



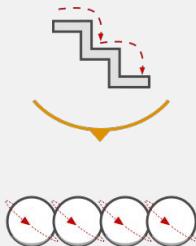
ACCELERATE APPLICATION DELIVERY WITH OPENSHIFT

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Sr Technical Marketing Manager, OpenShift
@siamaks
April 2016

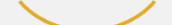
IT Must Evolve to Stay Ahead of Demands

Development Process

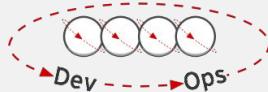
Waterfall



Agile



DevOps



Application Architecture

Monolithic



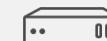
N-Tier

Microservices



Deployment & Packaging

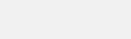
Physical Servers



Virtual Servers



Containers



Application Infrastructure

Datacenter



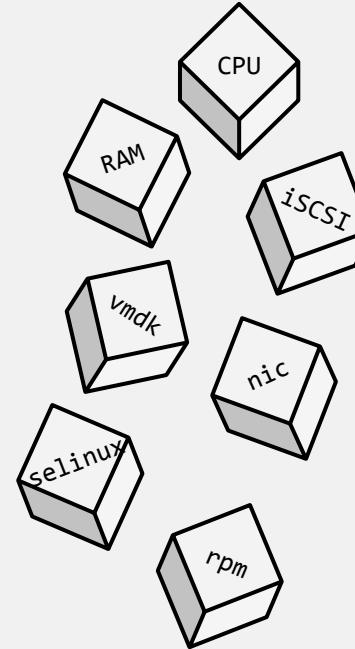
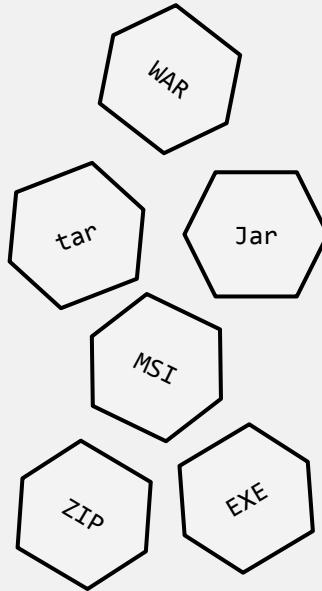
Hosted



Cloud



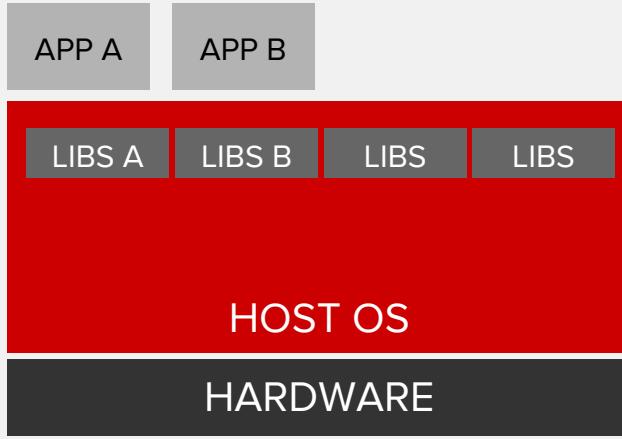
DEVS



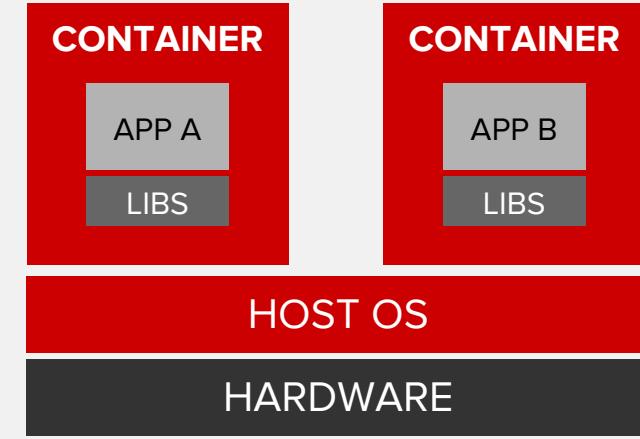
OPS

CONTAINER - A KEY ENABLER





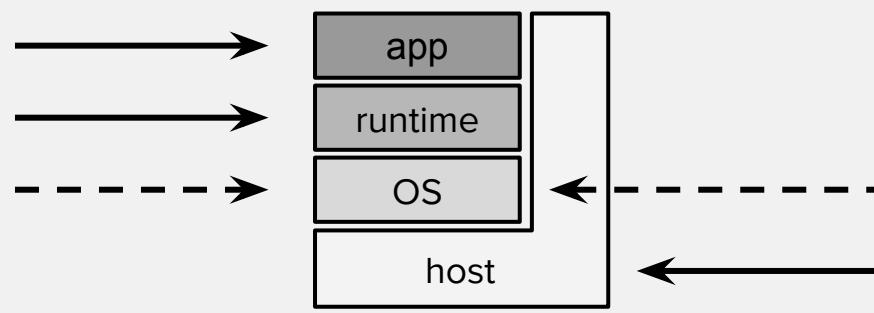
TRADITIONAL



CONTAINERS



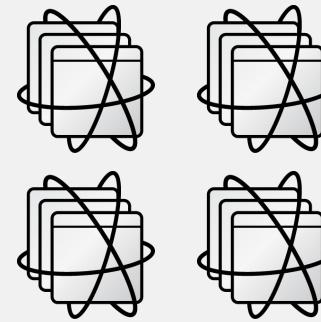
DEVS



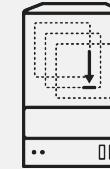
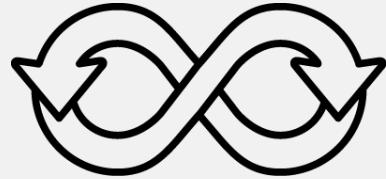
OPS



