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OpenShift Container Platform

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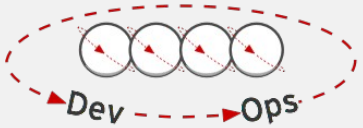
14 July 2016

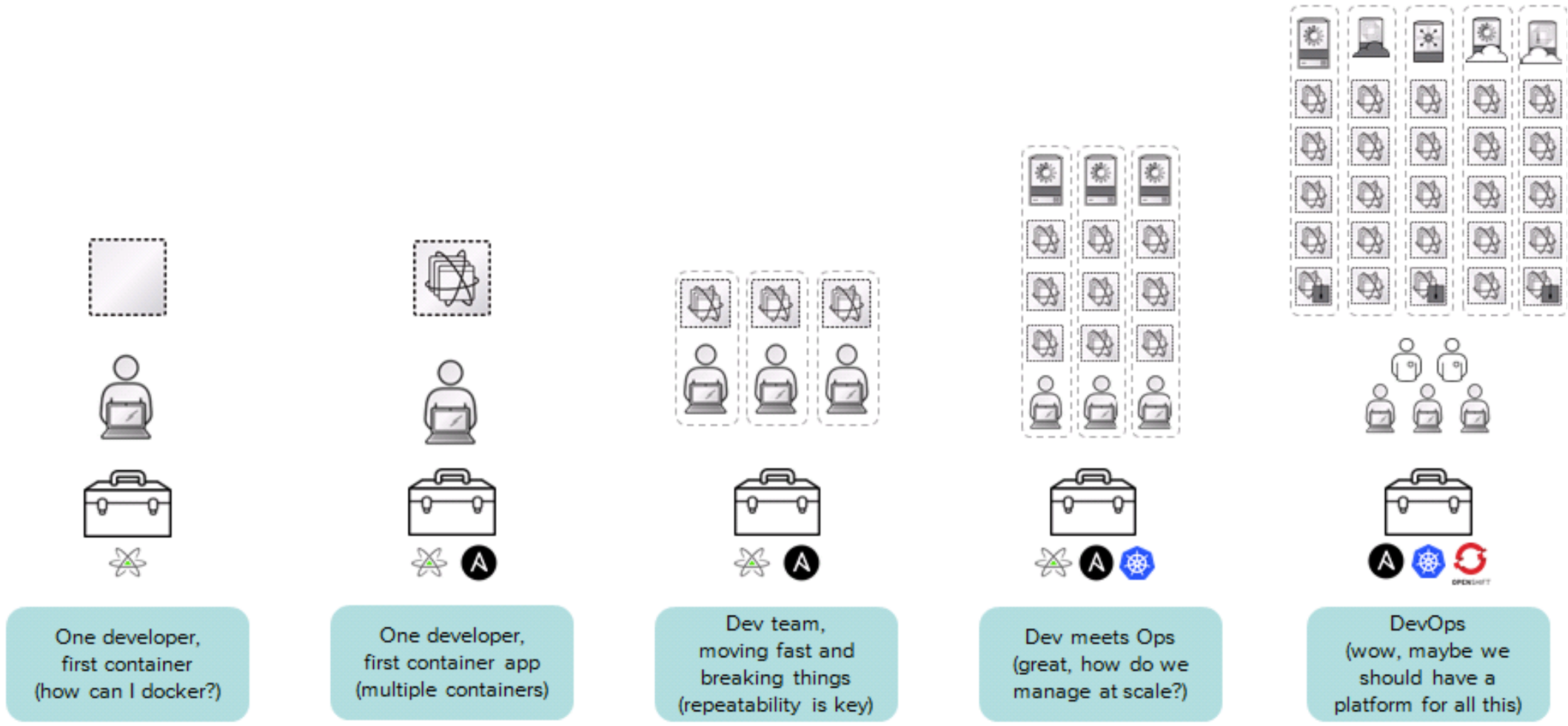
EVOLUTION

Development Process	Application Architecture	Deployment & Packaging	Application Infrastructure
Waterfall	Monolithic	Physical Servers	Datacenter
Agile	N-Tier	Virtual Servers	Hosted
DevOps	**Microservices**	**Containers**	**Cloud**



