
Microsoft
Microsoft Summit
5 y 6 de octubre, 2016
redhat.
Convergencia tecnológica:
Cloud, DevOps, Containers, Java & .Net.
#TechSum

## Mario Mendoza
### Senior Solution Architect

Especializado en proyectos de transformación, tiene una dilatada experiencia a distintos niveles y en distintos ámbitos tecnológicos.

Forma parte del equipo de Solution Architects de España donde combina su actividad como Team Leader con el contacto directo con clientes para ayudarles a adoptar soluciones PaaS sobre Openshift (DevOps) , proyectos de  movilidad (Red Hat Mobile), y otras tecnologías como ESB (Fuse), Mensajería (A-MQ),  In Memory Data Grid (Jboss DG), servidor de aplicaciones (JBoss EAP), etc.. .

## Jorge Morales
### OpenShift Technical Product Manager
### Developer Advocate

Technical Product Manager de OpenShift de dia, Developer Advocate de noche, desarrollador Java de joven, viajero frecuente y padre de fin de semana.

Con amplia experiencia en el mundo DevOps y Continuous Delivery, disfruta charlando con desarrolladores para ayudarles a hacer más efectivo su trabajo.

**@UnPOUcoDe**
**github.com/jorgemoralespou**

# Red Hat/Microsoft Strategic Partnership



| | | | | |
|---|---|---|---|---|
| Microsoft joins the Red Hat Certified Cloud and Service Provider program (CCSP) | Red Hat products offered and supported on Microsoft Azure<br>Microsoft Windows supported on Red Hat Enterprise Linux OpenStack Platform and Red Hat Enterprise | Integrated support services for hybrid clouds, including Red Hat products in on-premises customer environments and on Microsoft Azure | Management tooling integration for open hybrid cloud implementations with Red Hat CloudForms | Microsoft .NET integration and availability with Red Hat Enterprise Linux, including Atomic Host, and OpenShift by Red Hat |


https://www.redhat.com/en/microsoft
https://azure.microsoft.com/campaigns/redhat/

#TechSum

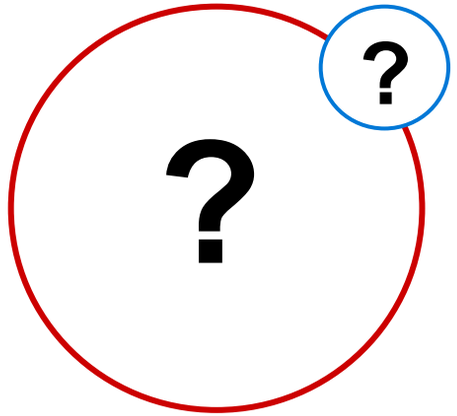
# Software Disrupts Business


**Retail**


**Finance**


**Media**

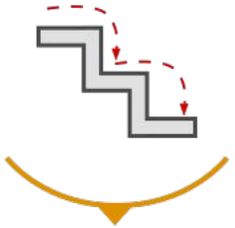

**Transportation**

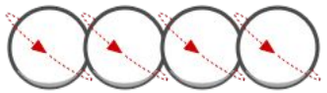


# How they do it? Recipe ingredients

**Development Process**

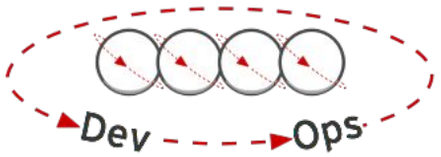
Waterfall





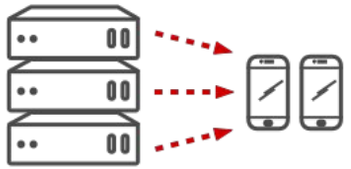
Agile

**DevOps**




**Application Architecture**

Monolithic

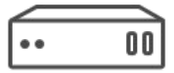


N-Tier

**Microservices**

**Deployment & Packaging**

Physical Servers



Virtual Servers

**Containers**

**Application Infrastructure**

Datacenter

Hosted

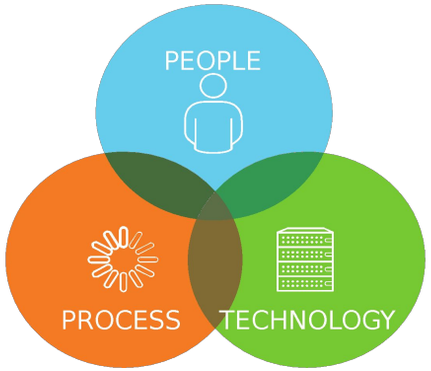
**Cloud**

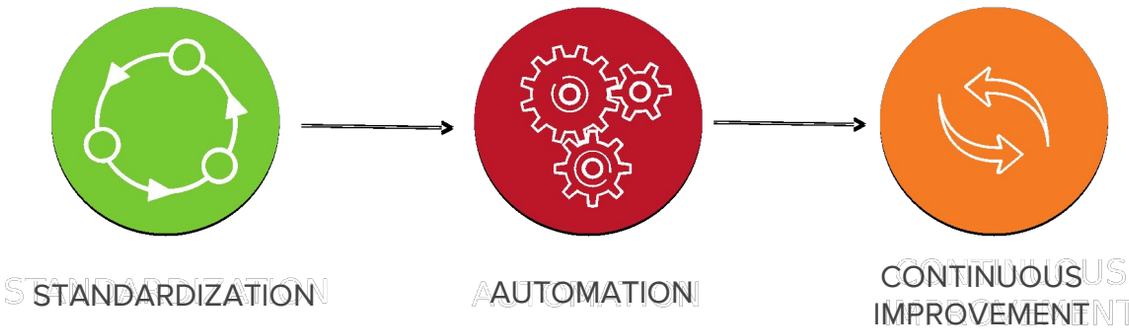
# So what is DevOps?

DevOps is the practice of streamlining the development process through better **collaboration, standardization, and automation.**

An application, its infrastructure, and the teams behind it are considered **closely aligned, rather than separate, entities.**

Organizations gain a **competitive advantage** by balancing their developers' need to **release rapidly** with the ability of operations to deliver stability and security.



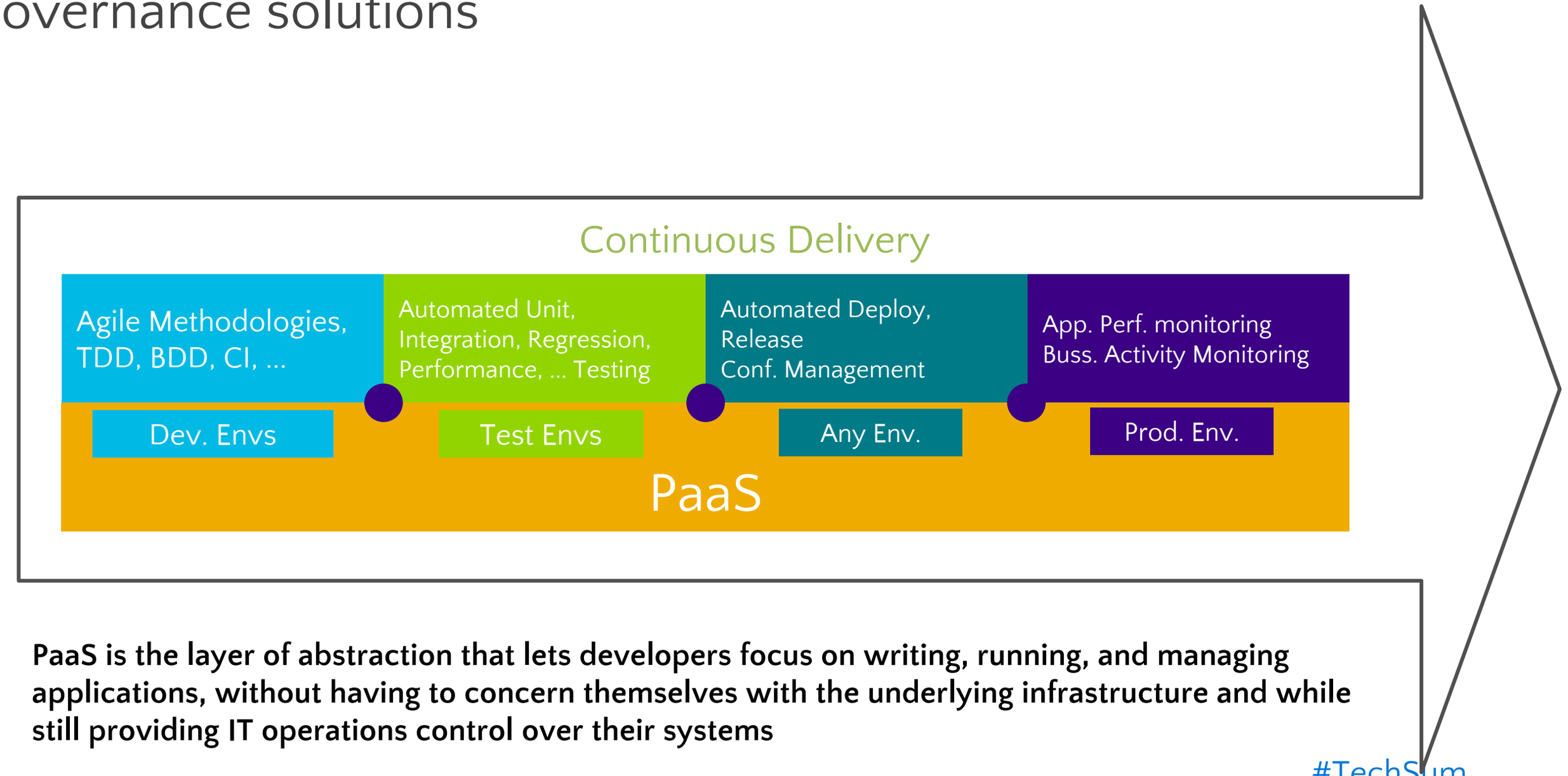



# How to Start?
# Seven Habits Of Highly Effective DevOps

1) ESTABLISH TRUST AND TRANSPARENCY BETWEEN DEV. AND OPS.
2) SEE EVERYTHING THROUGH THE EYES OF THE CUSTOMER.
3) **STREAMLINE YOUR APPLICATION DELIVERY PIPELINE.**
4) ADOPT A LOOSELY COUPLED (MICRO)SERVICE-ORIENTED ARCHITECTURE.
5) REWARD SOLUTION SIMPLICITY AND RELIABILITY.
6) ADOPT AND IMPROVE HOW YOU USE CUSTOMER EXPERIENCE DATA.
7) DEV. AND OPS NEED TO WALK IN THE OTHER'S SHOES.