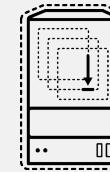
DEVS



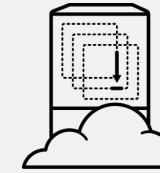
OPS



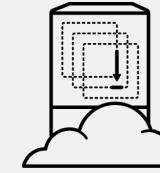
physical



virtual

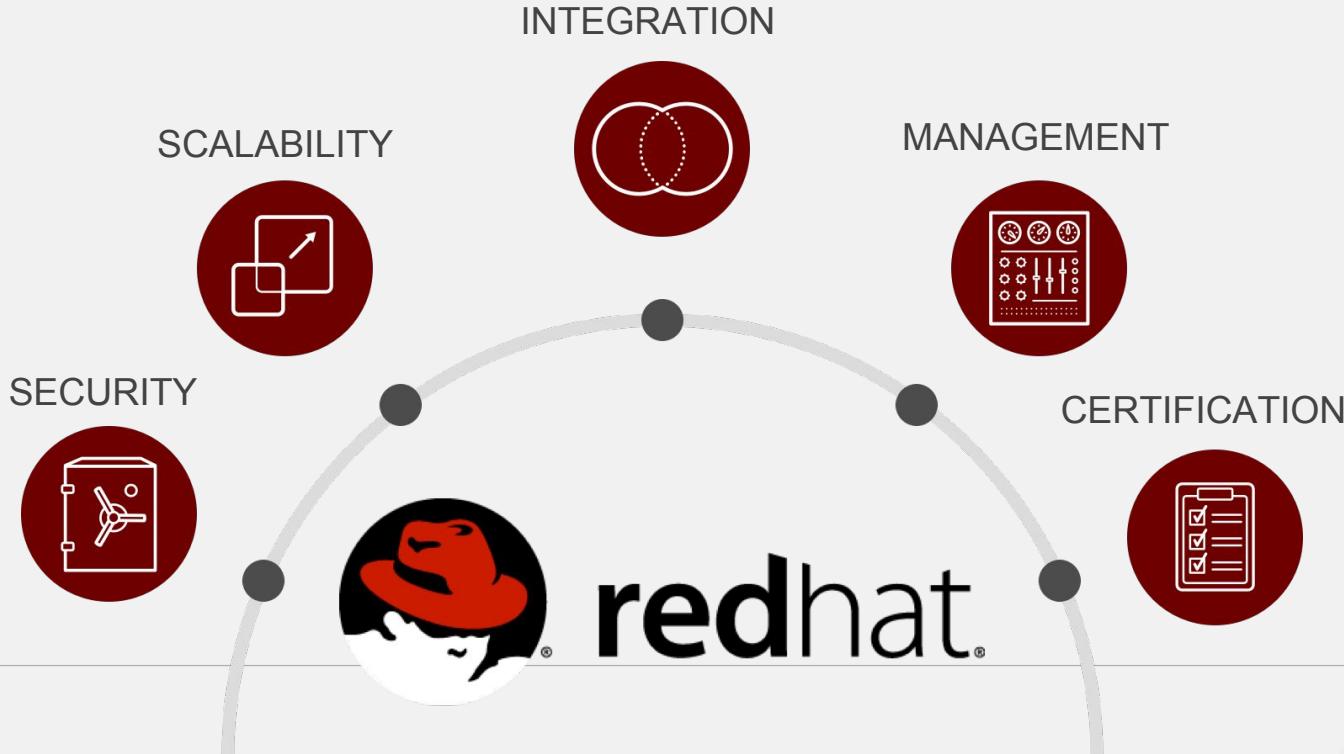


private cloud

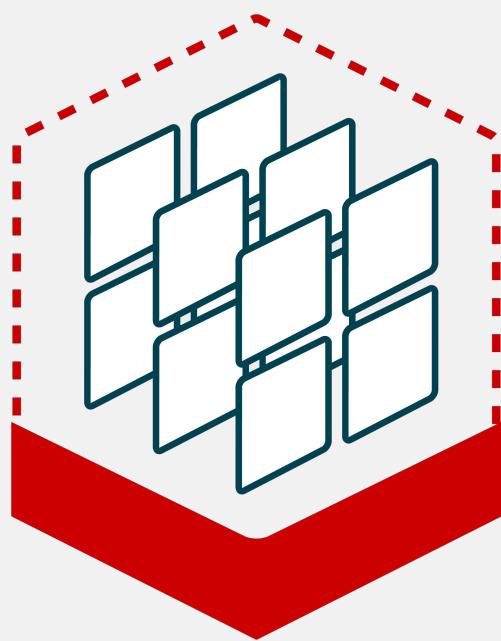


public cloud

Red Hat Addresses Container Adoption Concerns

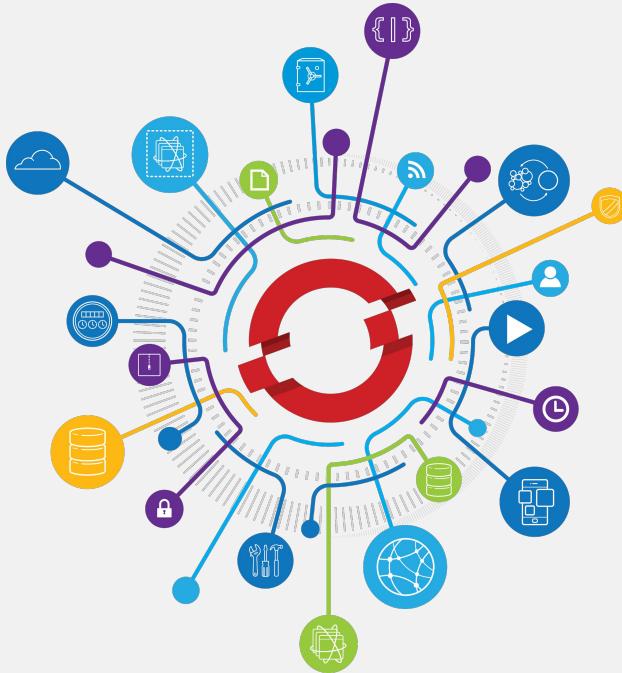


OPEN CONTAINER INITIATIVE



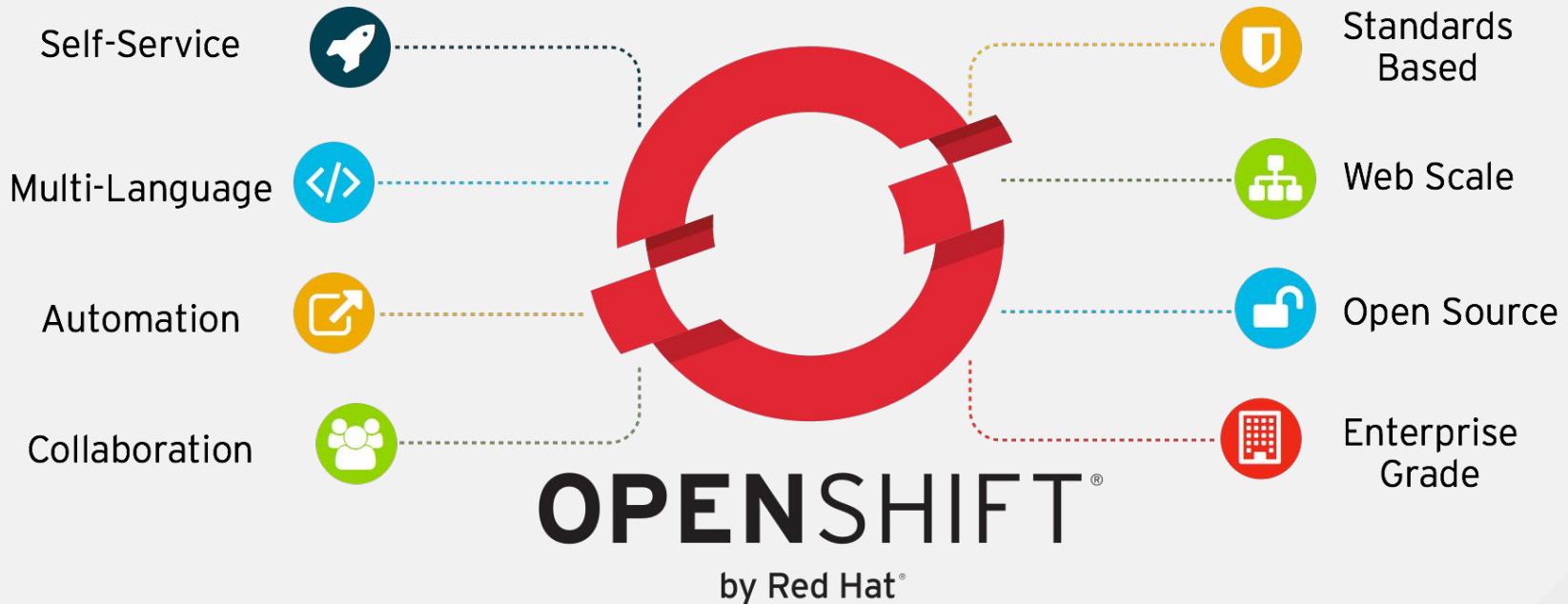
- Announced on June 22, 2015
- Industry leaders unite to create open standards and governance for container format and runtime
- Red Hat is a founding member of the Open Container Initiative and a leader in Linux and multiple container related open source projects
- Standardization is critical to foster innovation and will help drive adoption with customers and facilitate a rich container ecosystem

OPENSHIFT CONTAINER APPLICATION PLATFORM

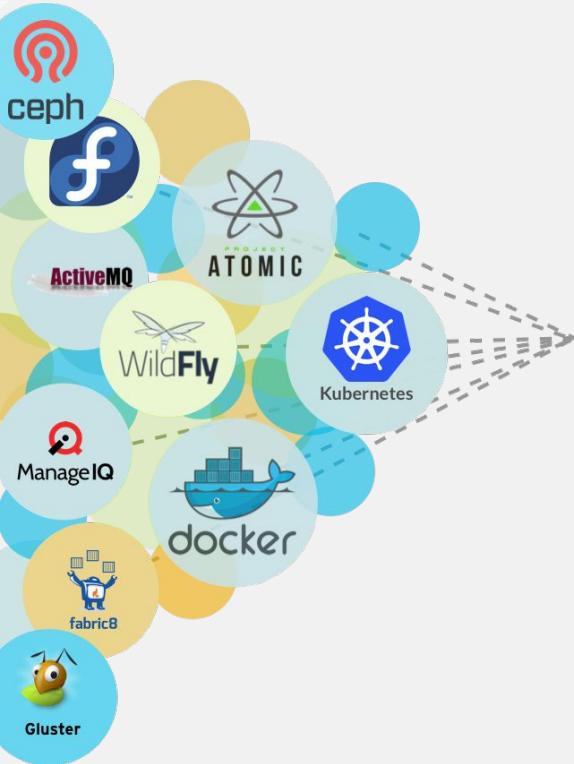


- Built for both traditional and cloud-native applications.
- An integrated hybrid cloud application platform for application development and deployment
- Develop, build, and manage container based applications
- Easily turn source code into running applications with source-to-image capabilities

CRITICAL FEATURES FOR BOTH DEV AND OPS



COMMUNITY POWERED INNOVATION



OPENSHIFT
origin

 **OPENSIFT ENTERPRISE**
by Red Hat®

 **OPENSIFT DEDICATED**
by Red Hat®

 **OPENSIFT ONLINE**
by Red Hat®

OpenShift Enterprise



FICO[™]

ca[®]
technologies

UTS

 **CISCO**[™]



PAYCHEX[®]