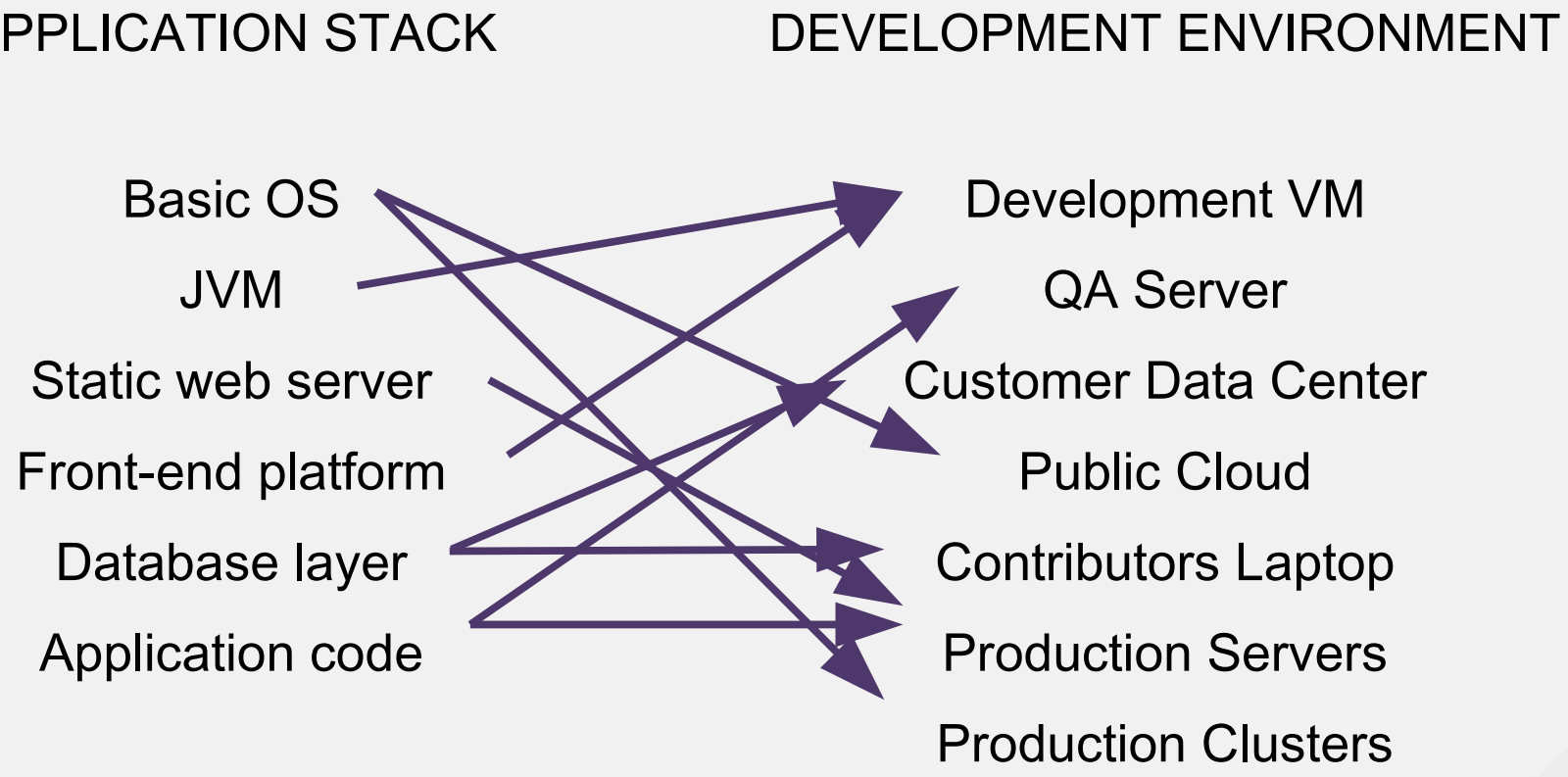
CONTAINER PATHWAYS

Managing