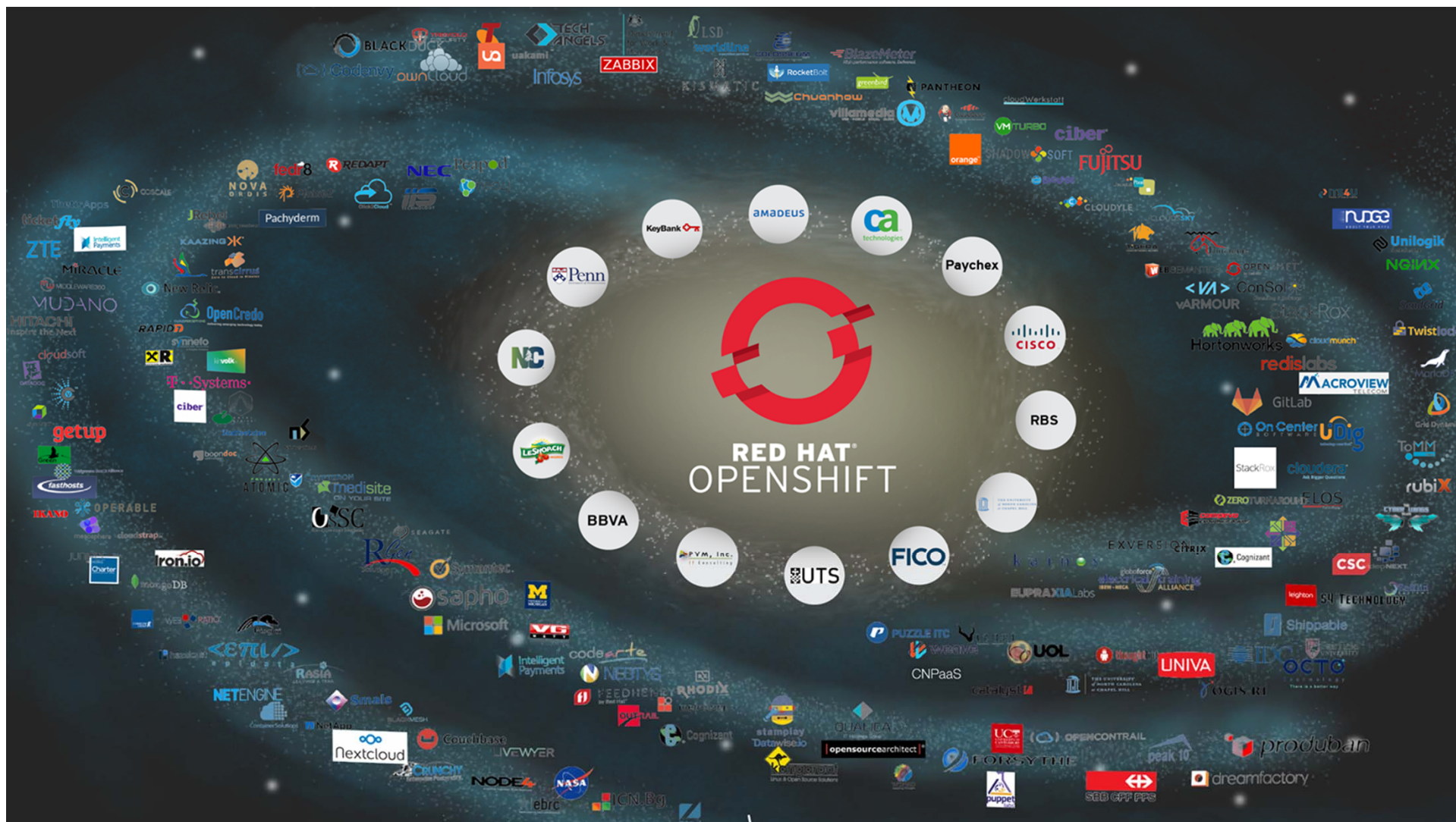


Payback  
Period

**8 Months**

Source: <https://www.openshift.com/sites/default/files/idc-business-value-of-openshift.pdf>







## FLEXIBLE CONSUMPTION MODELS



### **PRIVATE CLOUD (Self-Managed)**

Manage and use OpenShift as a private application platform in your data center or private cloud.