 **BOEING**

T · · Systems · ·

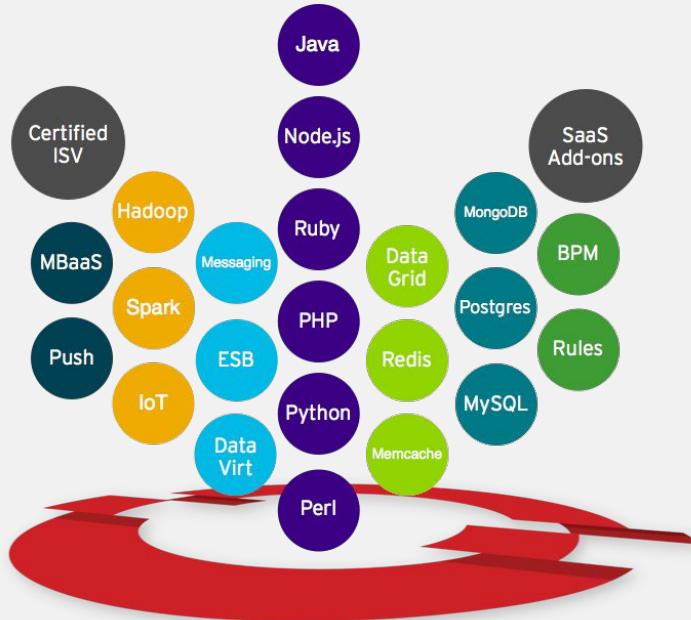
AMADEUS



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Read more at: openshift.com/customers

OPENShift APPLICATION SERVICES



- From Red Hat
- From ISV Partners
- From the Community

OPENSHIFT AND NATIVE .NET



- OpenShift will be providing a .NET runtime distributed and supported by Red Hat and Microsoft
- Will start with version 5 of the core framework
- Version parity goal of 60 days.

<https://blog.openshift.com/open-source-power-microsoft-dotnet-openshift>

JBOSS MIDDLEWARE SERVICES



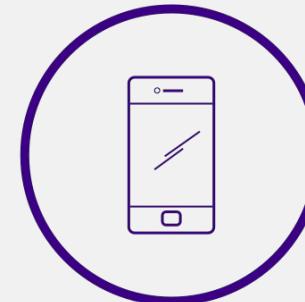
Application Container Services



Integration Services



Business Process Services



Mobile Services

-
- JBoss Enterprise Application Platform
 - JBoss Web Server / Tomcat
 - JBoss Developer Studio
 - Fuse
 - A-MQ
 - JDG
 - Data Virtualization

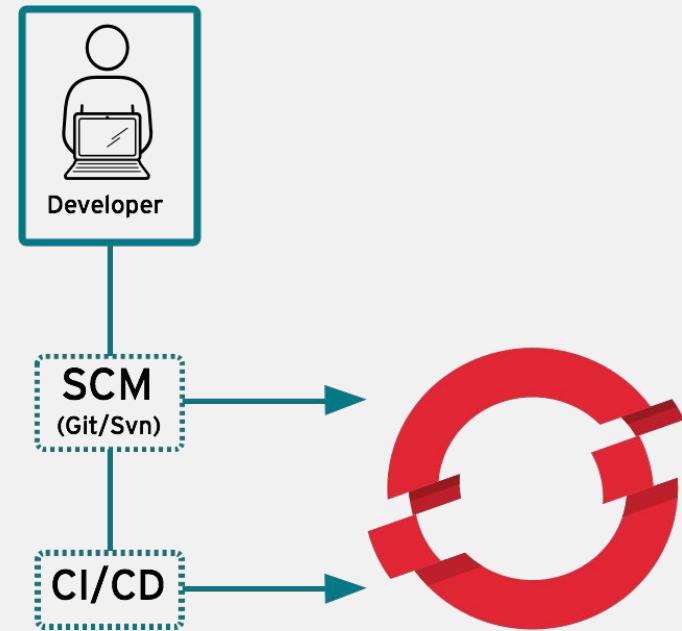
-
- Business Process Management *
 - Business Rules Management System

-
- Red Hat Mobile / FeedHenry *

* Coming Soon

BENEFITS FOR DEVELOPERS

- Access a broad selection of application components
- Deploy application environments on-demand
- Leverage your choice of interface & integrate with existing tools
- Automate application deployments, builds and source-to-image
- Enable collaboration across users, teams & projects



BENEFITS FOR IT OPERATIONS



- Deploy a secure, enterprise-grade container-based application platform
- Enable application developers while improving operational efficiency & infrastructure utilization
- Utilize advanced scheduling and automated placement with regions and zones for HA
- Leverage powerful declarative management for application services
- Manage user & team access and integrate with enterprise authentication systems

AWARDS AND PRODUCT REVIEWS



InfoWorld

Review: OpenShift 3 rocks Docker containers

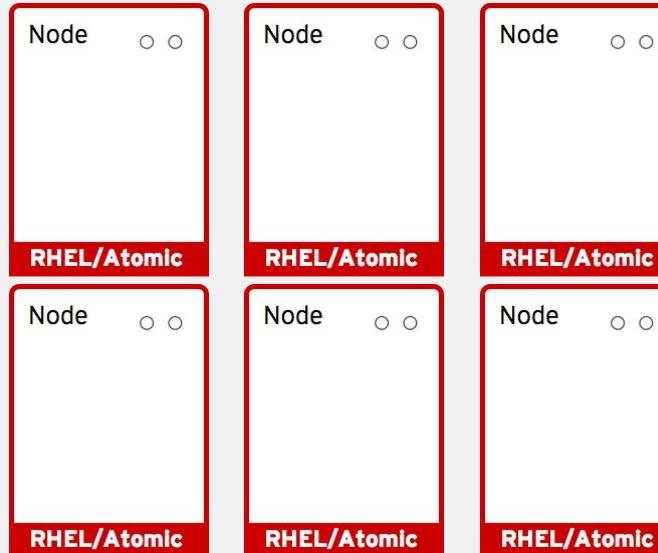
“For both developers and operators, OpenShift fulfills the promise of PaaS.”

<http://www.infoworld.com/article/3005681/paas/review-openshift-3-rocks-docker-containers.html>

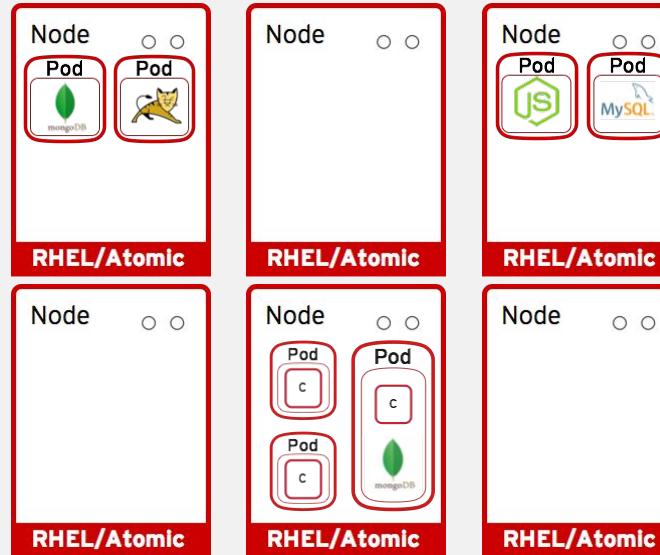
OpenShift runs on your choice of infrastructure



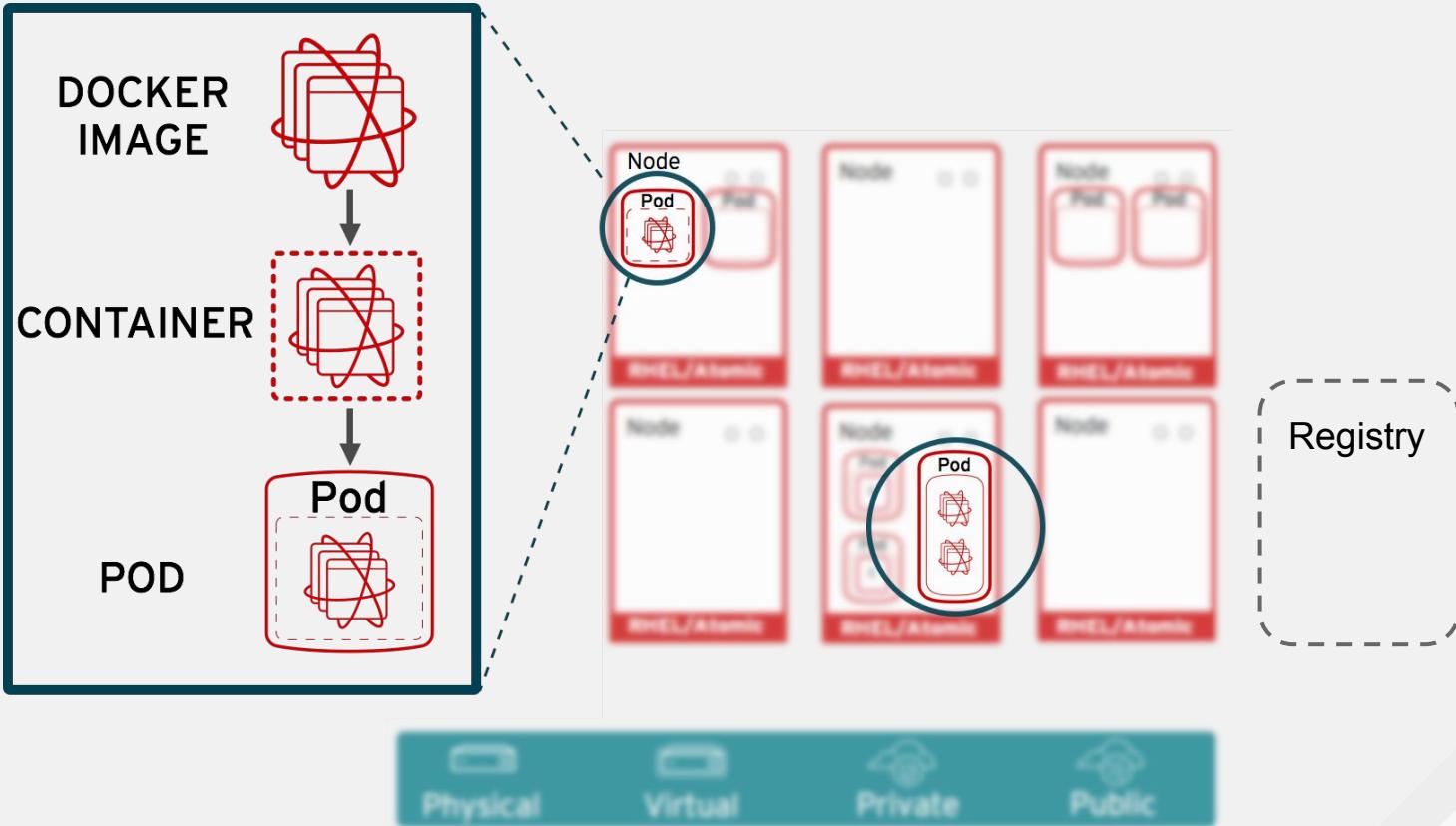
Nodes are instances of RHEL where apps will run