Source: Forrester Research, Inc., 'The Seven Habits Of Highly Effective DevOps', October 2, 2014

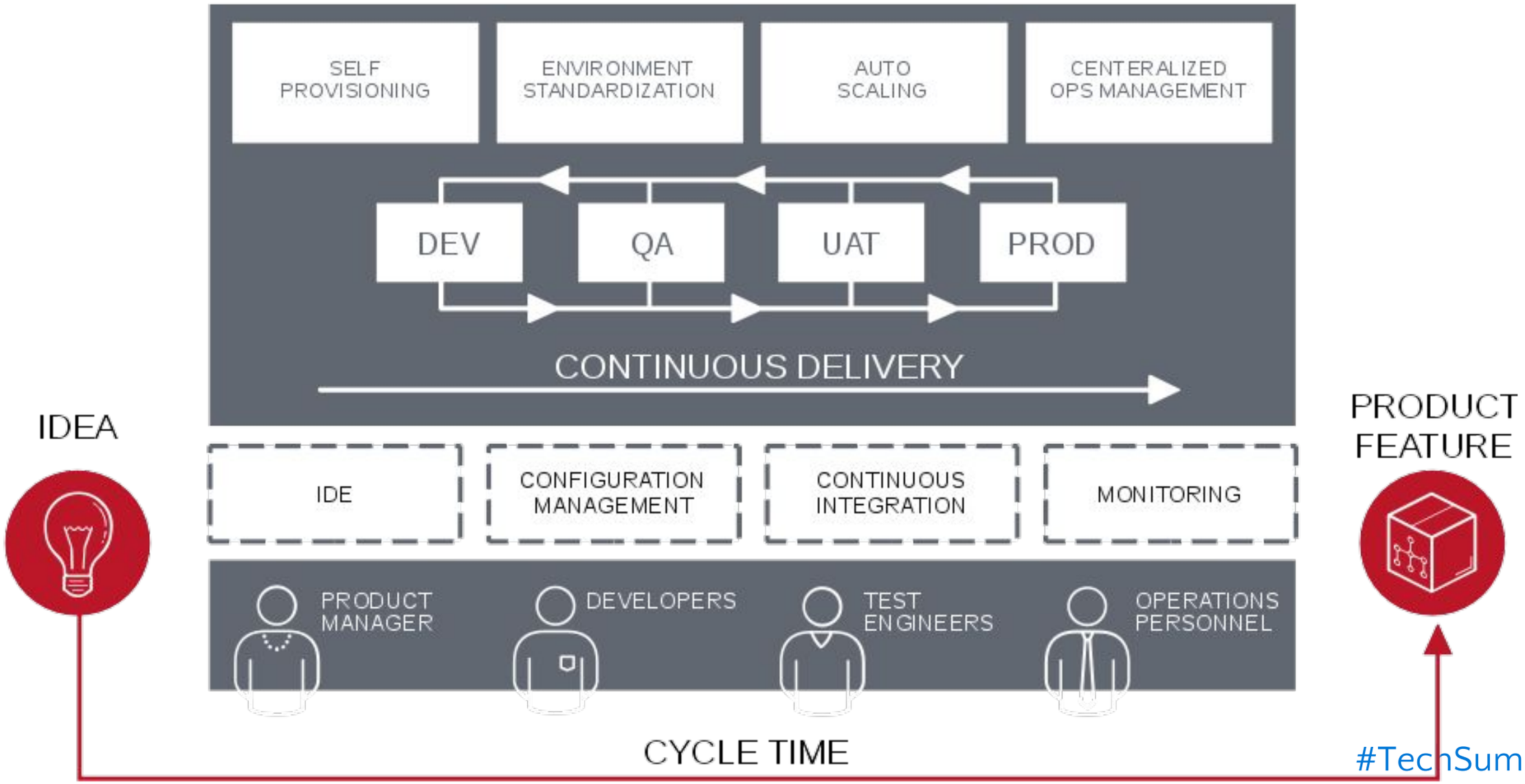
# DevOps set of practises accelerated by automation and governance solutions




**PaaS is the layer of abstraction that lets developers focus on writing, running, and managing applications, without having to concern themselves with the underlying infrastructure and while still providing IT operations control over their systems**

# OpenShift PaaS by Red Hat

OPENSHIFT by Red Hat

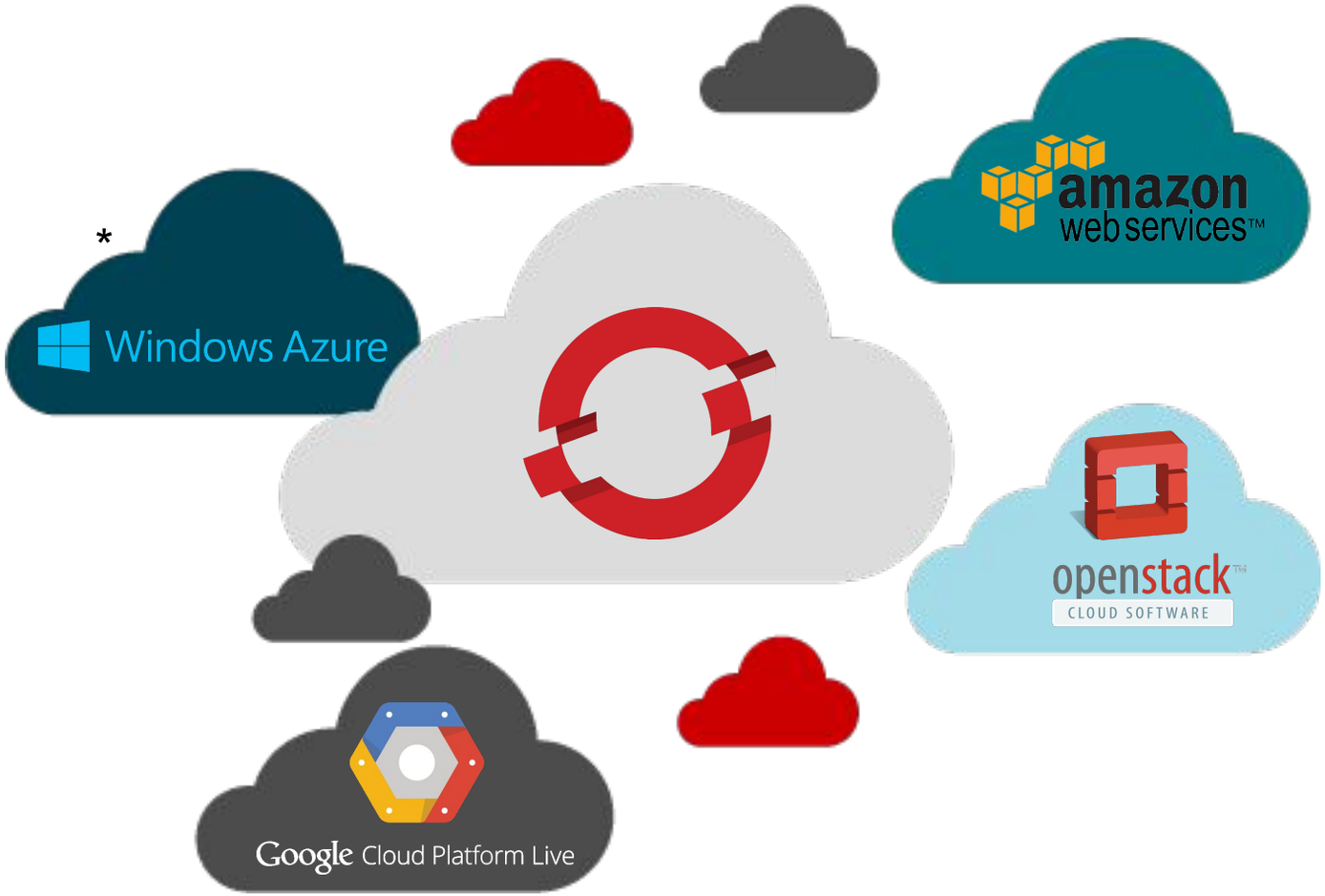



OpenShift Deep Dive
#TechSum

# Cloud Infrastructures

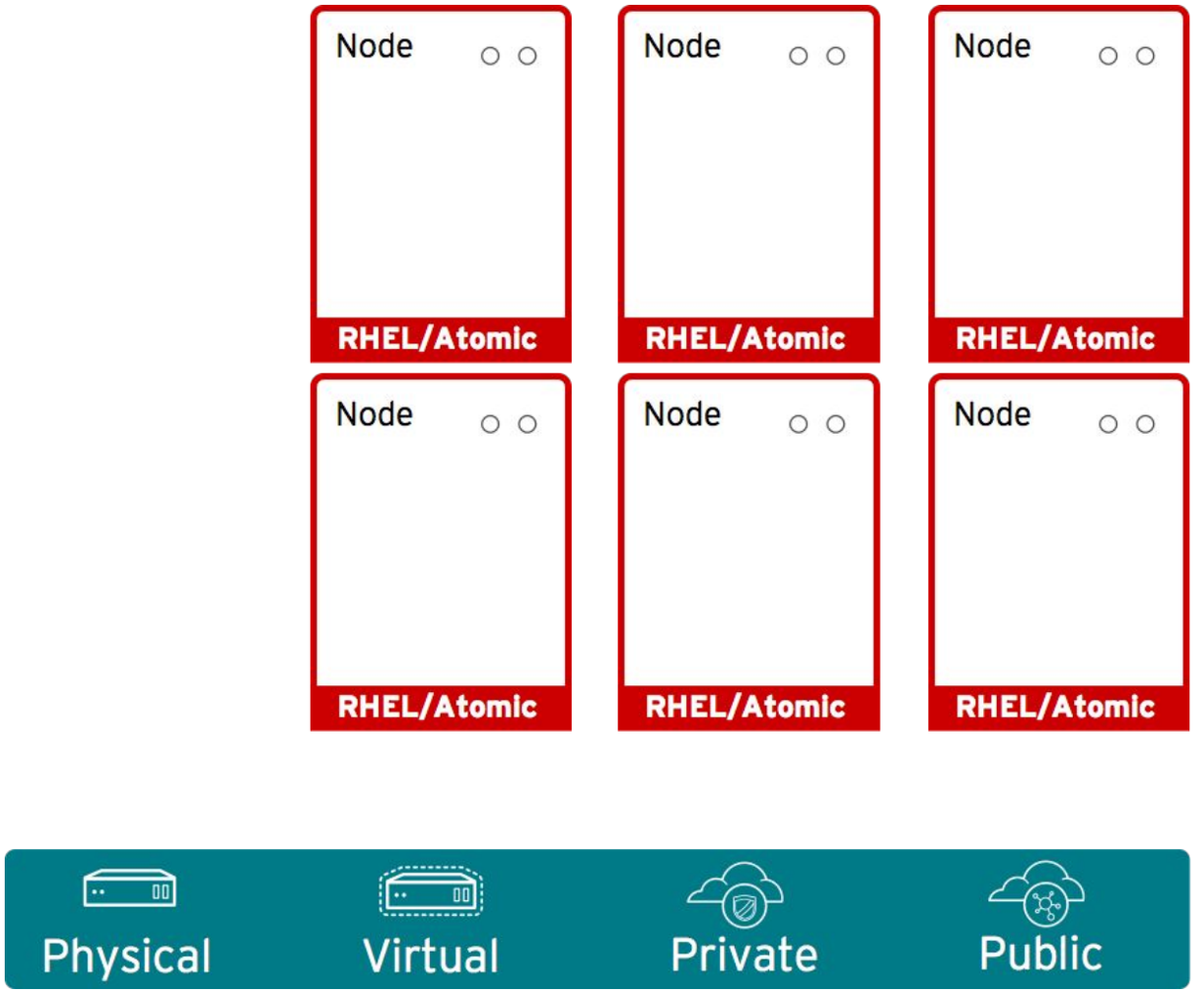
## Choose your IaaS

OpenShift will run anywhere RHEL can run giving you the ultimate portability for your mission critical workloads.