application dependencies



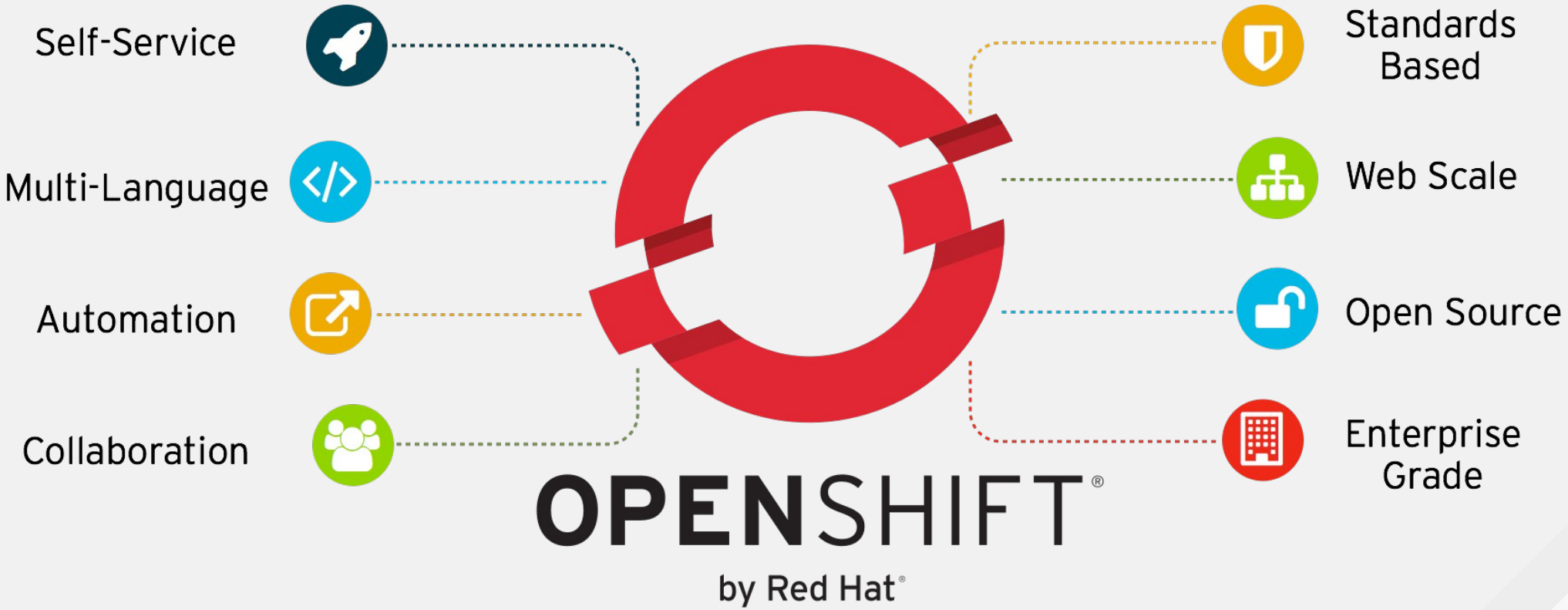
WHY PAAS?