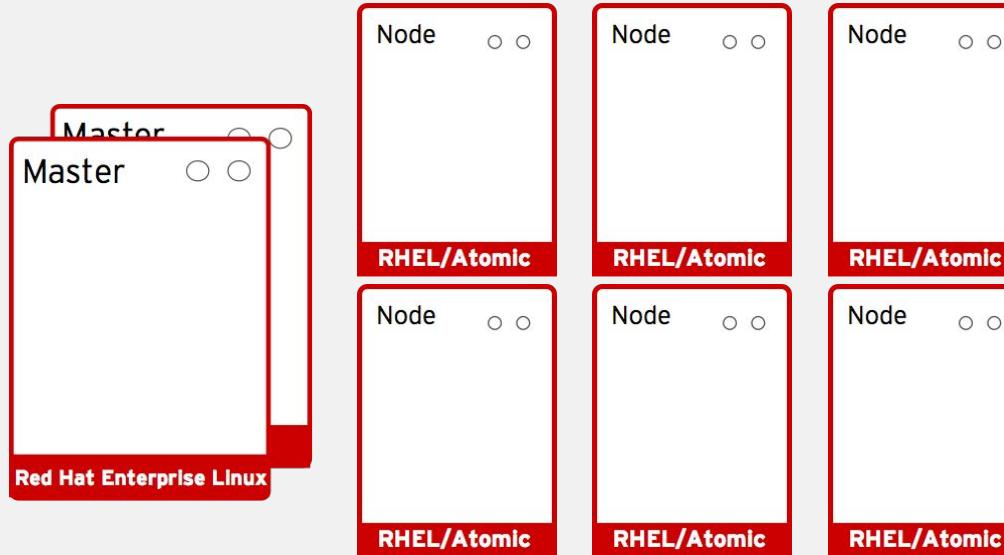
App services run in docker containers on each node



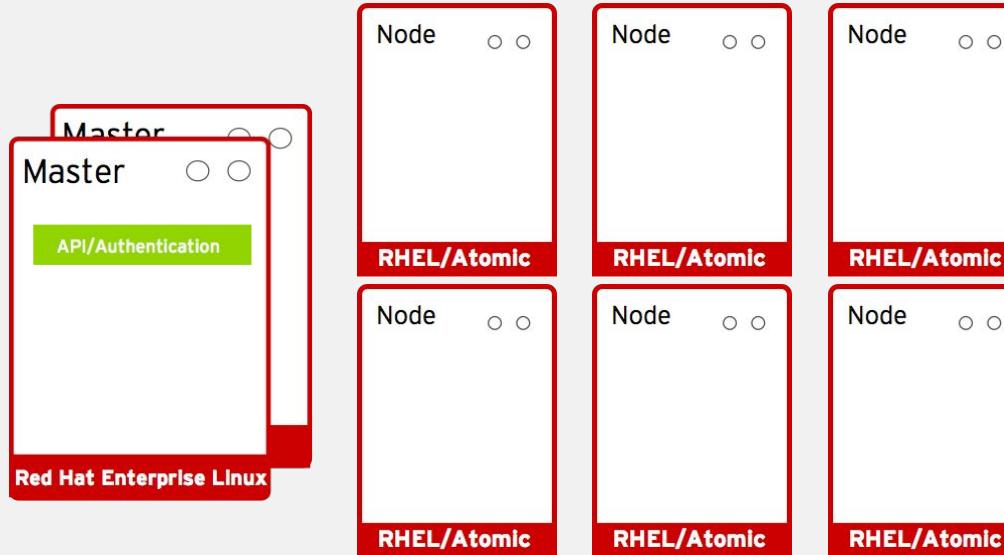
Pods run one or more docker containers as a unit



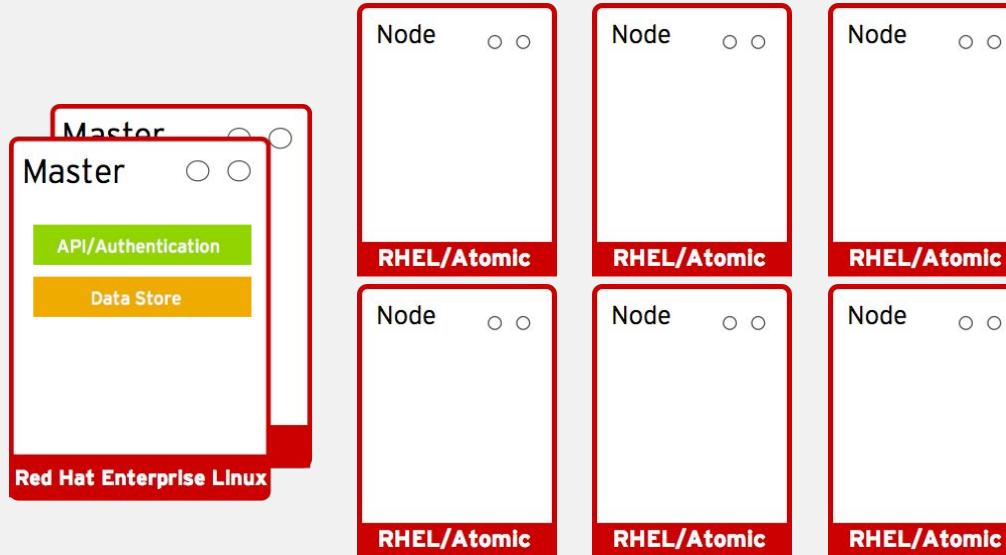
Masters leverage kubernetes to orchestrate nodes / apps



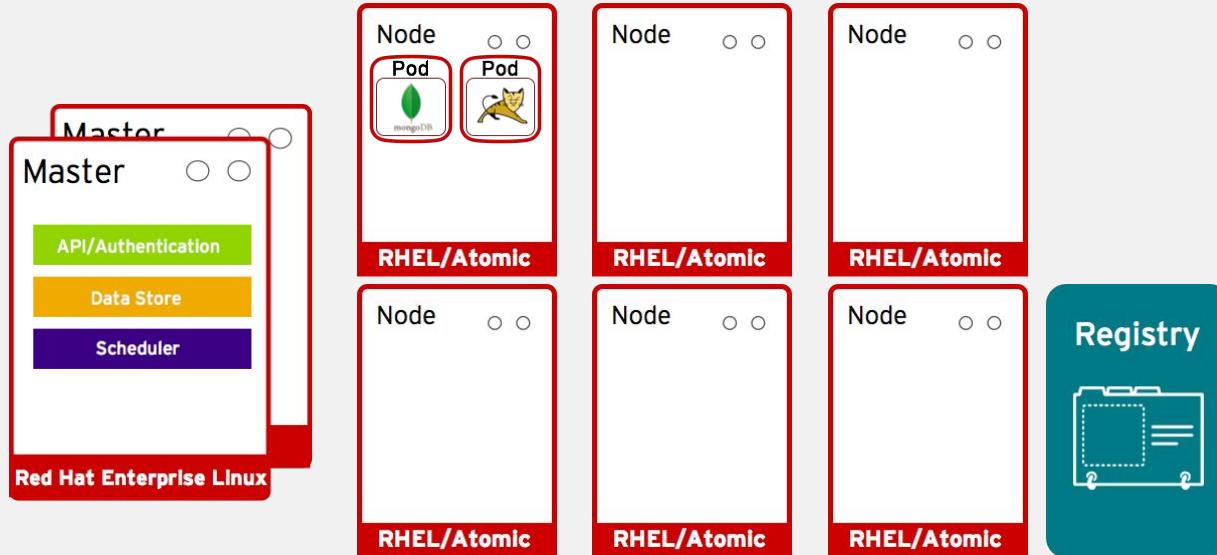
Master provides authenticated API for users & clients