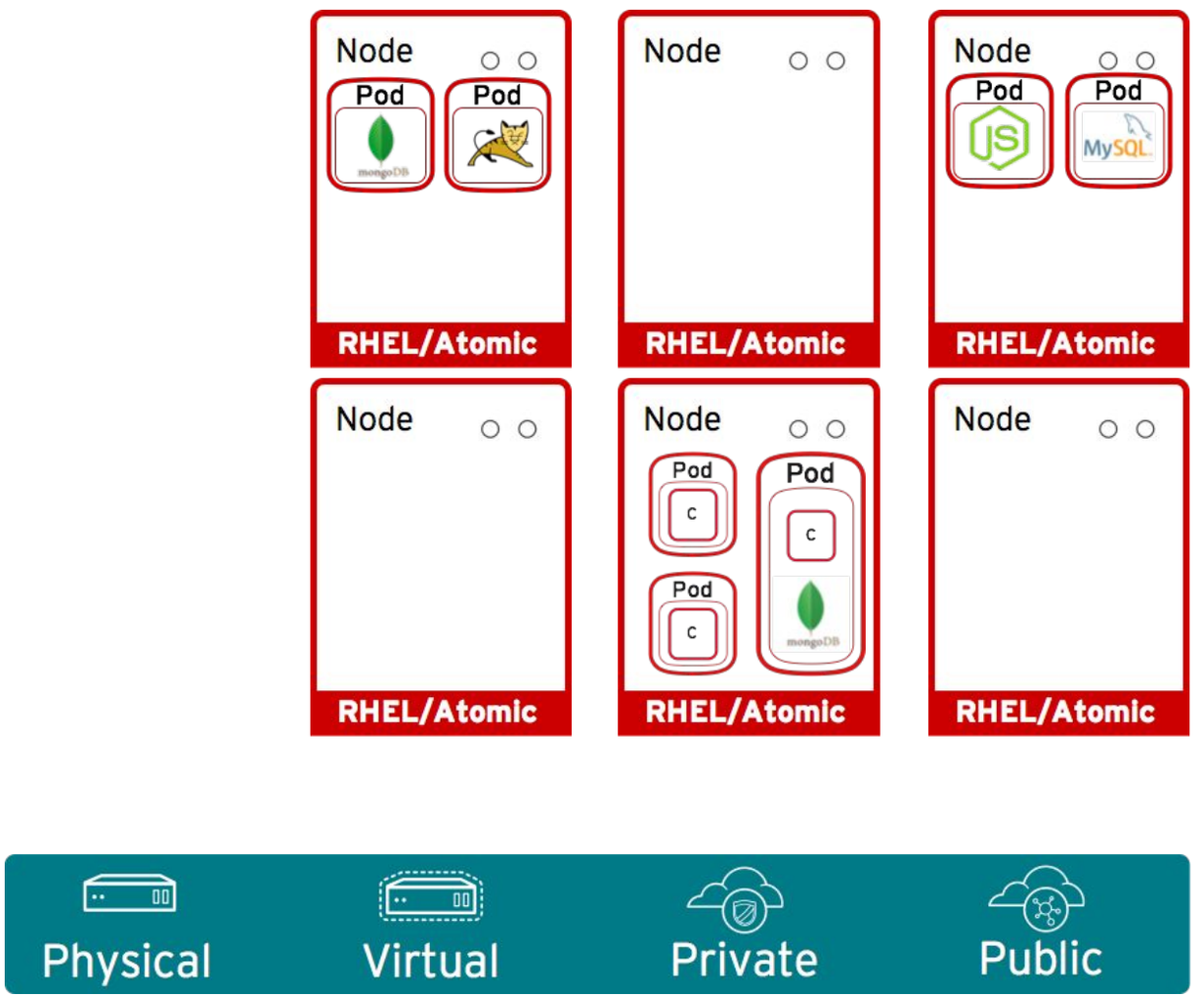



* = Coming Soon

# Nodes are instances of RHEL where apps will run



# App services run in docker **containers** on each node

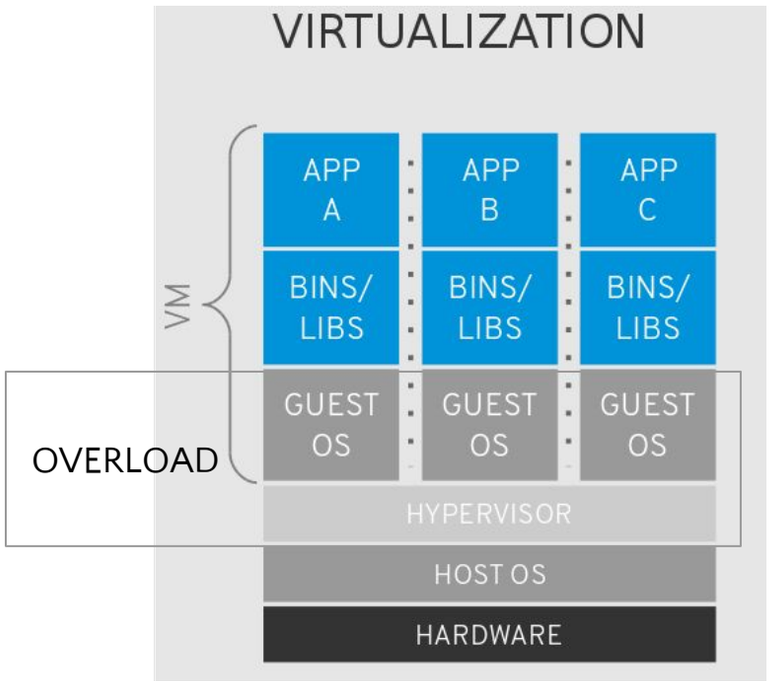


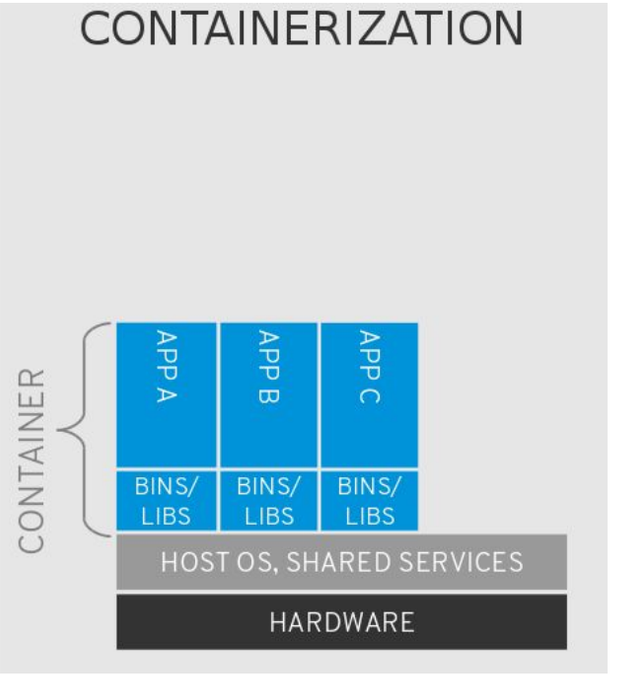
# What are containers?

**Software packaging concept that typically includes an application and all of its runtime dependencies.**

Where hypervisors provide a logical abstraction of a full system (hardware, BIOS, OS), Containers provide an abstraction of the user space and share the same OS, services, and hardware.

- Isolates applications on a host operating system
- Easy to deploy and portable across linux host systems
- Inmutable
- Facilitate adoption of Microservices Architectures




Containers provide Bigger Density

10 virtual machines

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100 containers

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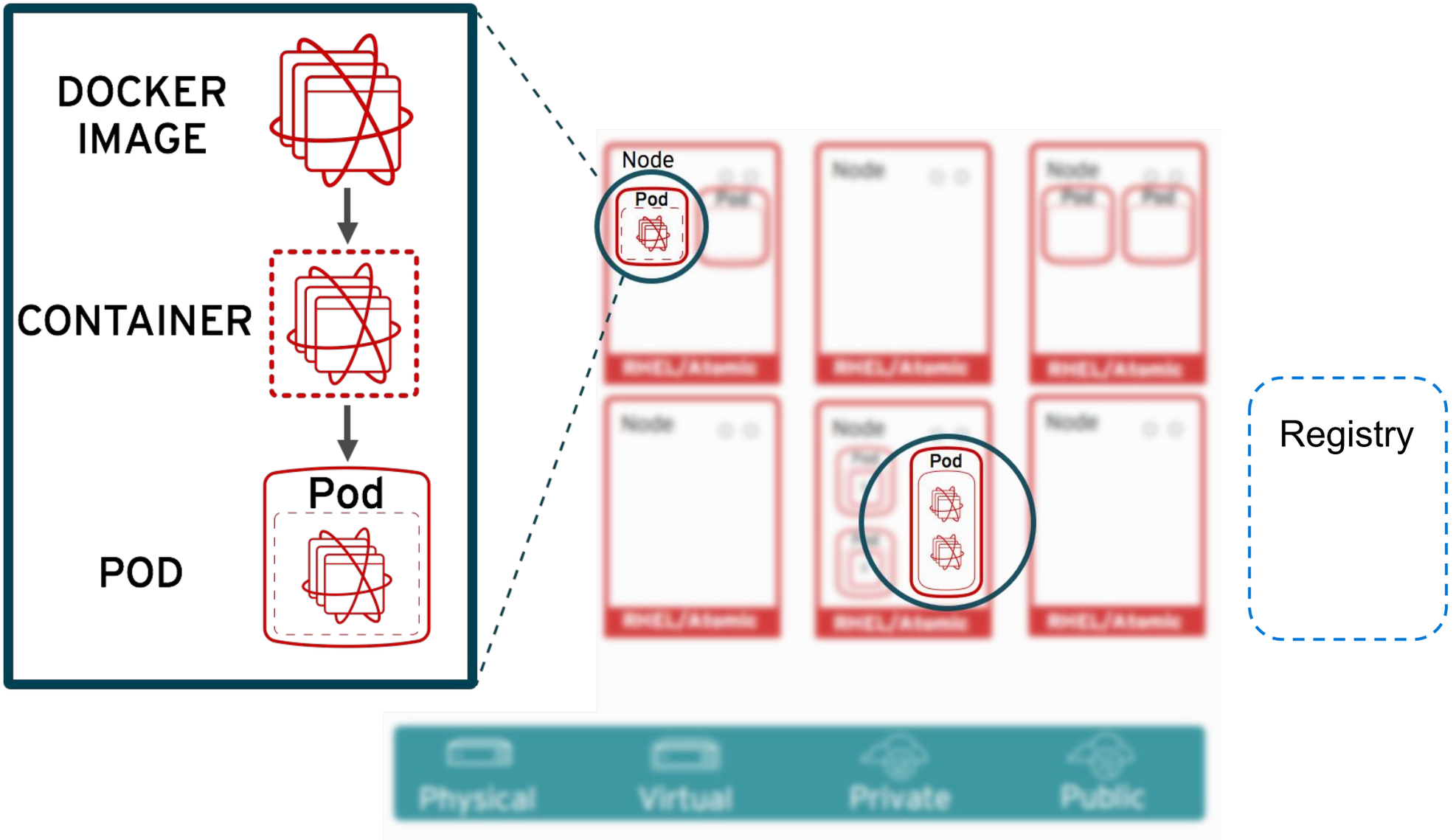
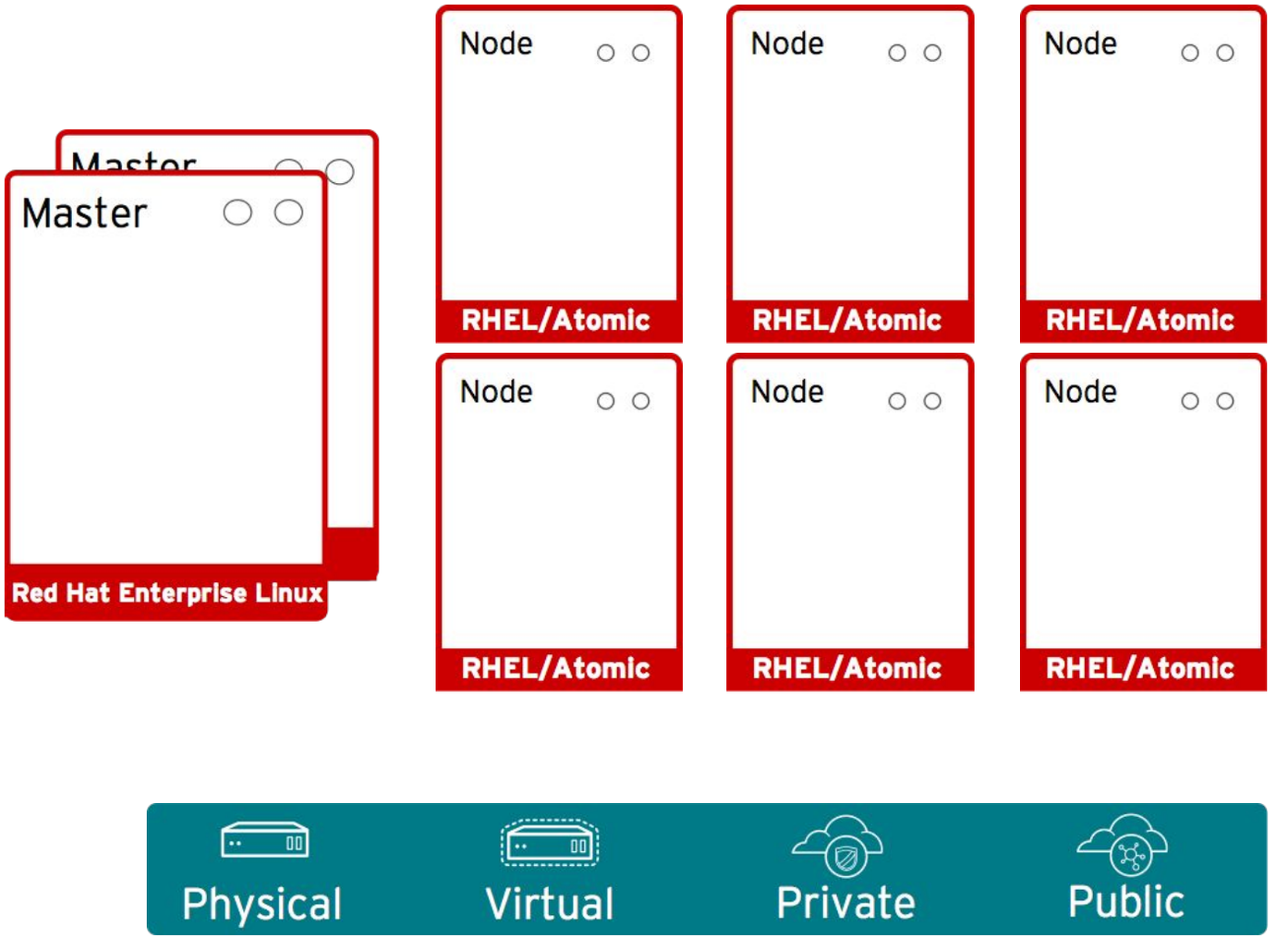
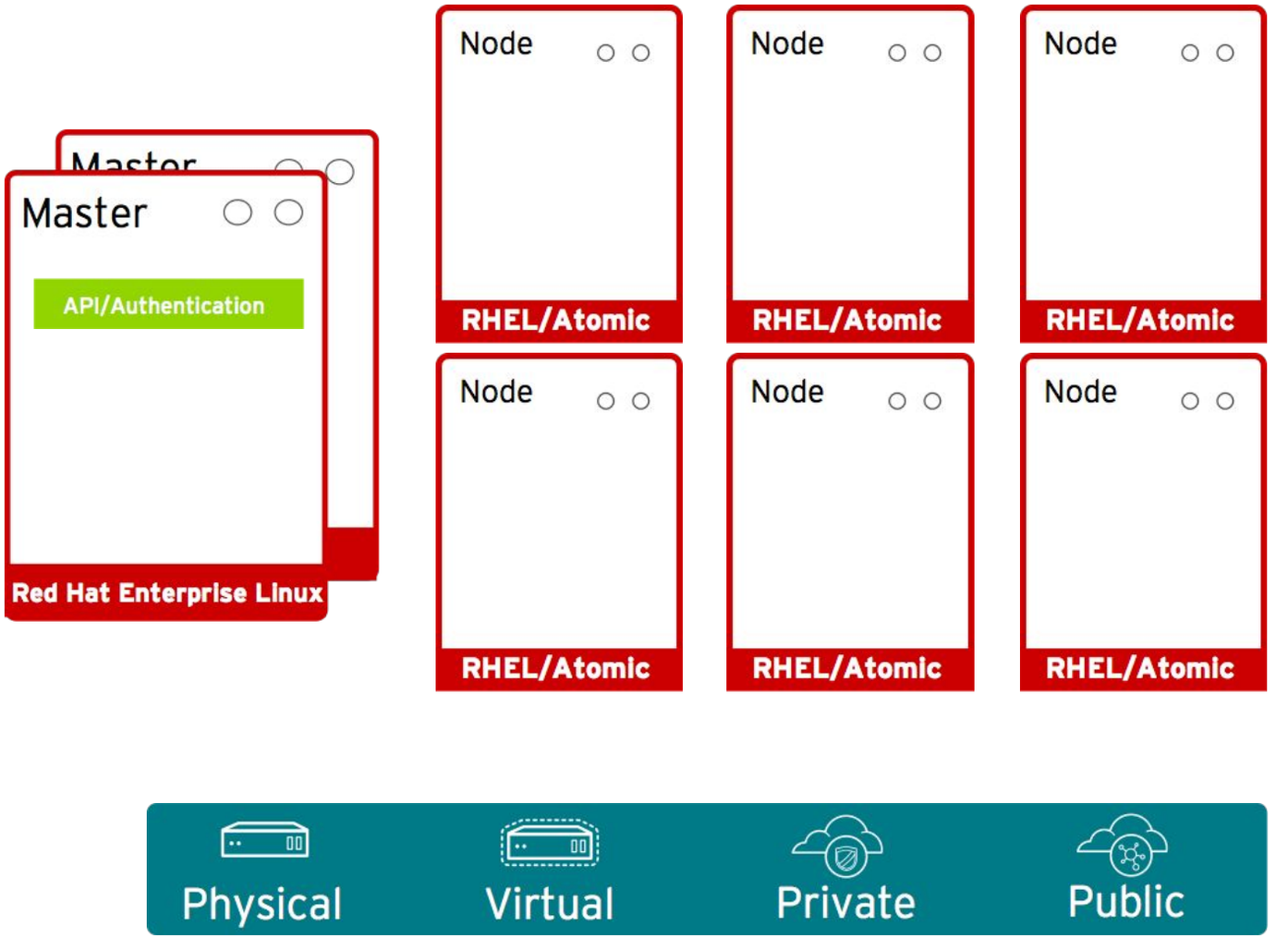
# Pods run one or more docker containers as a unit