Application development got complex



PLATFORM AS A SERVICE

More than just an abstraction layer



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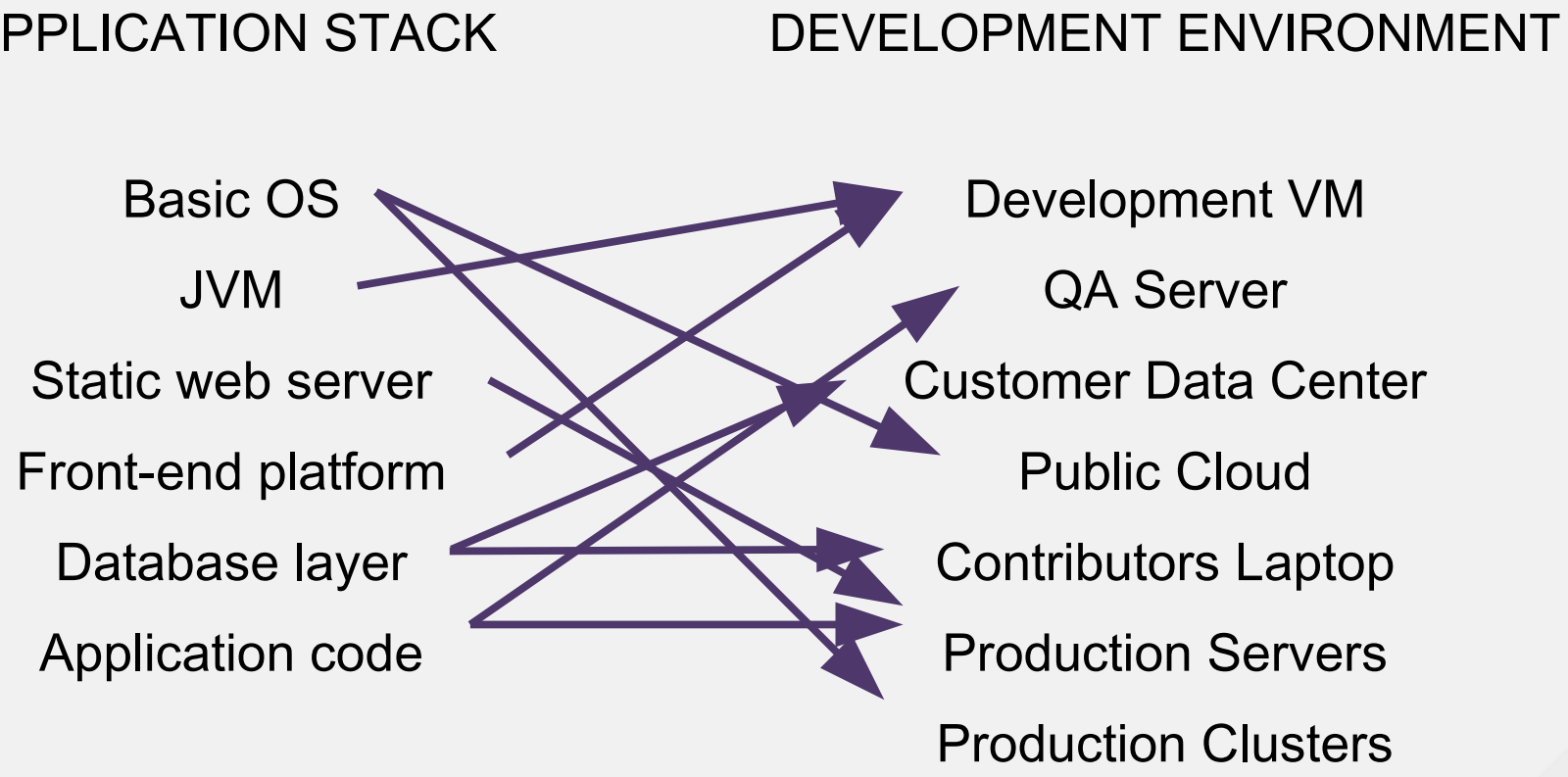
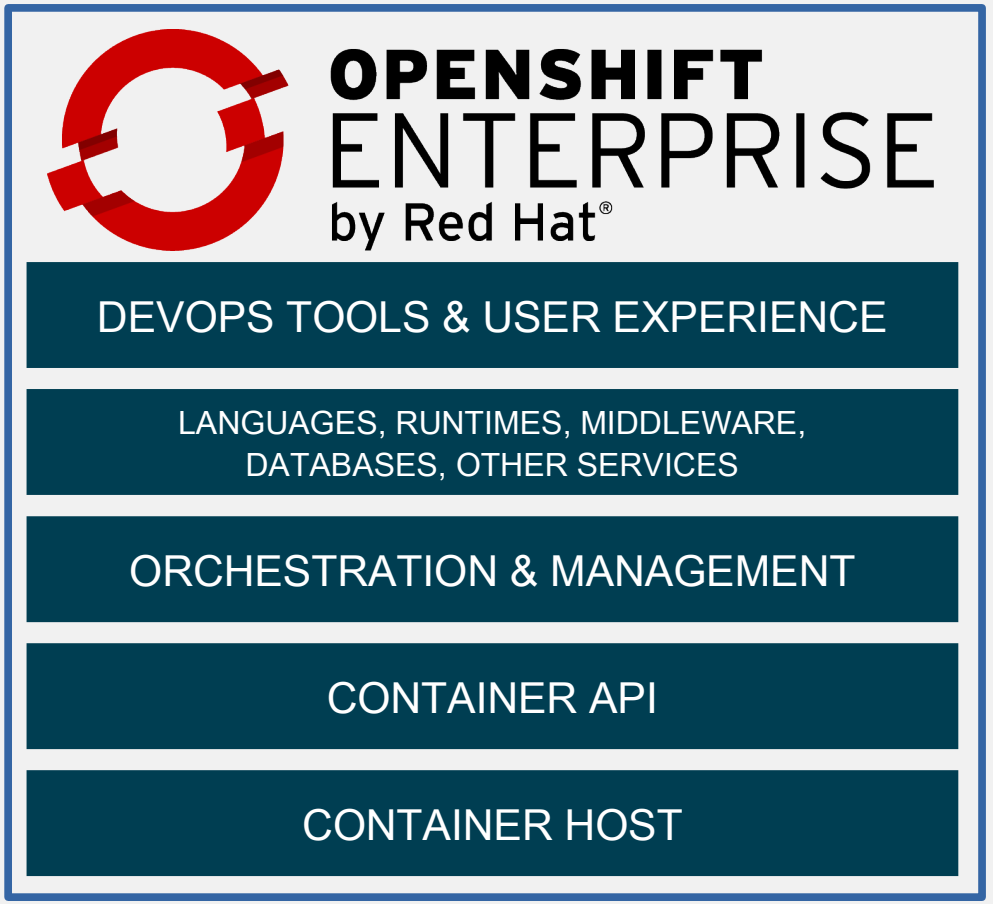
Application development got complex