***Currently shipping OCP 3.3; 3.4 to GA in Jan '17; matching Kubernetes release cadence***



### **ENTERPRISE PUBLIC CLOUD (Single-Tenant)**

The power and flexibility of your own OpenShift cluster, securely connected to your internal network and backed by the experience of Red Hat Engineering, Operations, and Support.

***Currently available on AWS and GCP; Azure in '17***



### **PUBLIC CLOUD SERVICE (Multi-Tenant)**

Quickly build, launch and host applications in a shared public cloud, operated and supported by Red Hat

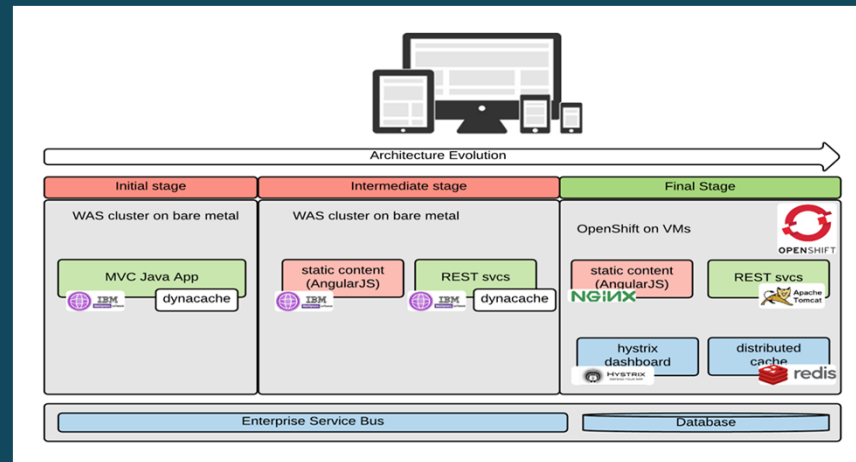
***Next-Gen currently in DevPreview; Expected to GA in 1Q '17***

## OPENSIFT KEY USE CASES

Use Case	Customer Goal	OpenShift Value-add
<b>Accelerate App Delivery with DevOps</b>	<ul style="list-style-type: none"><li>• Become more agile in delivering new capabilities to market faster</li><li>• Standardize on a common platform for Dev and Ops</li></ul>	<ul style="list-style-type: none"><li>• Developer lifecycle automation (Image stream, release pipelines)</li><li>• A/B Testing, Roll-back</li><li>• Access and security controls</li></ul>
<b>App Modernization &amp; Innovation</b>	<ul style="list-style-type: none"><li>• Modernize application architectures with Microservices</li><li>• Migrate from legacy vendors (Oracle, IBM, TIBCO) to lower-cost, open source alternatives</li></ul>	<ul style="list-style-type: none"><li>• Common platform for traditional (stateful) and new apps (stateless)</li><li>• Easy access to app, mobile, API mgmt and storage storage services</li><li>• Choice of application frameworks, languages and developer tools</li></ul>
<b>App Platform for the Hybrid Cloud</b>	<ul style="list-style-type: none"><li>• Abstract apps from infrastructure to more easily adopt/migrate to cloud</li><li>• Migrate/deploy apps across multiple cloud environments</li><li>• Avoid vendor lock-in</li></ul>	<ul style="list-style-type: none"><li>• Consistent platform across on-prem, AWS, Azure, ...</li><li>• Consistent management (CloudForms), storage, networking, security</li></ul>

# Application Architecture

- Shift from monolithic applications to microservices
- Independently deployable and updatable, limited dependencies
- Optimized for agility & accelerated time to market