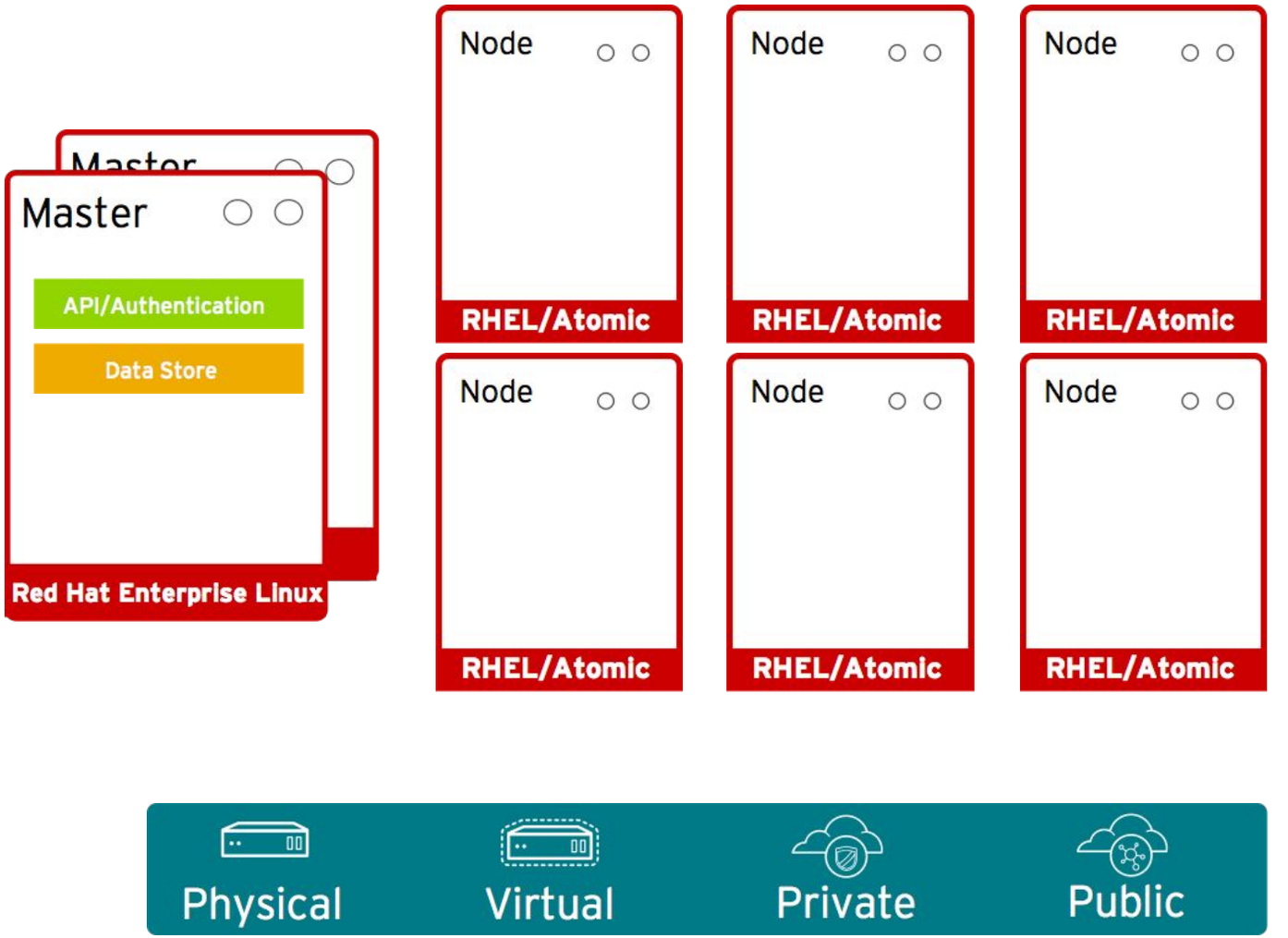
# Masters leverage kubernetes to orchestrate nodes / apps



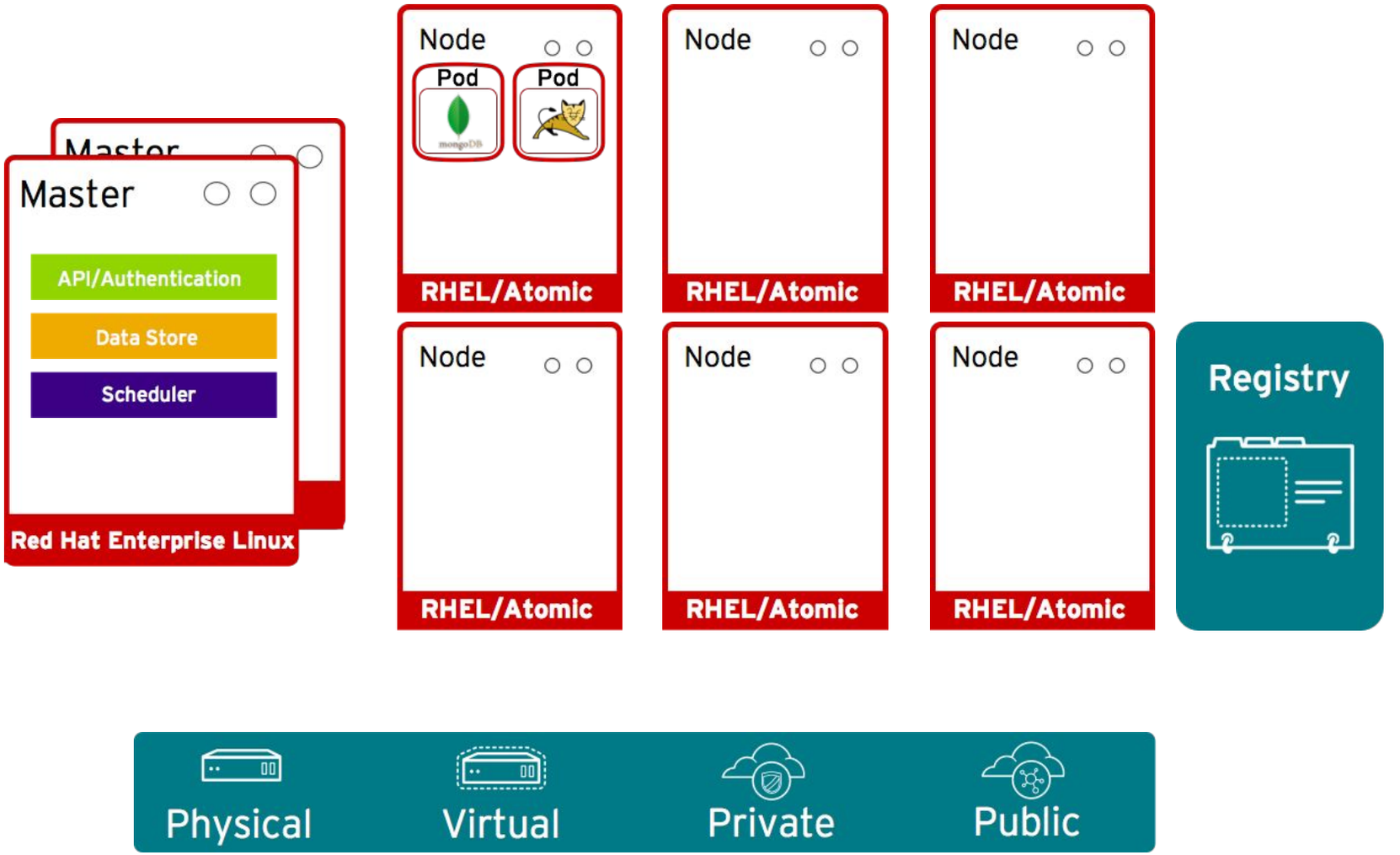
# Master provides authenticated API for users & clients