OPENSHIFT CONTAINER PLATFORM

Open source private PaaS at scale



OPENSHIFT

Automatic container builds, intelligent deployments, image management, application management, Web Console, CLI, IDE Plugins, RESTful API, RHEL SCL, JBoss xPaaS

KUBERNETES

Cluster management and orchestration of containers, scheduled and packed dynamically

DOCKER

Standard software packaging mechanism through lightweight Linux containerization

RHEL / Atomic

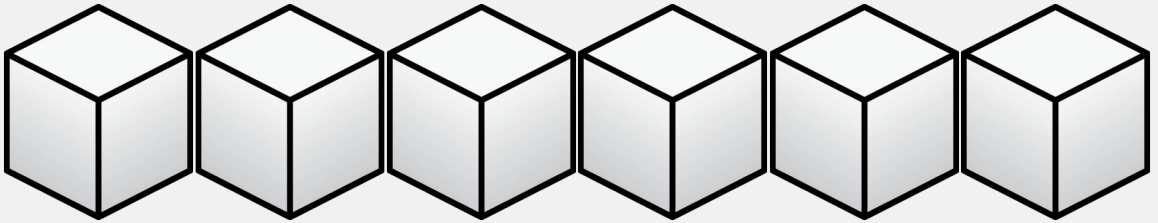
Enterprise grade container optimized Linux operating system

SUPPORTED ECOSYSTEM

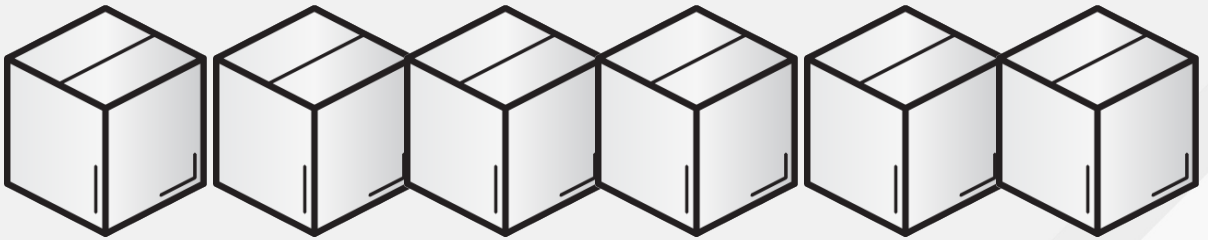
Choose the right tool for the job

Software Collections & JBoss
CVE Fixes
Bug Patches
Support Life Cycle
Technical Support

Red Hat Certified Containers
CVE Fixes
Bug Patches
Technical Support



Any Docker Registry
Supported Container API
Supported Execution



xPAAS

JBoss and middleware platforms for Openshift

Application Container Services

- JBoss Enterprise Application Platform
- JBoss Web Server / Tomcat
- JBoss Developer Studio