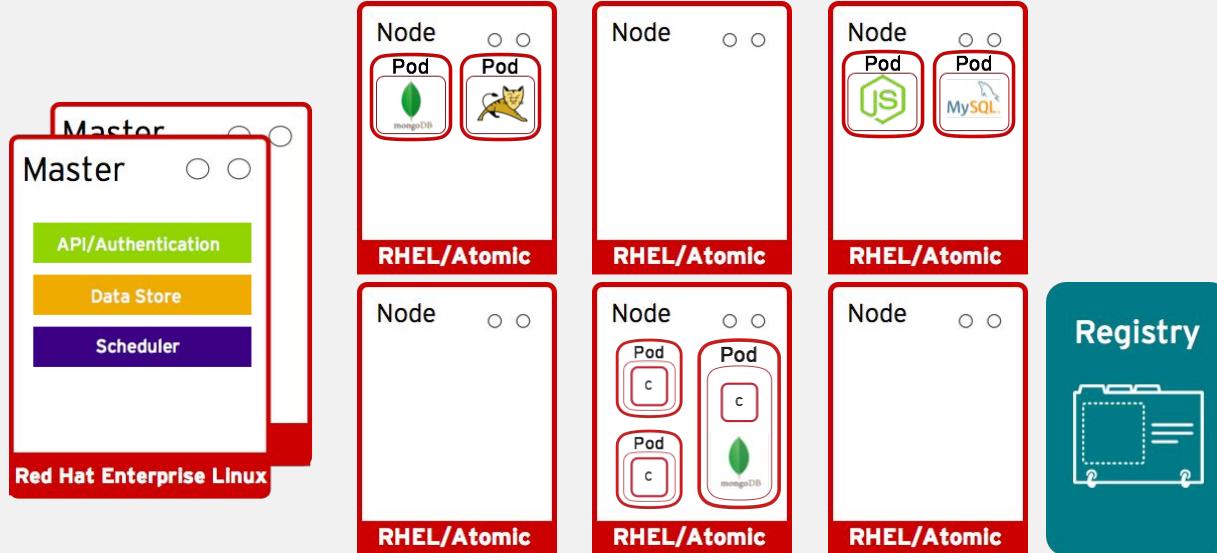
Master uses etcd key-value data store for persistence



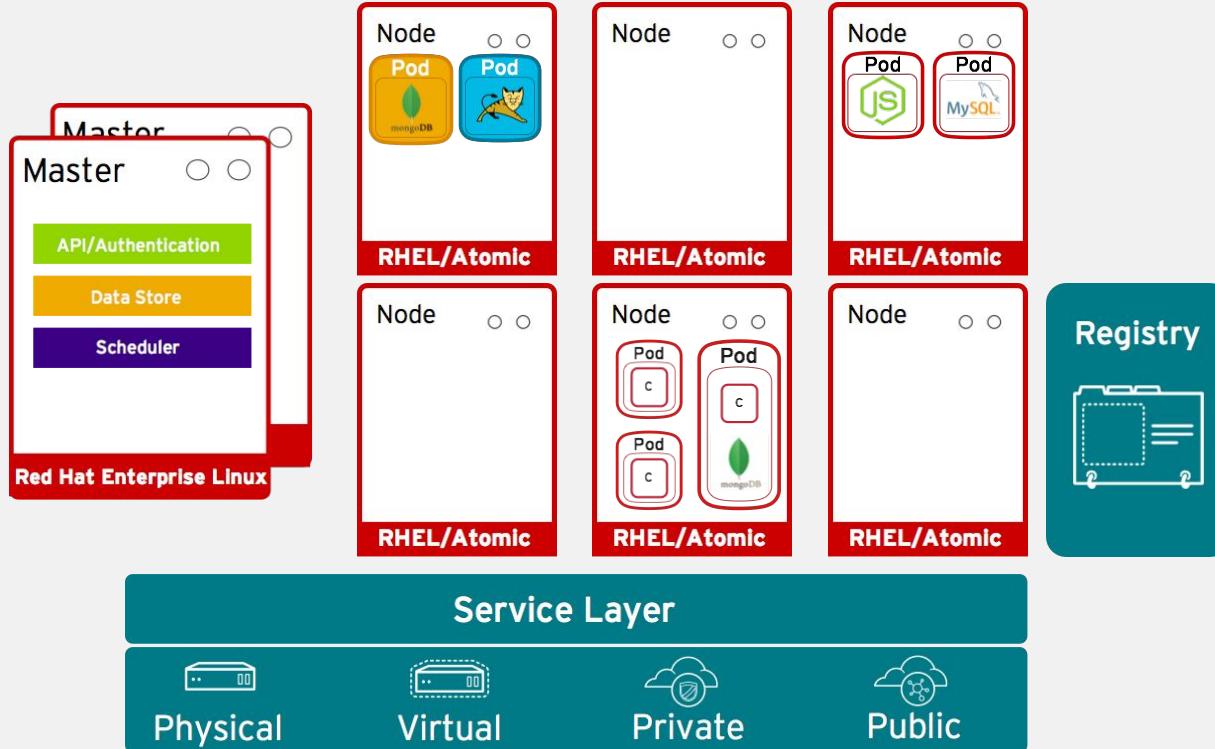
Master provides scheduler for pod placement on nodes



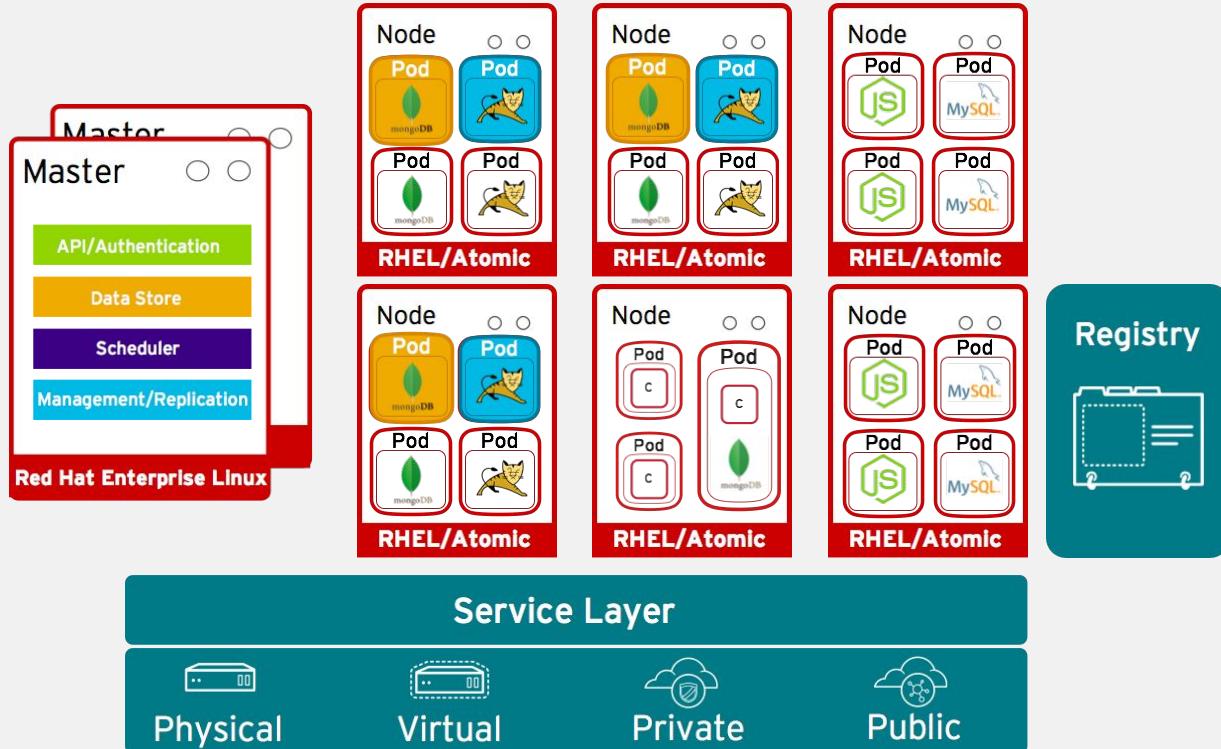
Pod placement is determined based on defined policy