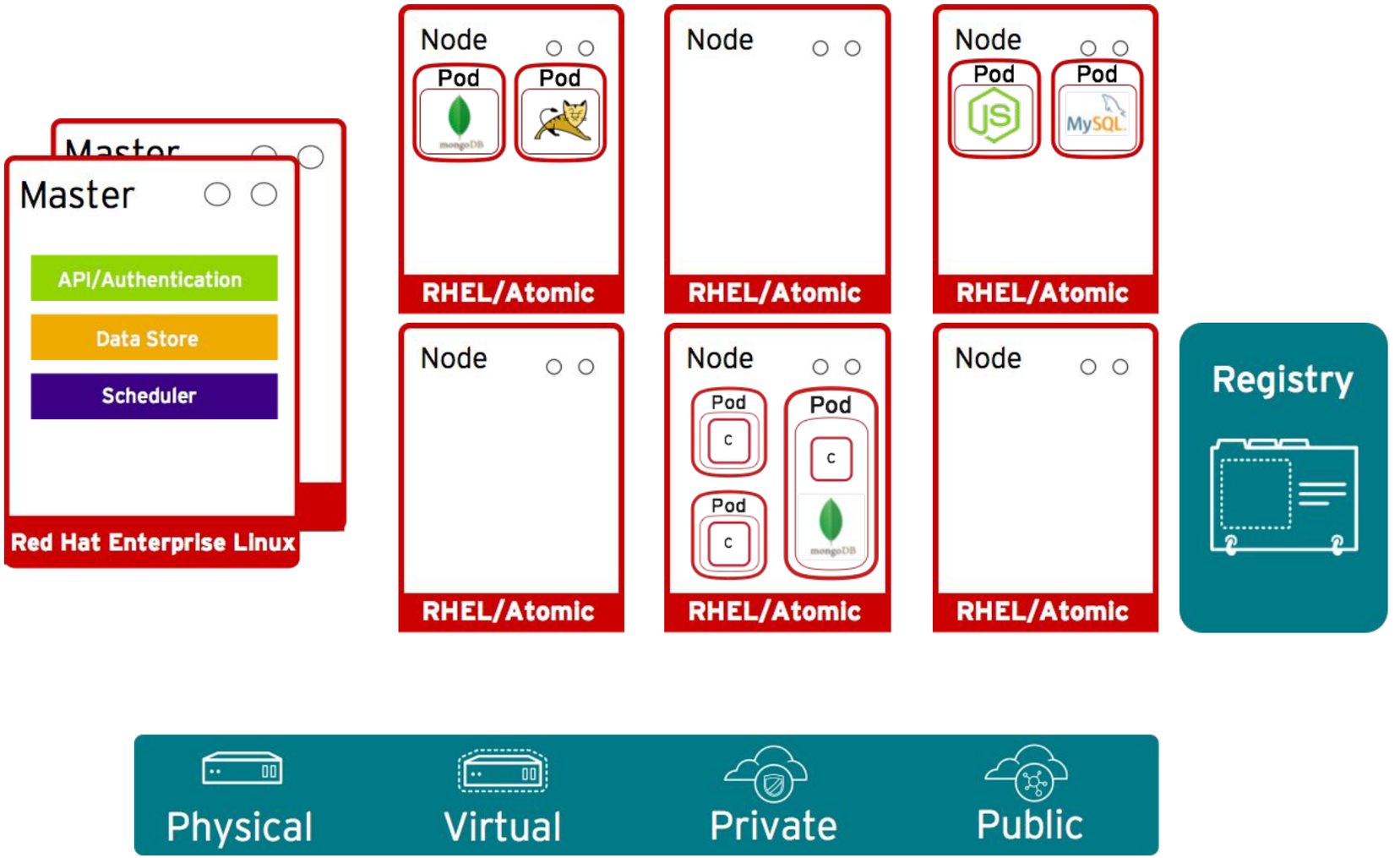
# Master uses etcd key-value data store for persistence



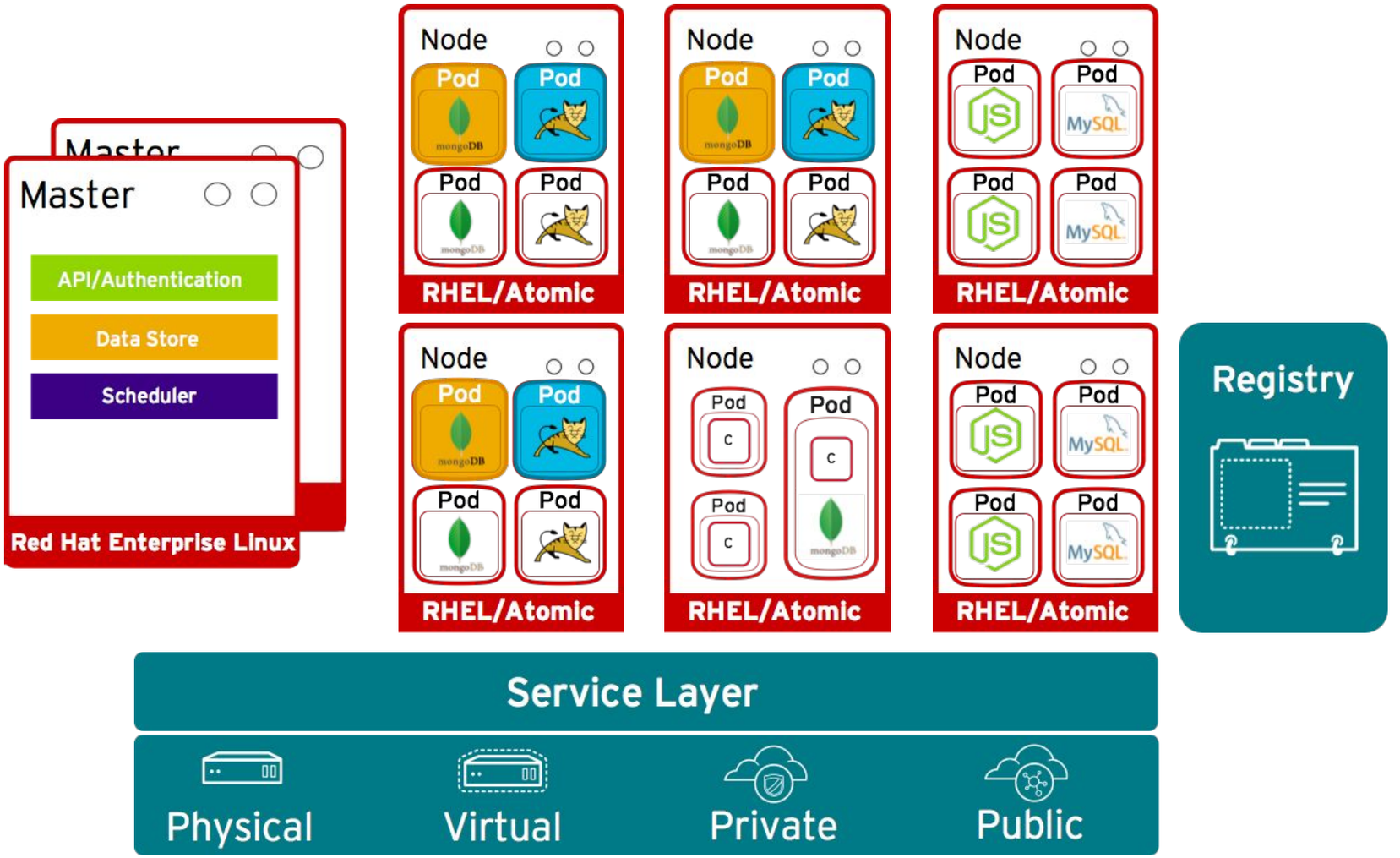
# Master provides scheduler for pod placement on nodes



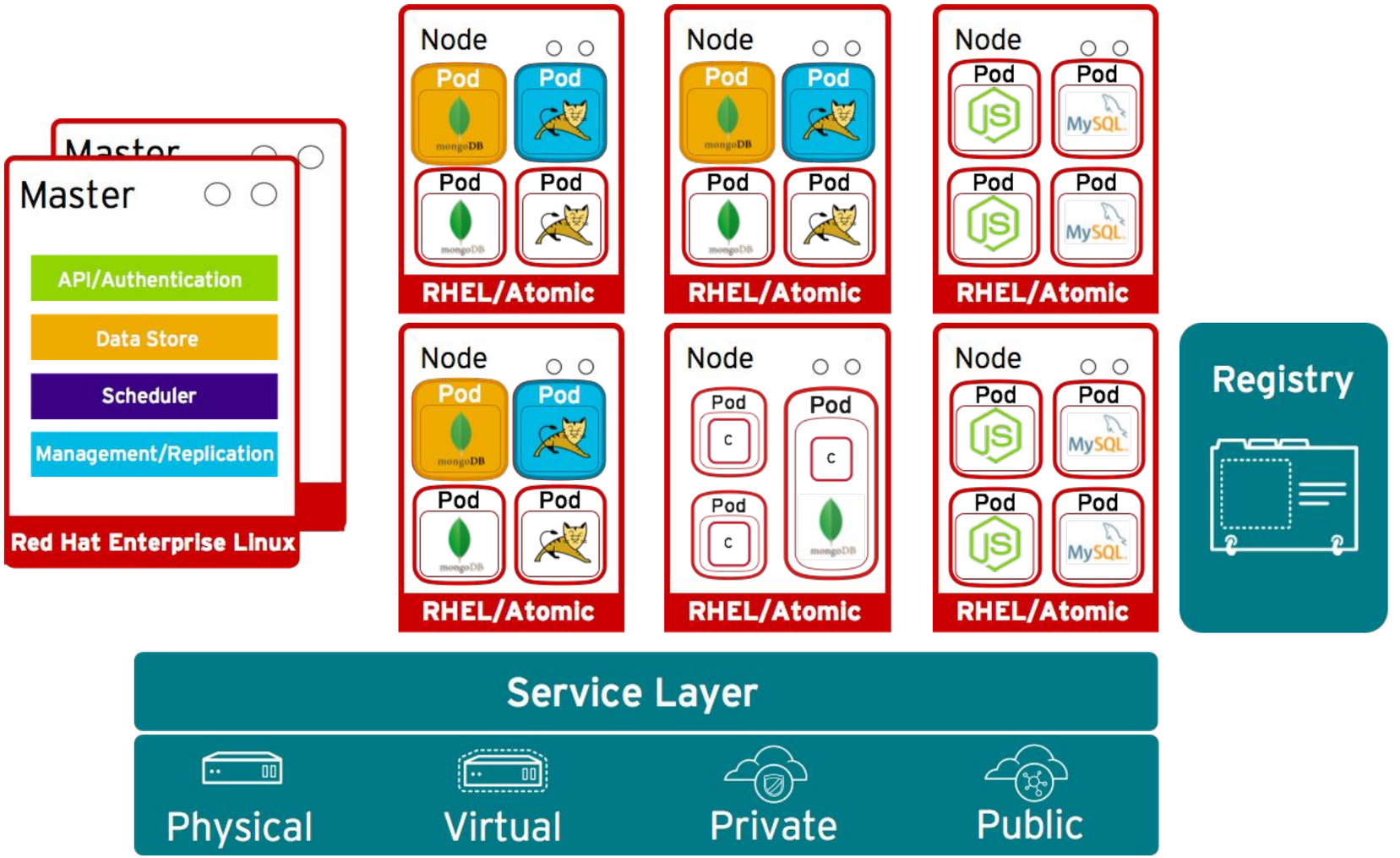
# Pod placement is determined based on defined policy