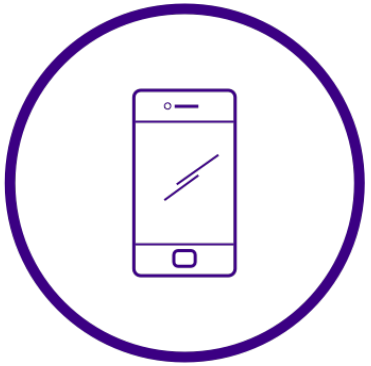
Business Process Services

- JBoss Business Process Management *
- JBoss Business Rules Management System *

Integration Services

- JBoss A-MQ
- JBoss Fuse*
- JBoss Data Virtualization*

Mobile Services



- Red Hat Mobile*

* coming soon


How OpenShift Supports
DevOps
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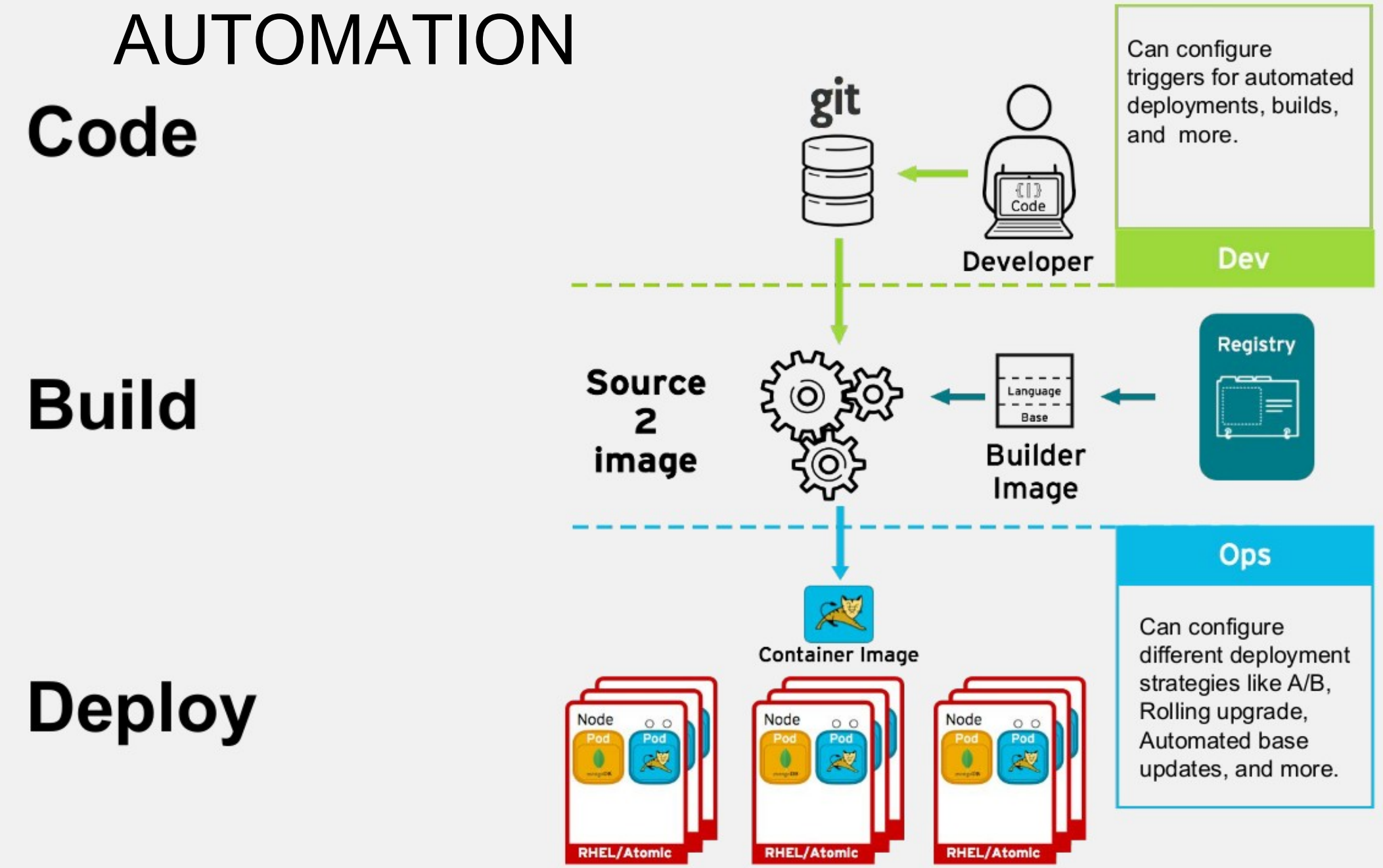
BUILD & DEPLOYMENT AUTOMATION

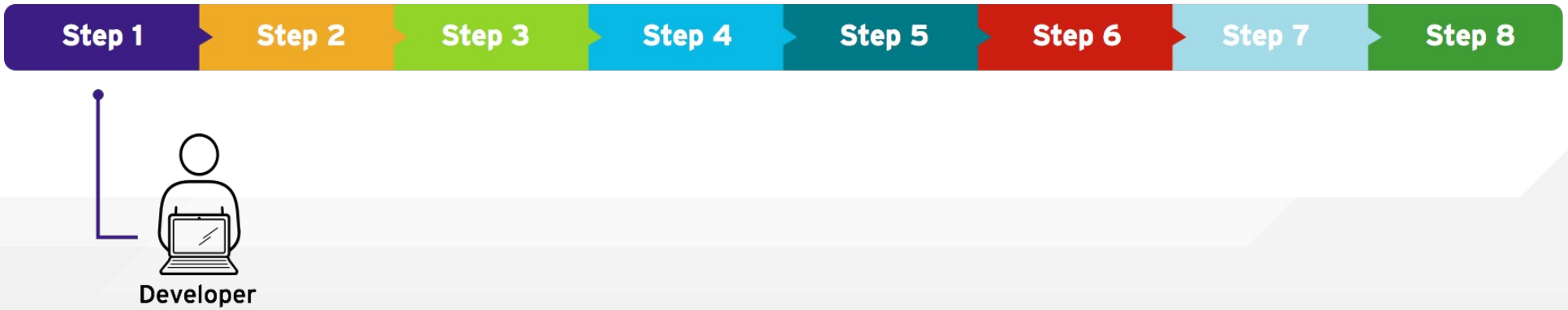


APPLICATION REPO

Applications can be seeded from a canonical source repository (aka Git)