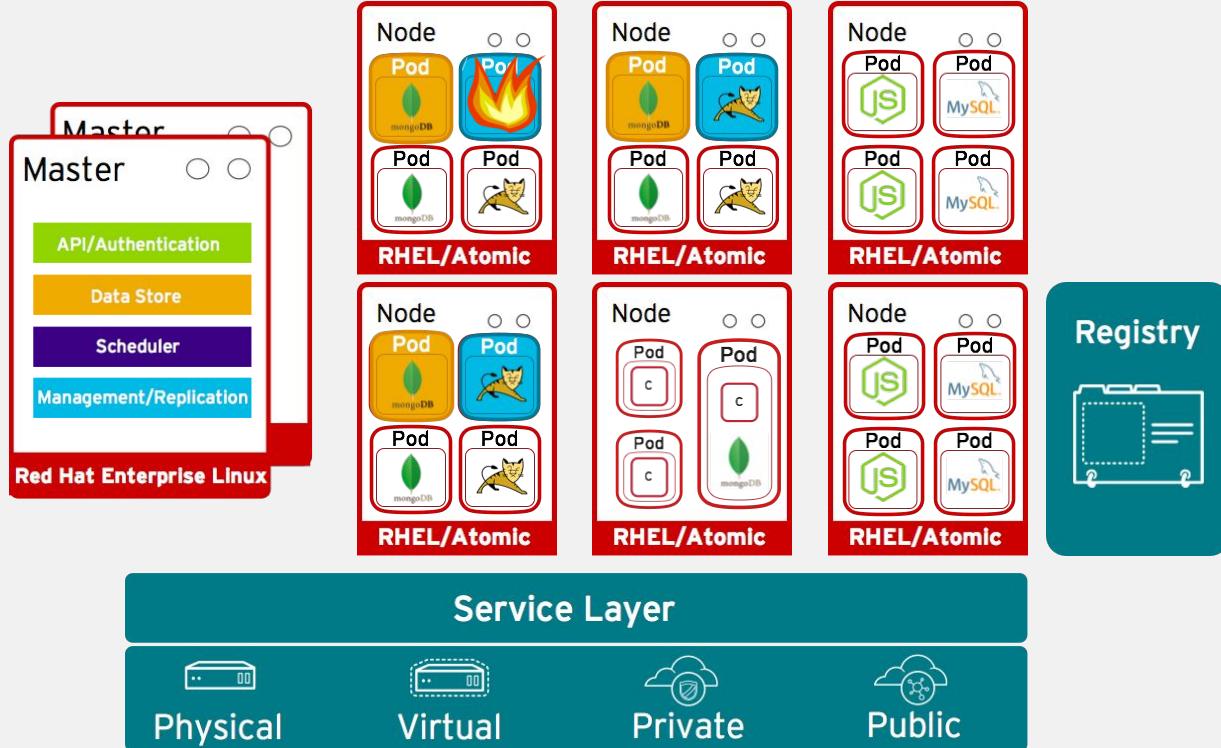
Services allow related pods to connect to each other



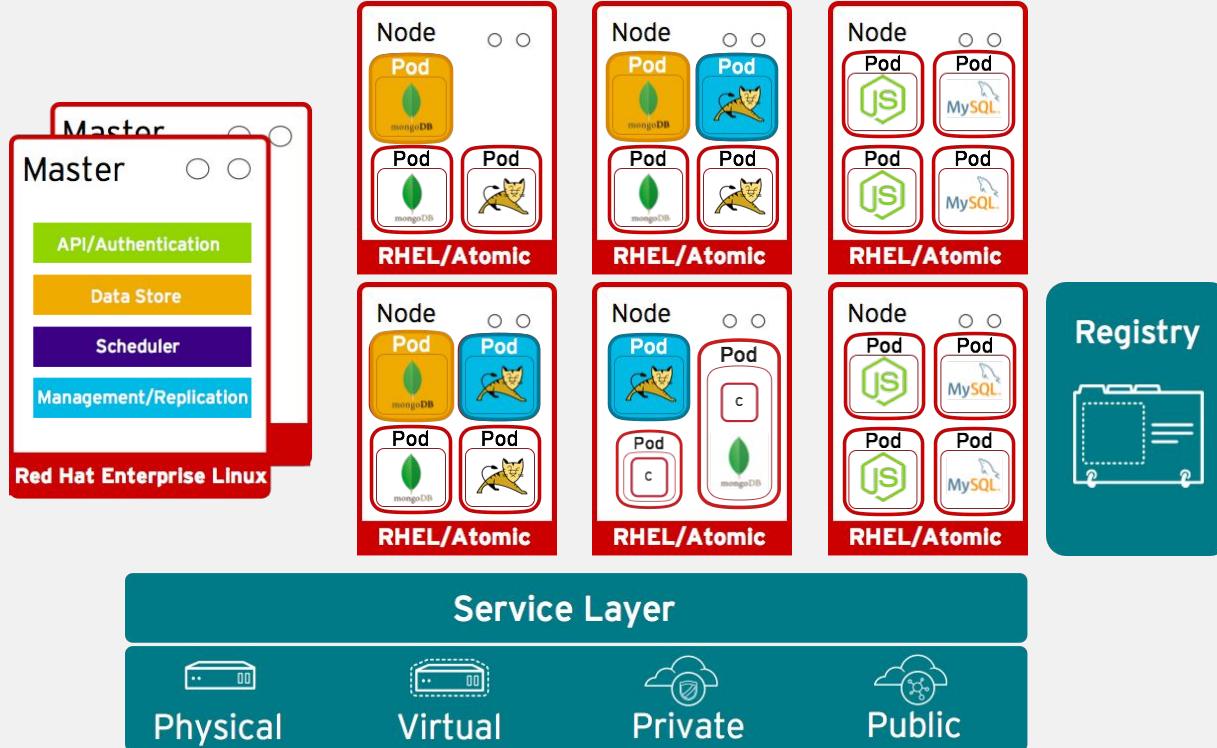
Management/Replication controller manages the pod lifecycle



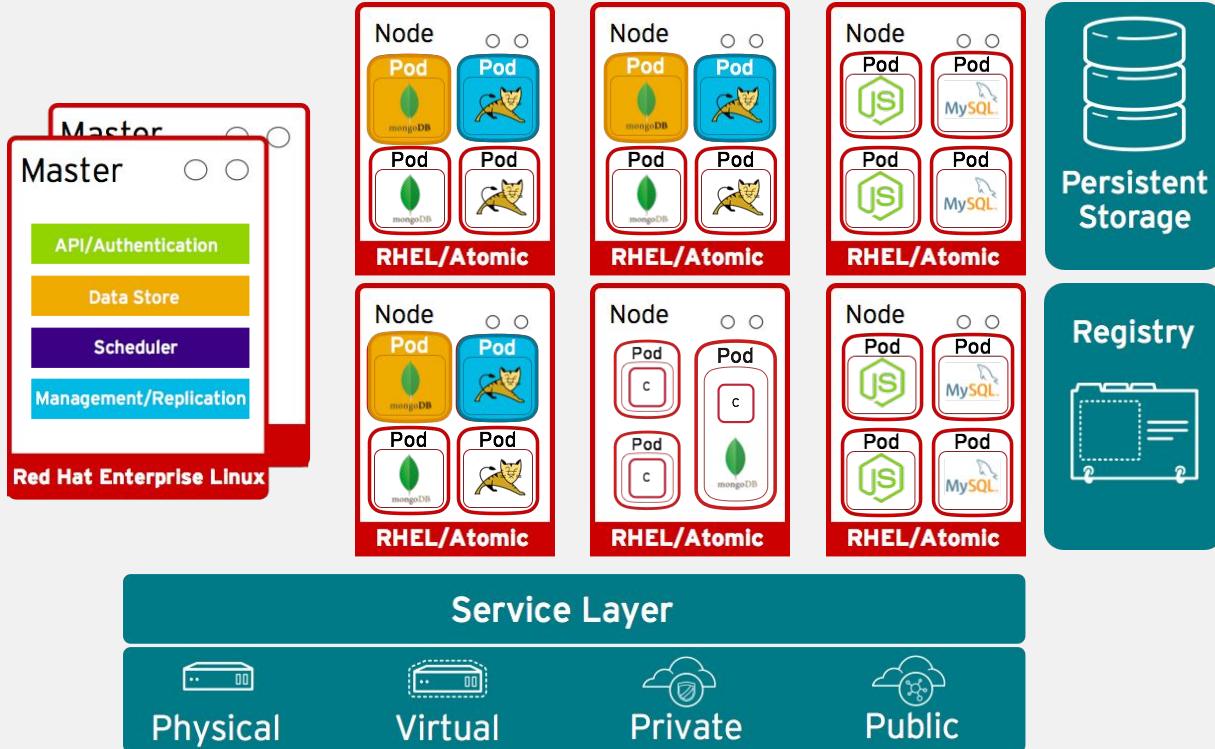
“Burn down”/replace affected deployments