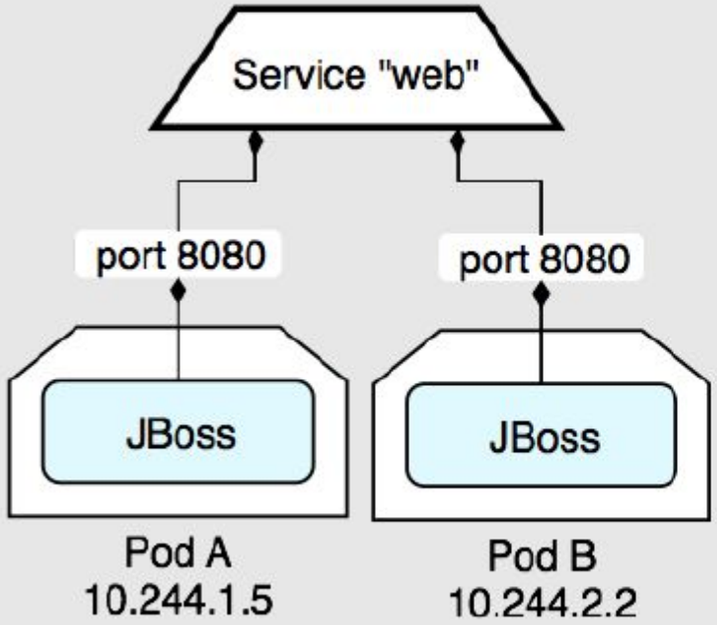
# Services allow related pods to connect to each other



# Management/Replication controller manages the pod lifecycle



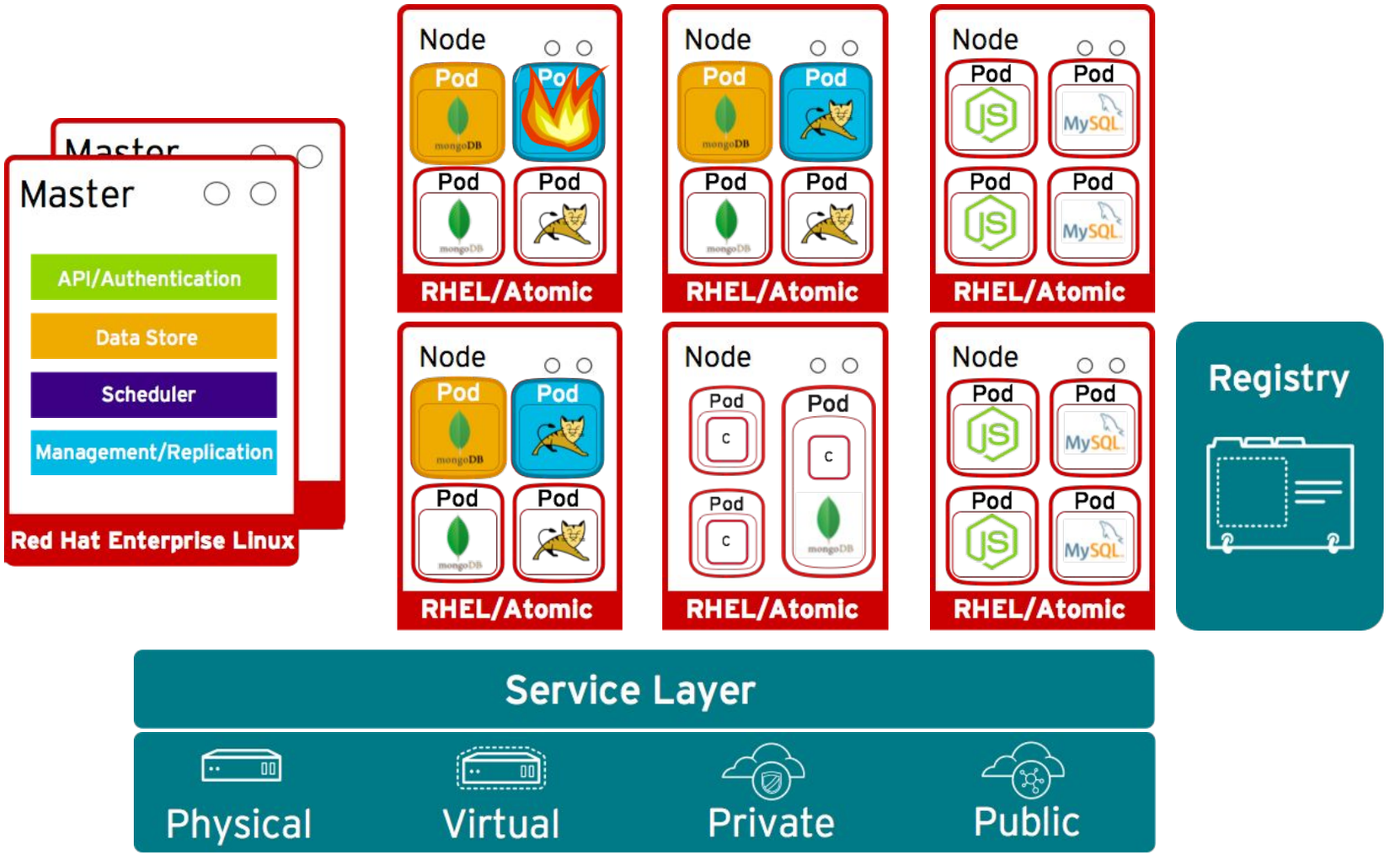
# Transparent services access



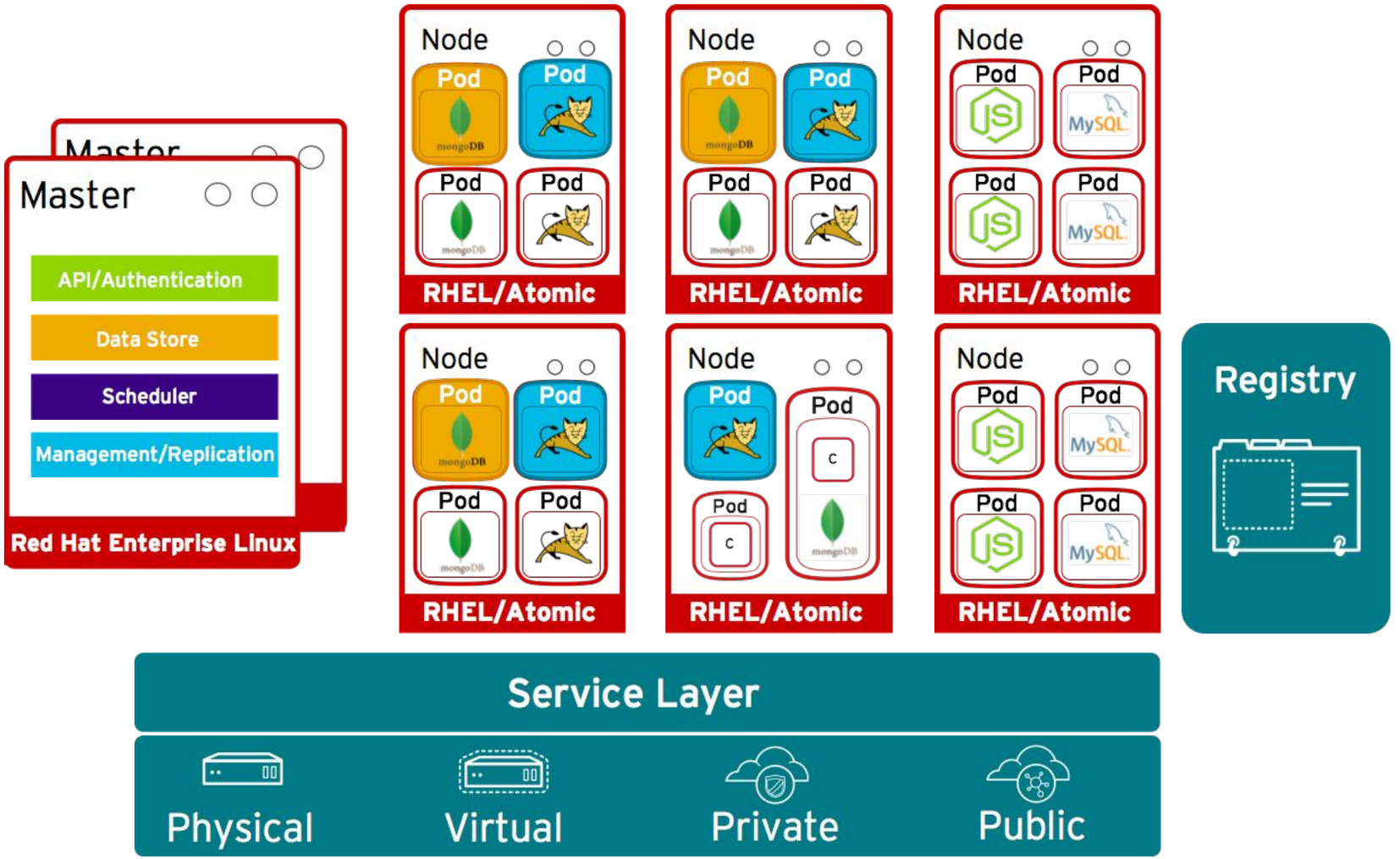

**Services abstract other pods**
A service is a TCP port that may transparently load balance other ports

**Replication controllers copy pods**
A controller ensures there are a certain number of copies of a pod, so if a host is lost another pod gets created.

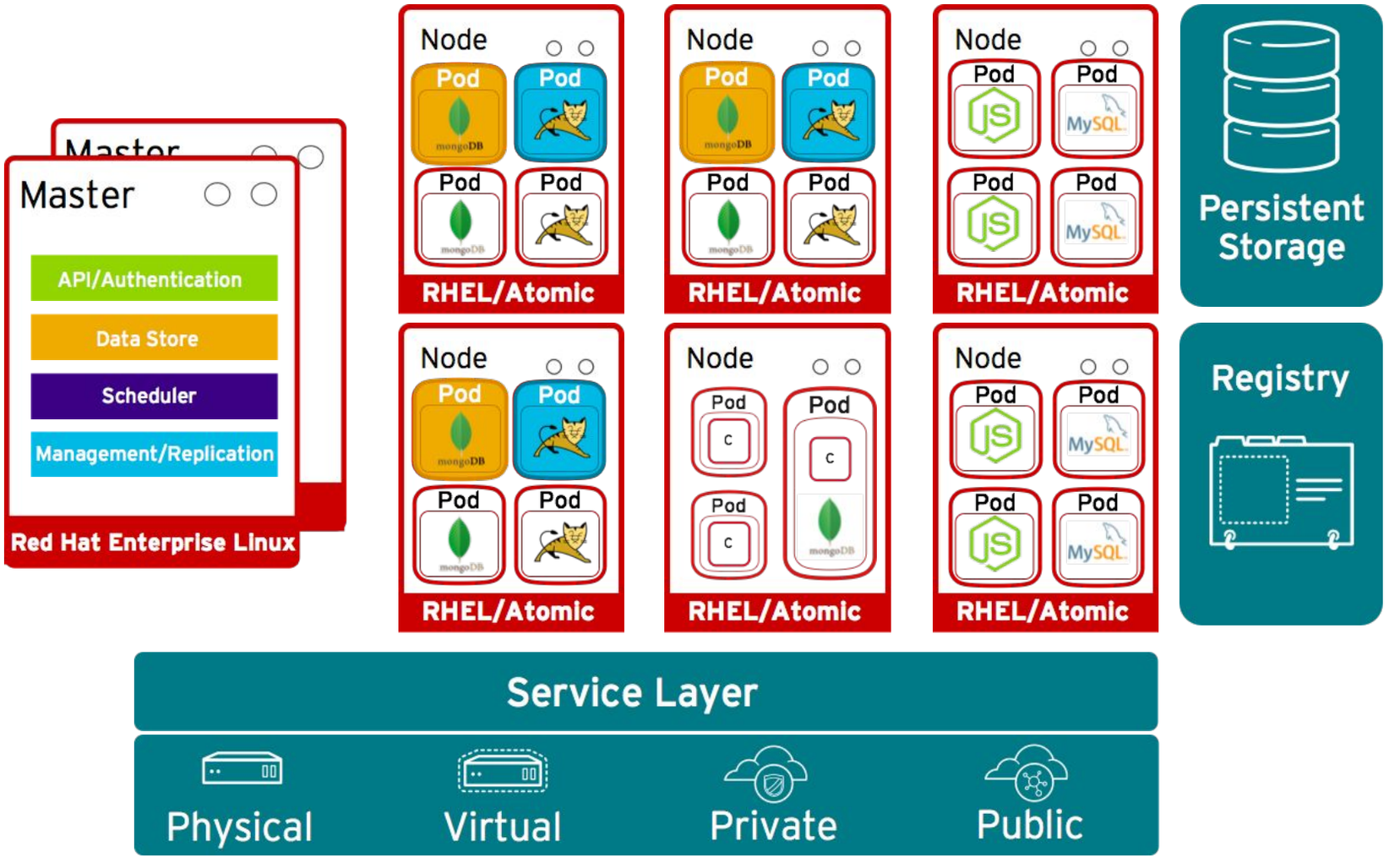
# What if a pod goes down?