SCM of choice

- GitHub
- GitLab
- Bitbucket
- Assembla



CONTAINER CHOICE

Docker image base layer is selected from a registry

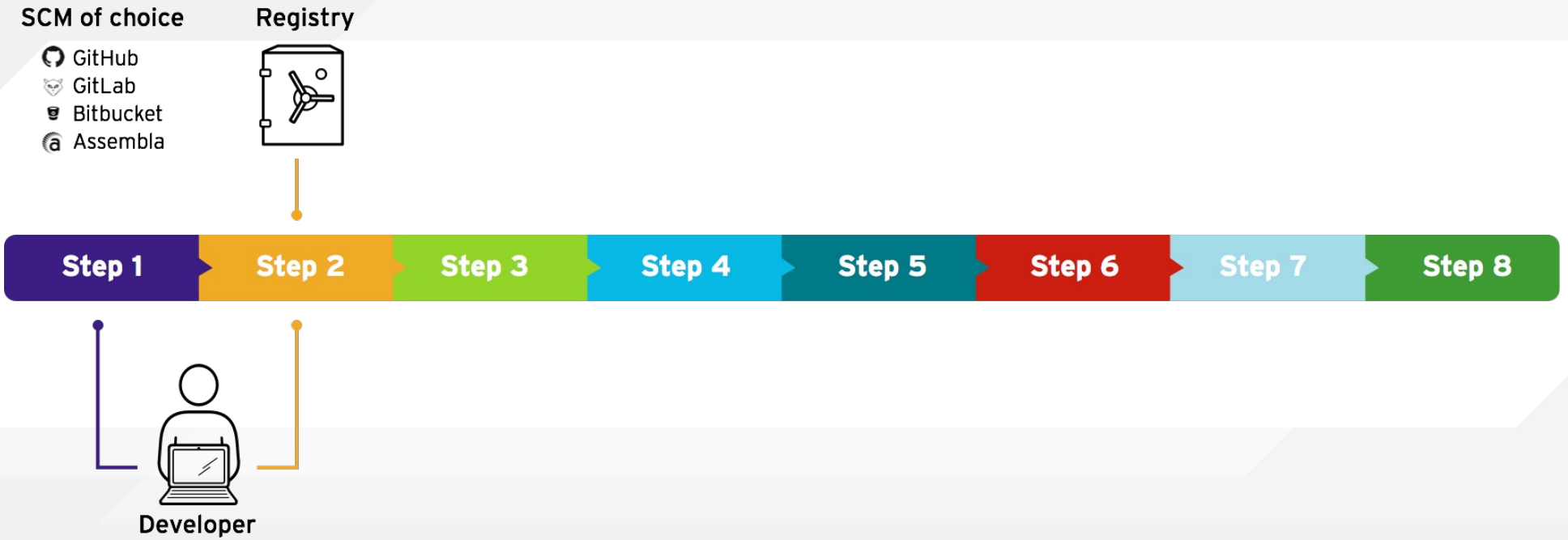
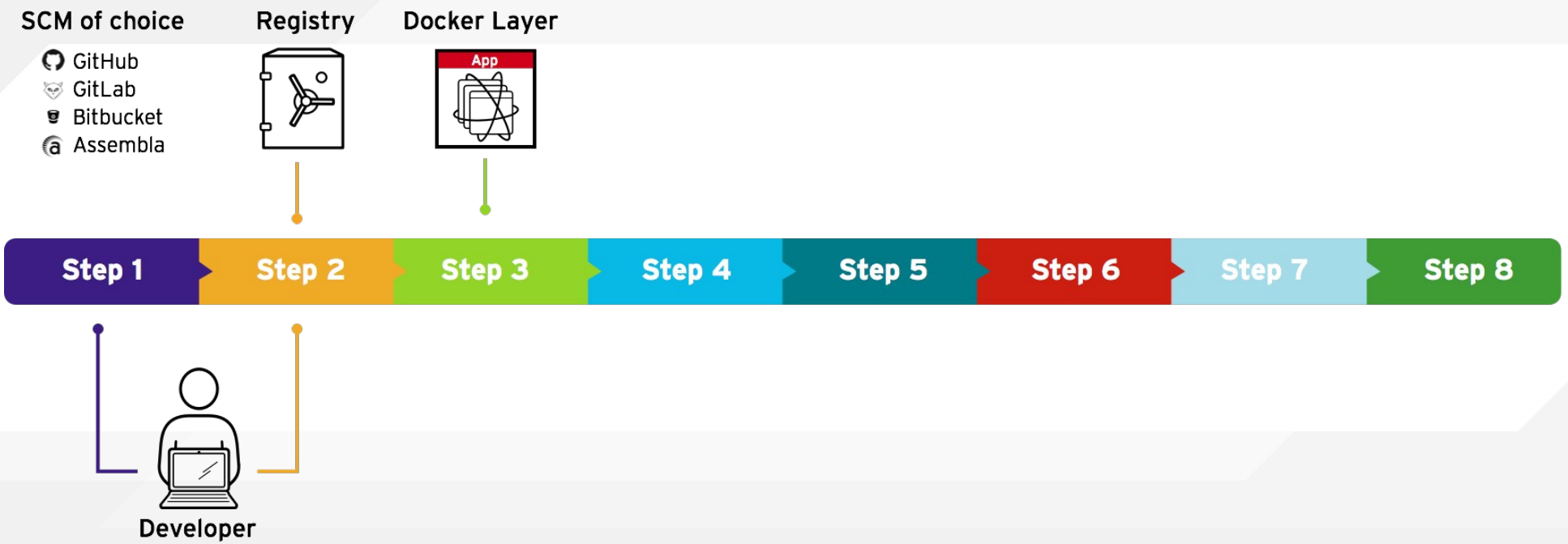