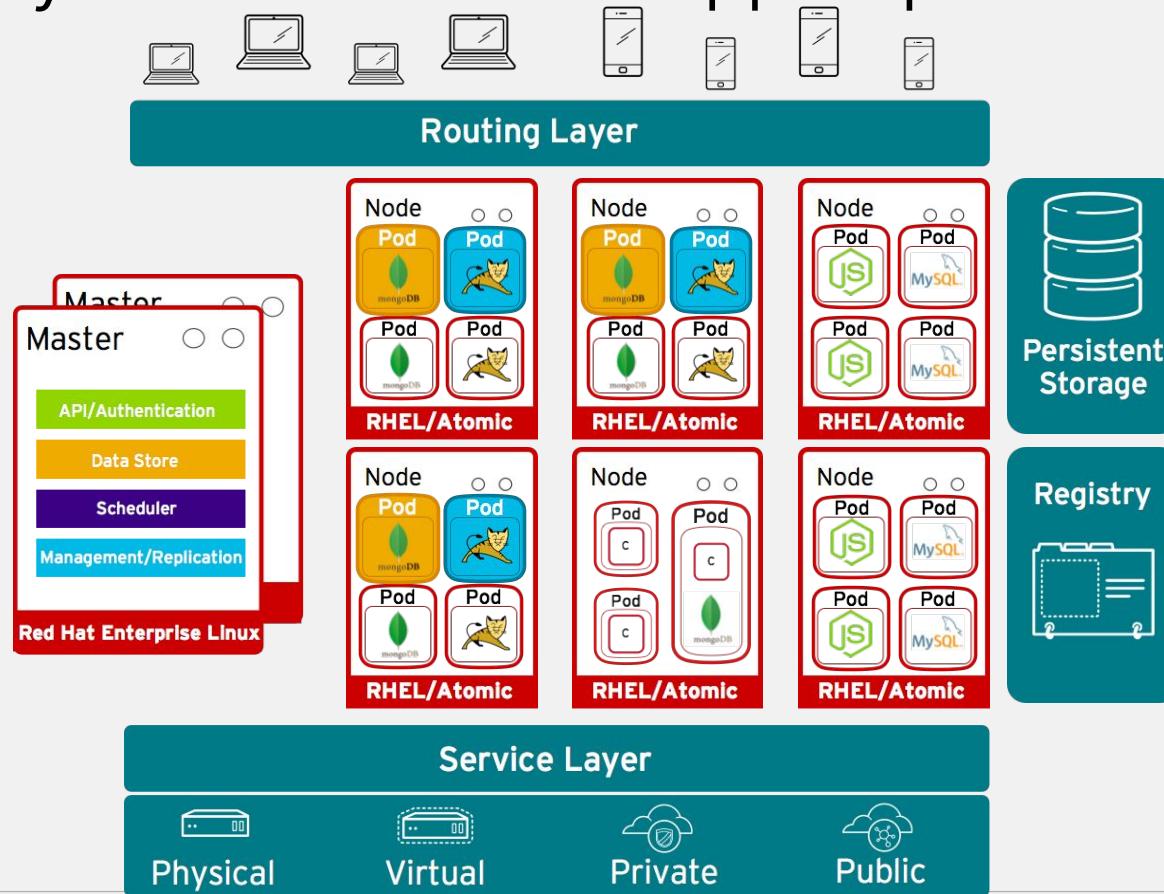
OpenShift automatically recovers and deploys a new Pod



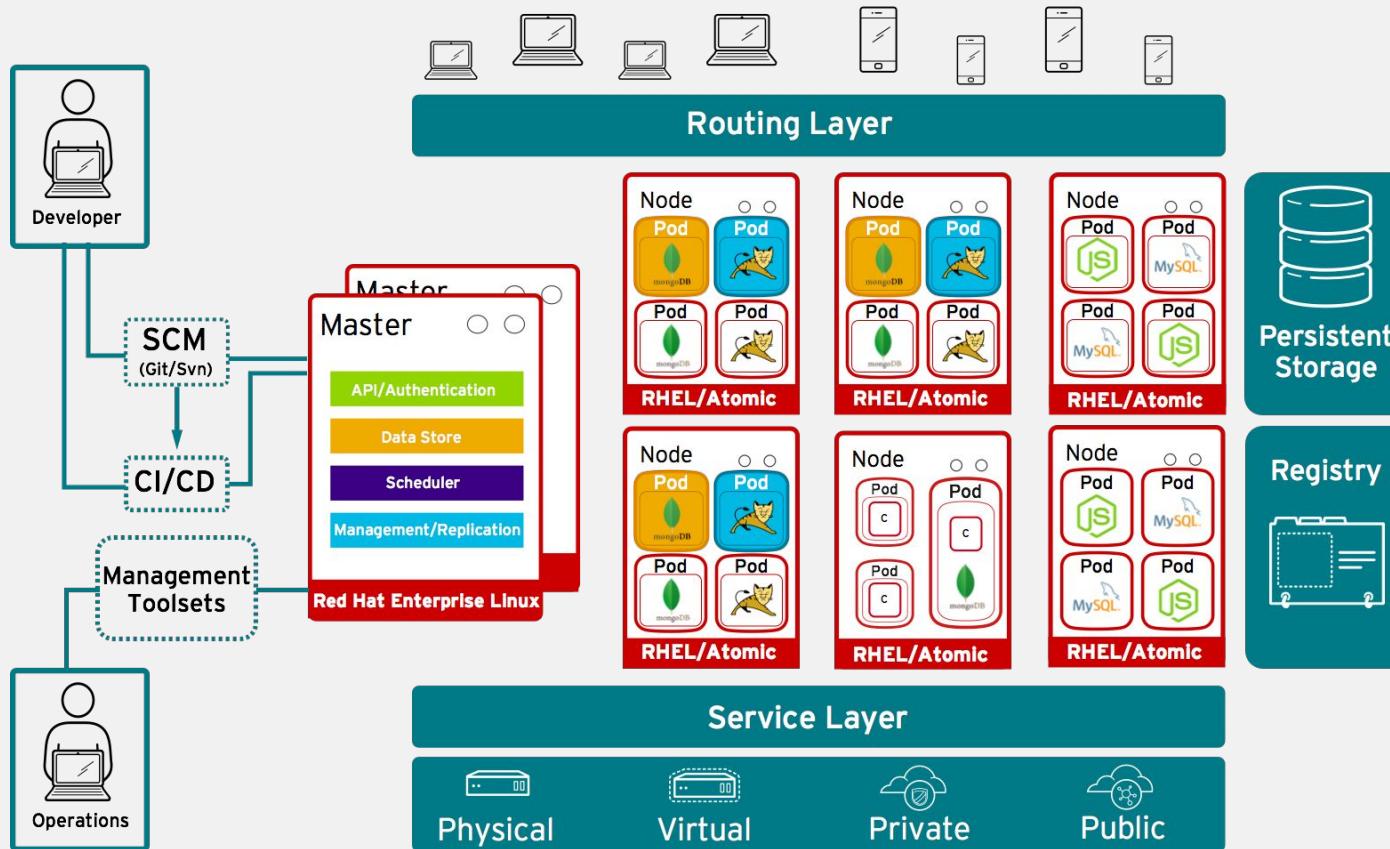
Pods can attach to shared storage for stateful services



Routing layer routes external app requests to pods



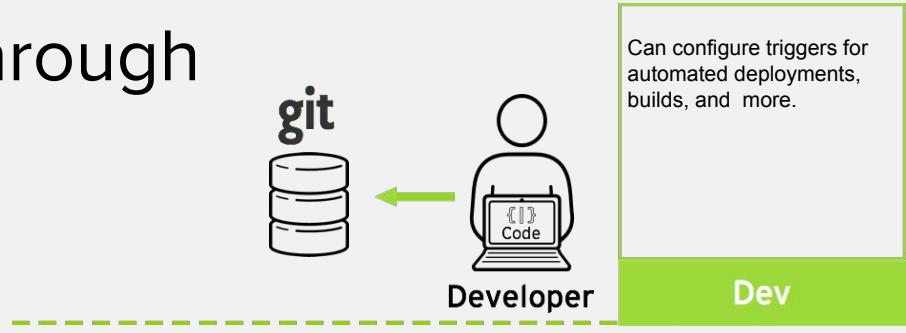
Developers access openShift via web, CLI or IDE



Source 2 Image Walk Through

Code

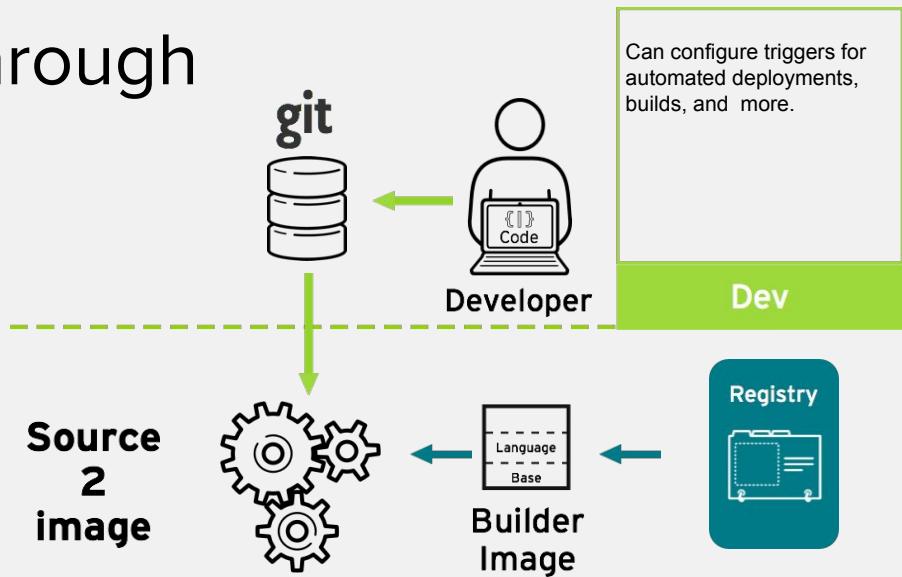
Developers can leverage existing development tools and then access the OpenShift Web, CLI or IDE interfaces to create new application services and push source code via GIT. OpenShift can also accept binary deployments or be fully integrated with a customer's existing CI/CD environment.