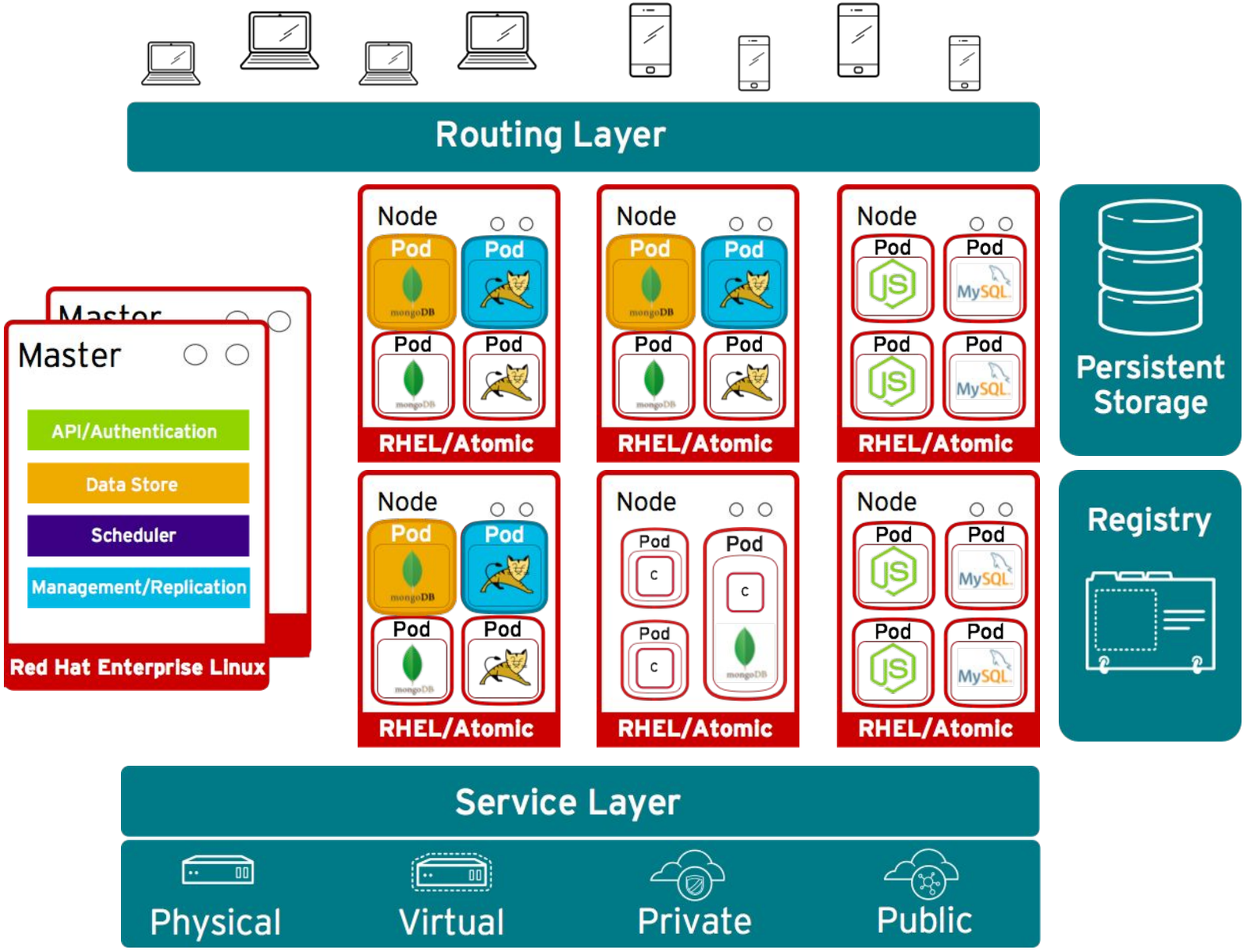
# OpenShift automatically recovers and deploys a new Pod



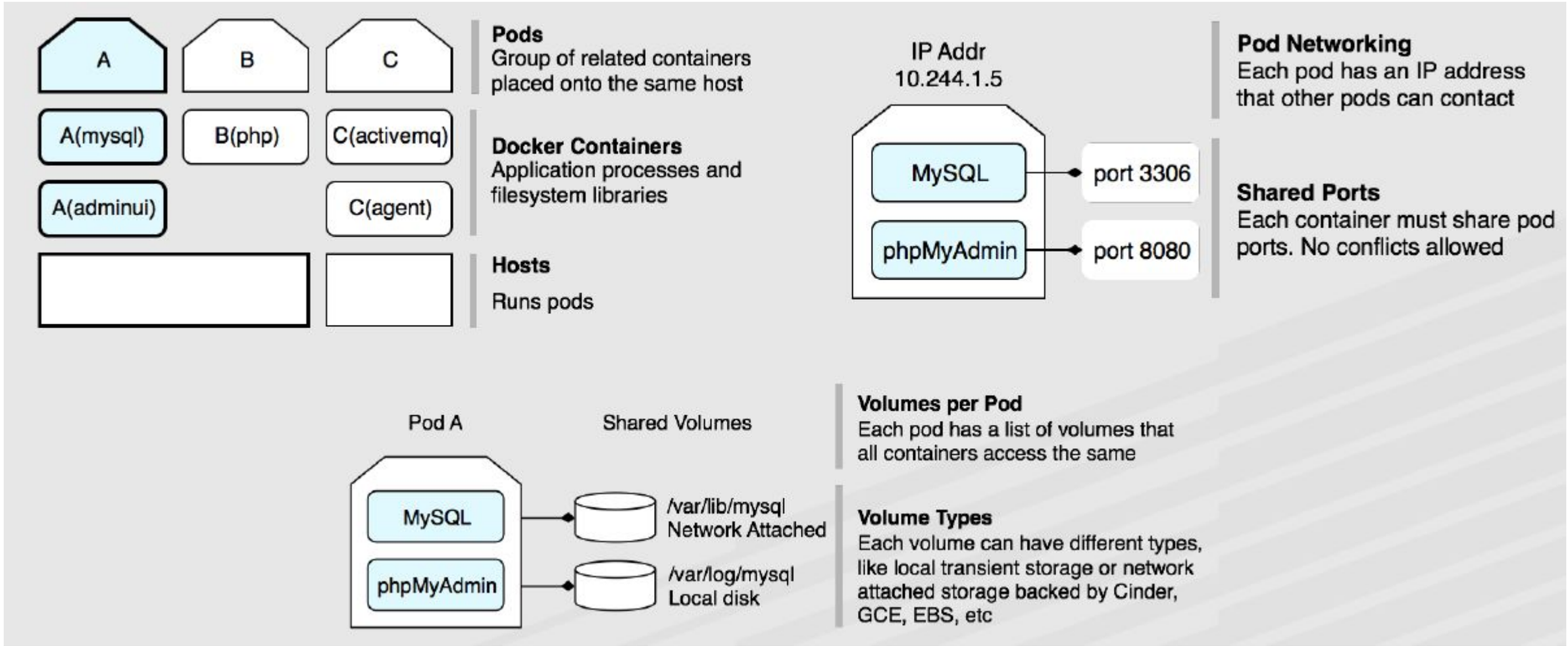
# Pods can attach to shared storage for stateful services



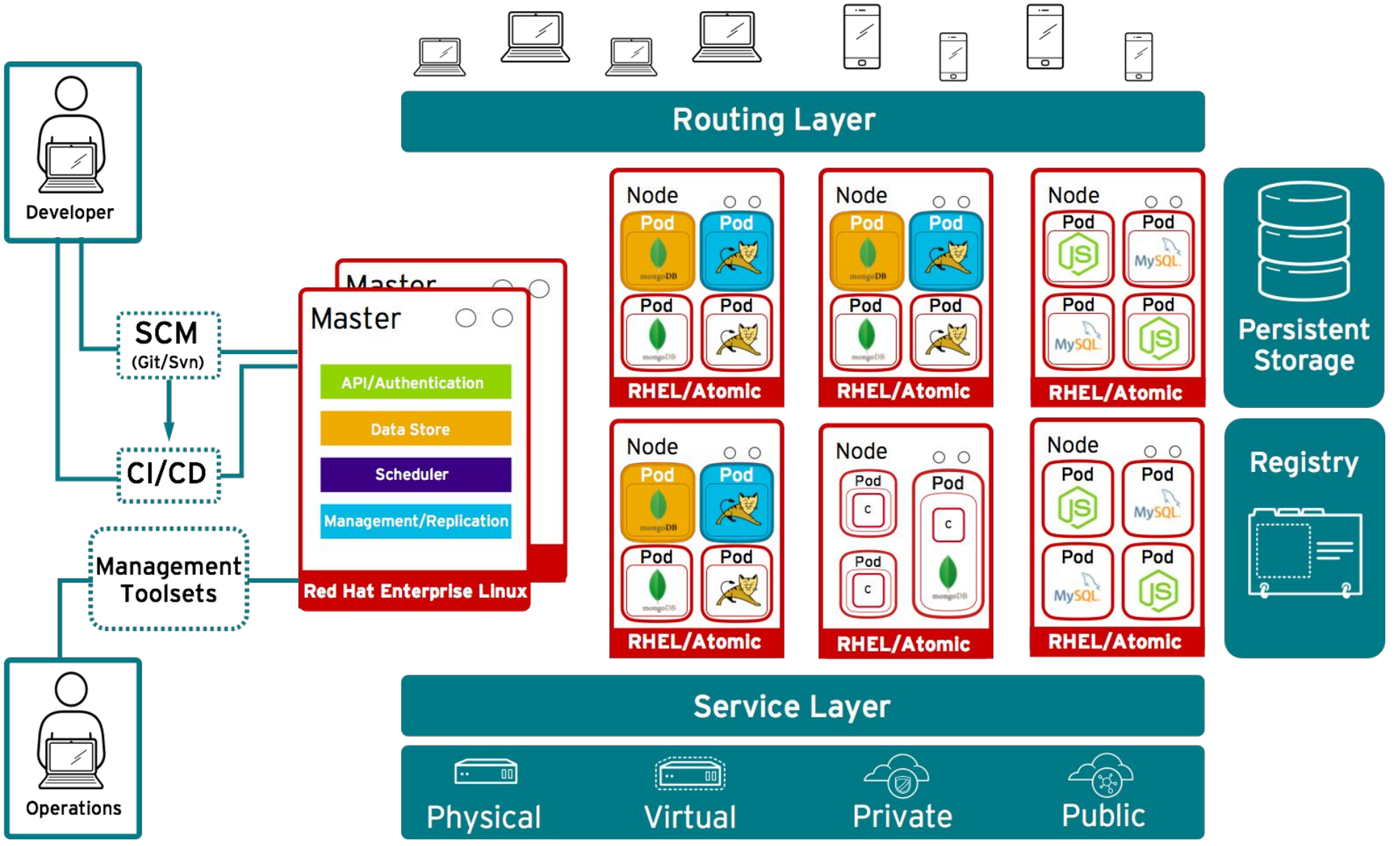
# Routing layer routes external app requests to pods