# Evolving Application Architecture at Volvo

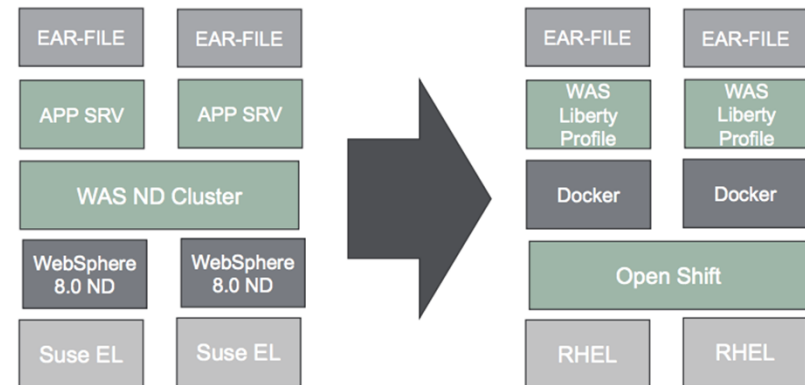
785 apps across 560 app servers

OpenShift provides build, distribution & runtime environment

Platform for DevOps and Microservices

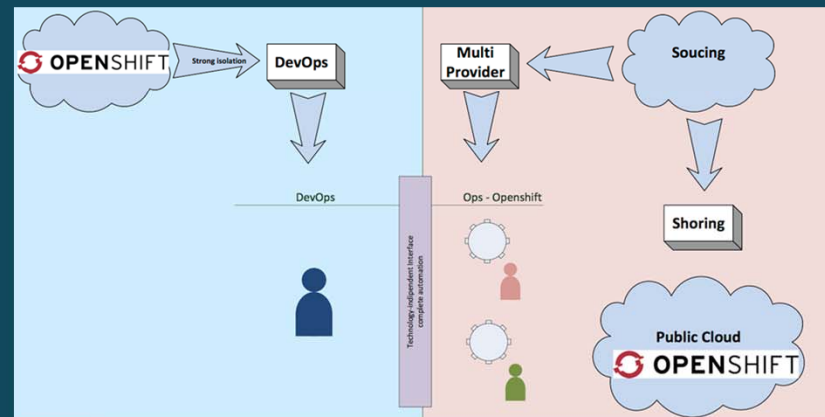
Running OpenShift on Azure,  
automatically provisioned with  
Ansible

## OUR NEW ENVIRONMENT



# Development Process

- Shift to more agile development and deployment processes
- Increased collaboration between Development & Operations
- Move from Continuous Integration to Continuous Deployment





# amadeus



Datacenter



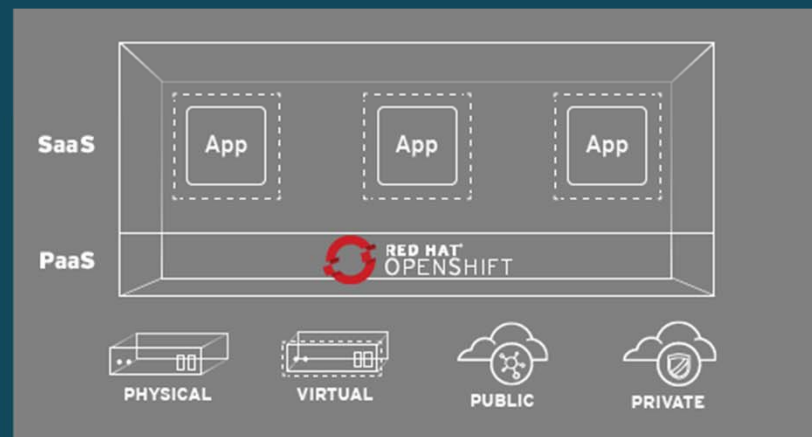
Hosted



Hybrid

## Platform Infrastructure

- Shift from virtualization to scale-out cloud infrastructure
- Rapid growth in public cloud usage for enterprises
- Hybrid cloud deployments span private & multiple public clouds







Thank You