Source 2 Image Walk Through

Build

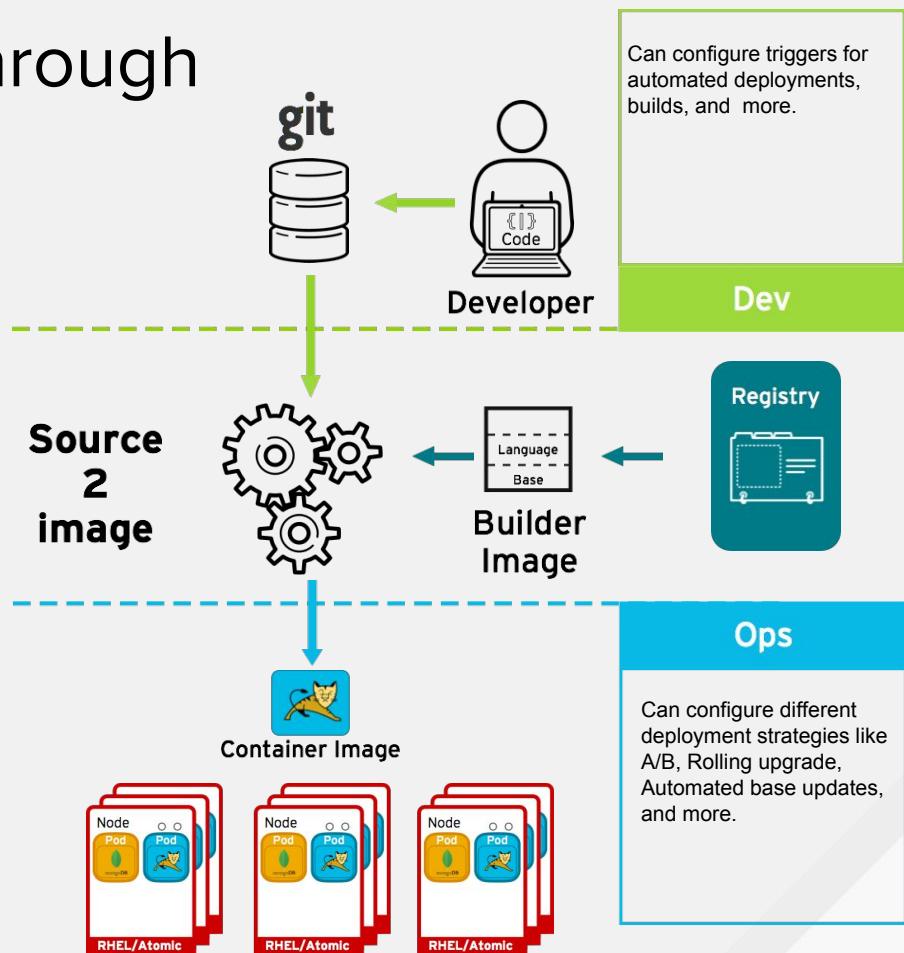
OpenShift automates the Docker image build process with Source-to-Image (S2I). S2I combines source code with a corresponding Builder image from the integrated Docker registry. Builds can also be triggered manually or automatically by setting a Git webhook.



Source 2 Image Walk Through

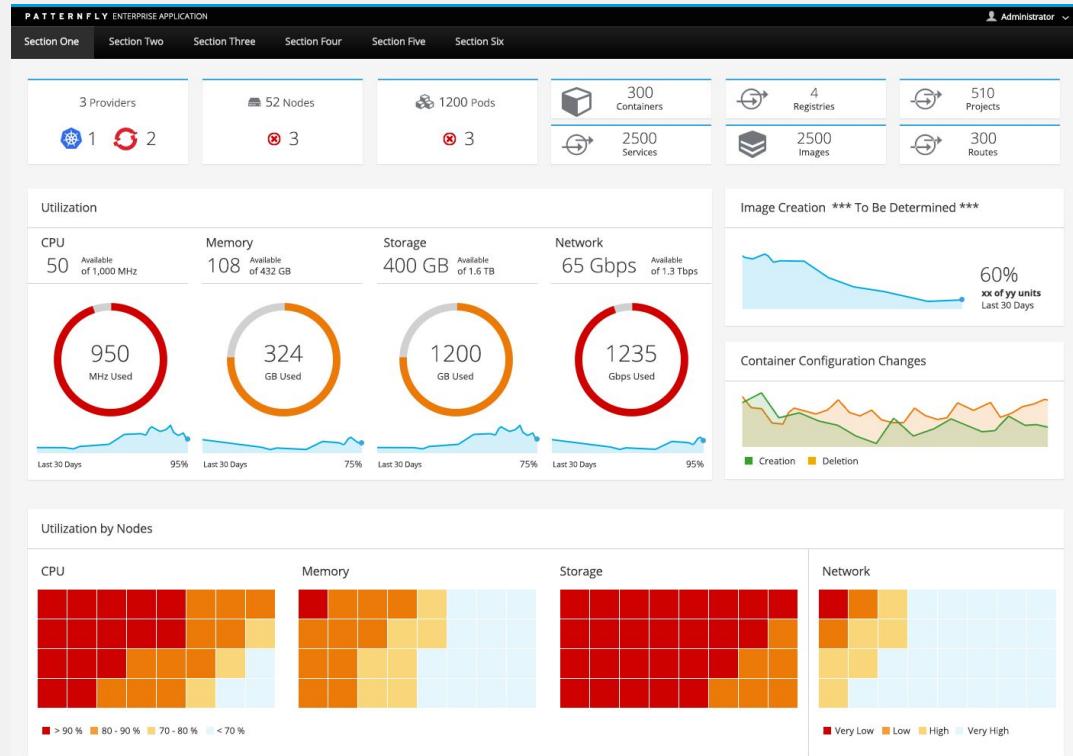
Deploy

OpenShift automates the deployment of application containers across multiple Node hosts via the Kubernetes scheduler. Users can automatically trigger deployments on application changes and do rollbacks, configure A/B deployments & other custom deployment types.



Infrastructure Management with CloudForms & OpenShift

- Cloud Forms functionality now included with OpenShift Enterprise to improve control over apps and infrastructure
- Monitor and manage resource consumption of containers running in OpenShift Enterprise
- Docker and Kubernetes aware (containers, pods, services...)



PRODUCT ROADMAP

3.1 - Q4CY15

- CPU autoscaling
- Integration Service / Fuse 6.x
- Decision Service / BRMS
- Cache Service / JDG
- Eclipse IDE completion
- Web/CLI UX enhancements
- SCL 2 image updates
- CloudForms 4.0 OSE Provider
- CPU/Memory Metrics Aggregation
- Additional storage plugins
- Networking enhancements
- ELK Log Aggregation
- CPU/Memory Overcommit
- HA Ref Arch/Enhancements
- Job Controller
- LDAP teams integration
- Jenkins Image / CI integration



3.2 - 1HCY16

- Red Hat Mobile Hybrid
- Autoscaling Enhancements
- Build Automation / Binary Deployment
- Jenkins Enhancements
- Dev UX enhancements

3.3 - 2HCY16

- Idling
- Non-SNI routing
- OpenStack Neutron
- CloudForms Active Management
- Enterprise Registry
- Storage Enhancement
- Routing Enhancements
- CI/CD Pipelines
- Service Linking

WHERE TO TRY OPENSHIFT

- OpenShift TestDrive Lab on Amazon Web Services
<https://www.openshift.com/dedicated/test-drive.html>
- All-in-one vagrant box
<https://www.openshift.org/vm/>

```
$ vagrant init thesteve0/openshift-origin
$ vagrant up
```

- Free Red Hat Container Development Kit (CDK)
<http://developers.redhat.com/products/cdk/overview/>



redhat.

THANK YOU



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