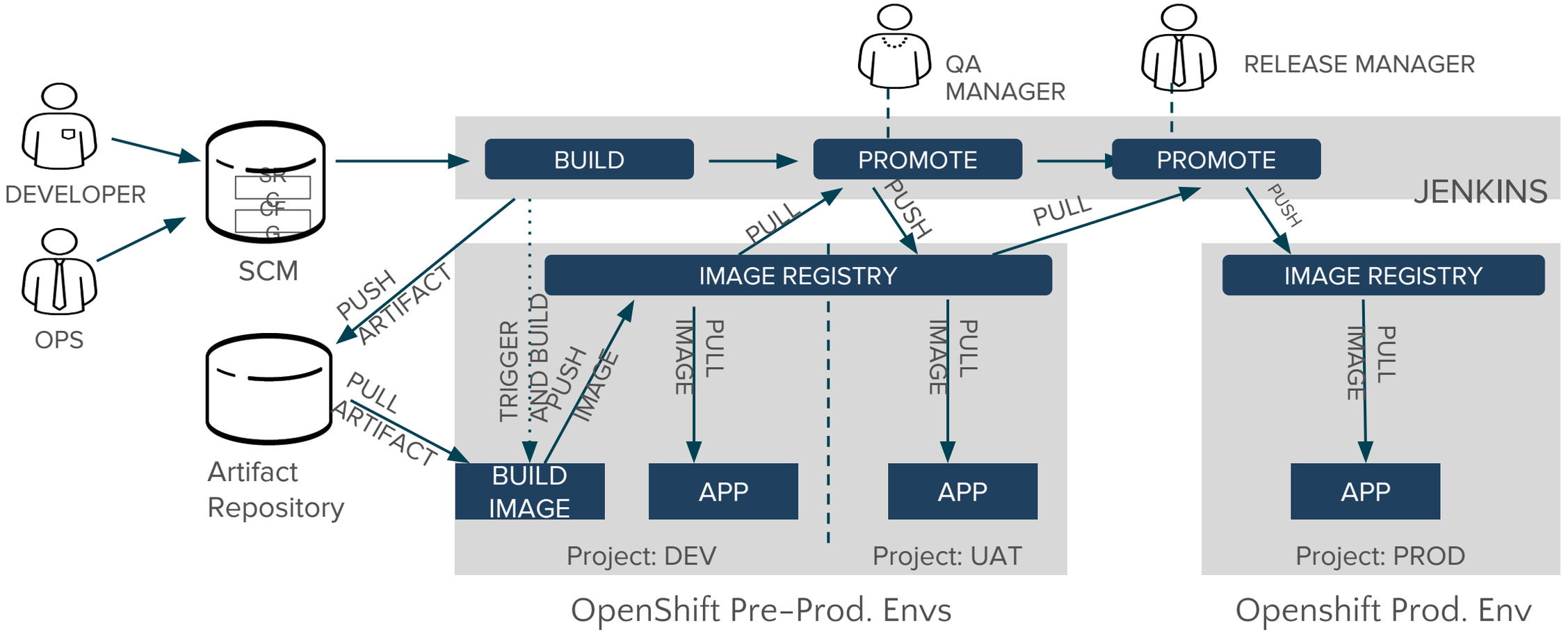
# Transparent networking and storage for pods



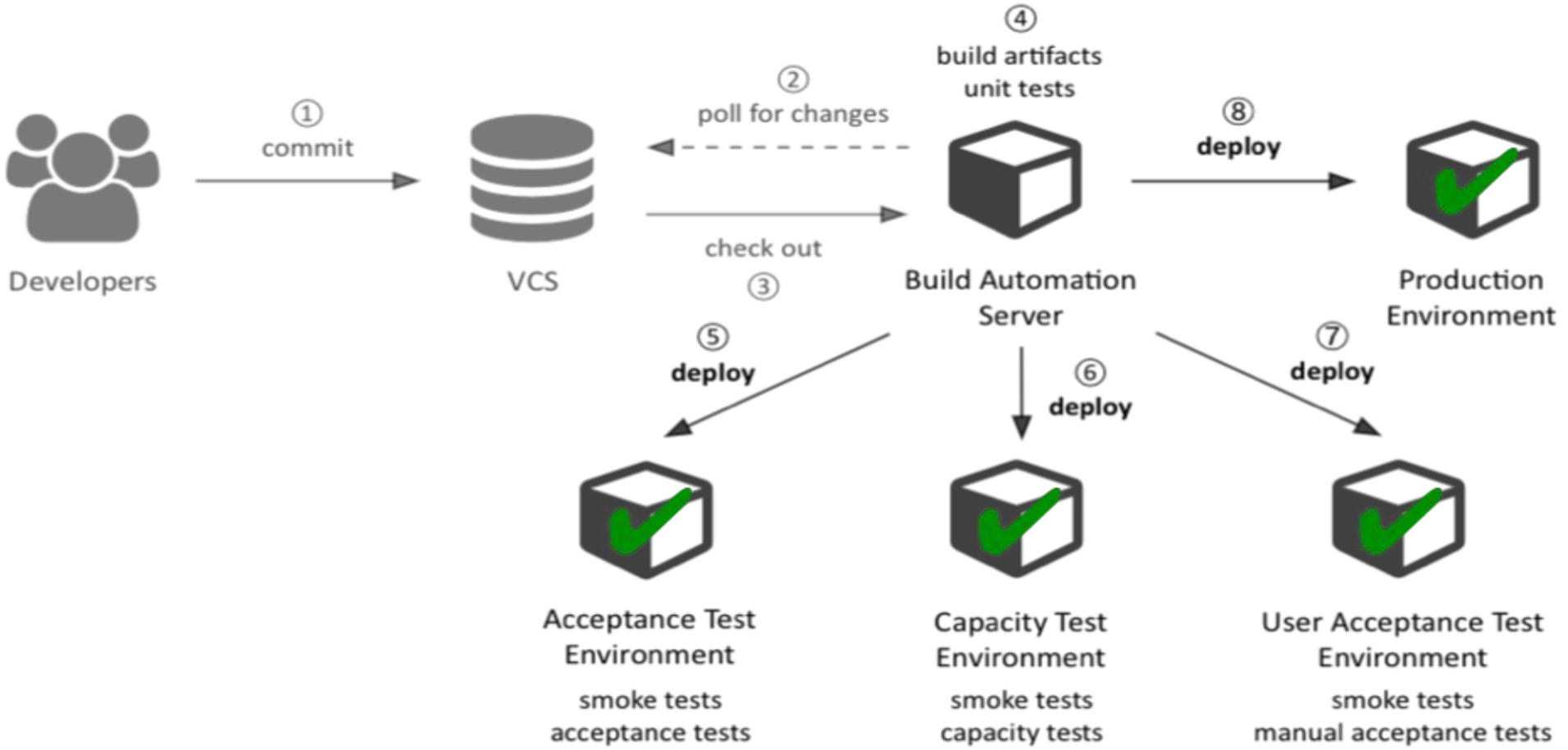
# Developers, Testers access OpenShift via web, CLI or IDE



# Continuous Delivery Pipeline



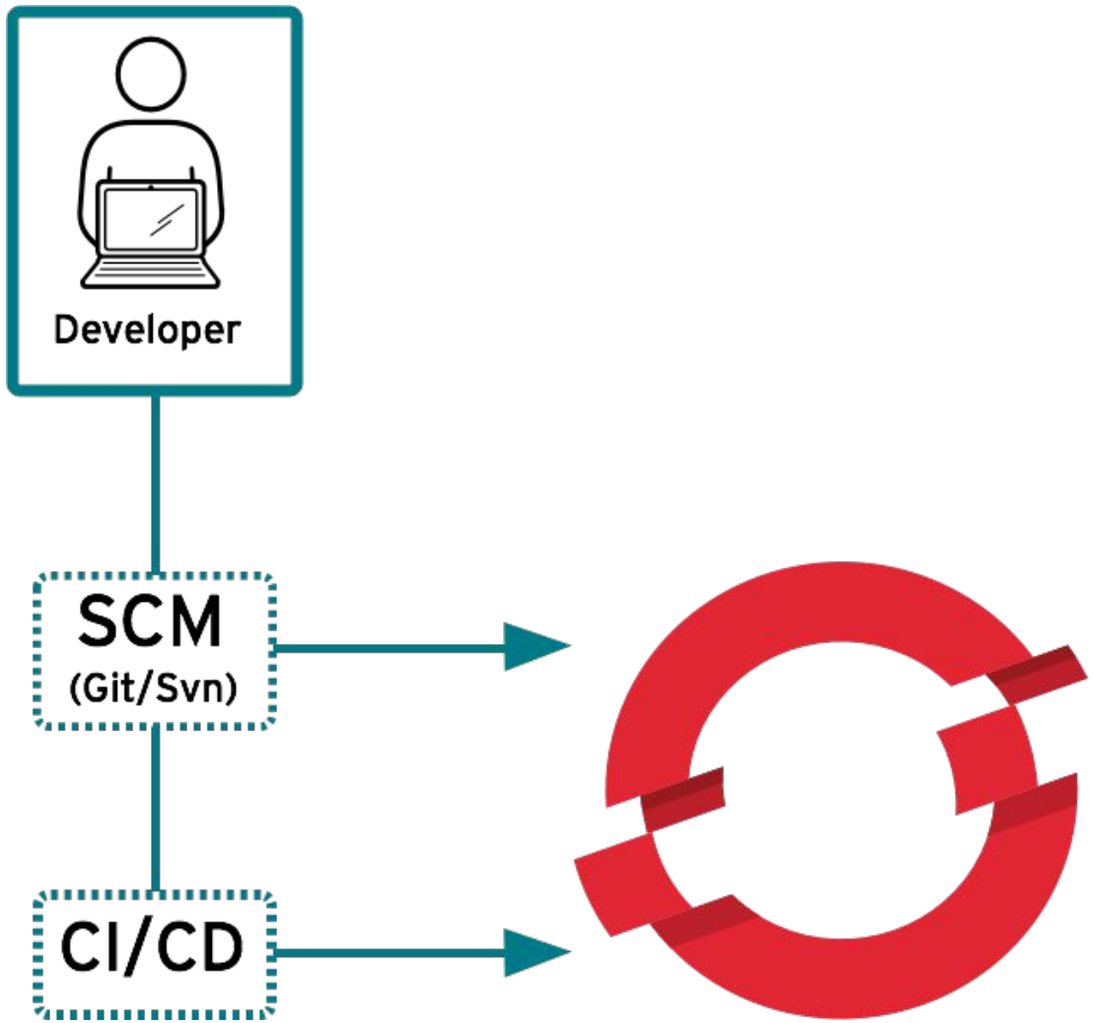
# Continuous Delivery Pipeline



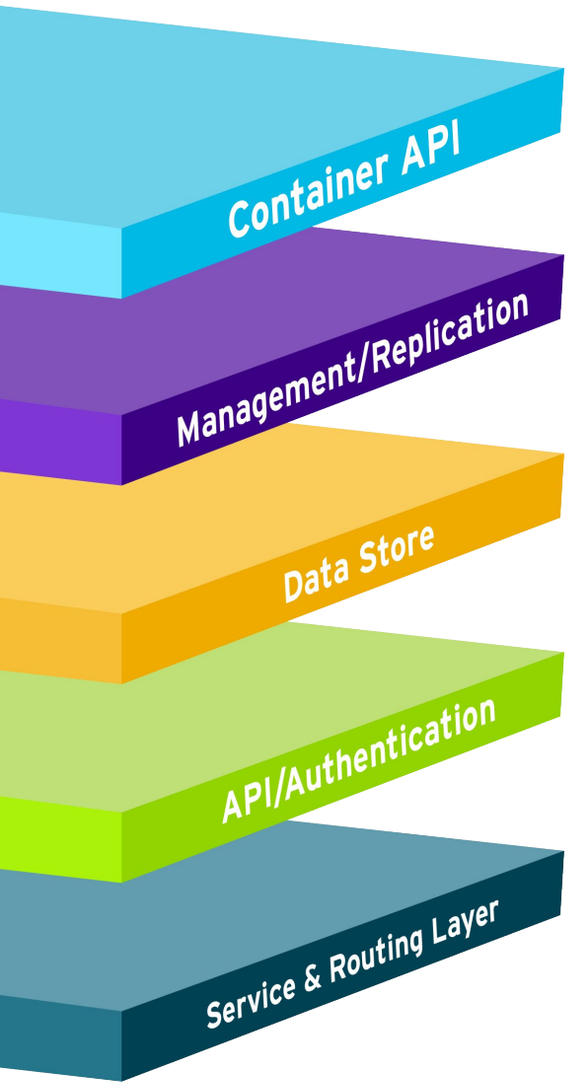

Deploying and testing are vital for Continuous Delivery

# Benefits for Developers and Testers

- Access a broad selection of application **technologies**
- 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
- Improve Developer Experience and **Productivity**



# Benefits for IT Operations




- Deploy a secure, enterprise-grade **container-based** application platform
- Out of the Box “push button” **deployment** ready.
- Enable application developers while improving operational **efficiency** & infrastructure utilization
- **Unites** developers and operators because they can define deployments in the same way
- 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
- Openshift can be **extended** easily to support any technology that you want to deploy in the PaaS

# Muchas Gracias!!

Mas información en:

http://openshift.com
http://jboss.org
http://developers.redhat.com/products