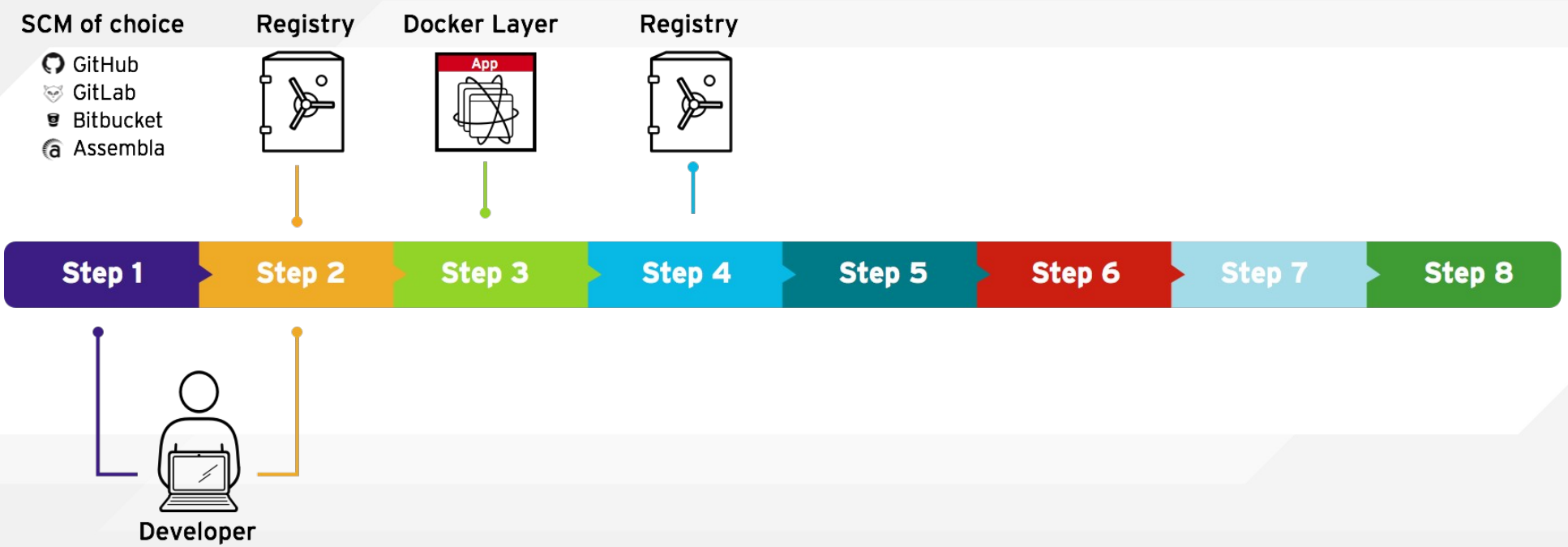
IMAGE LAYERING

Openshift layers base images with the application repo data



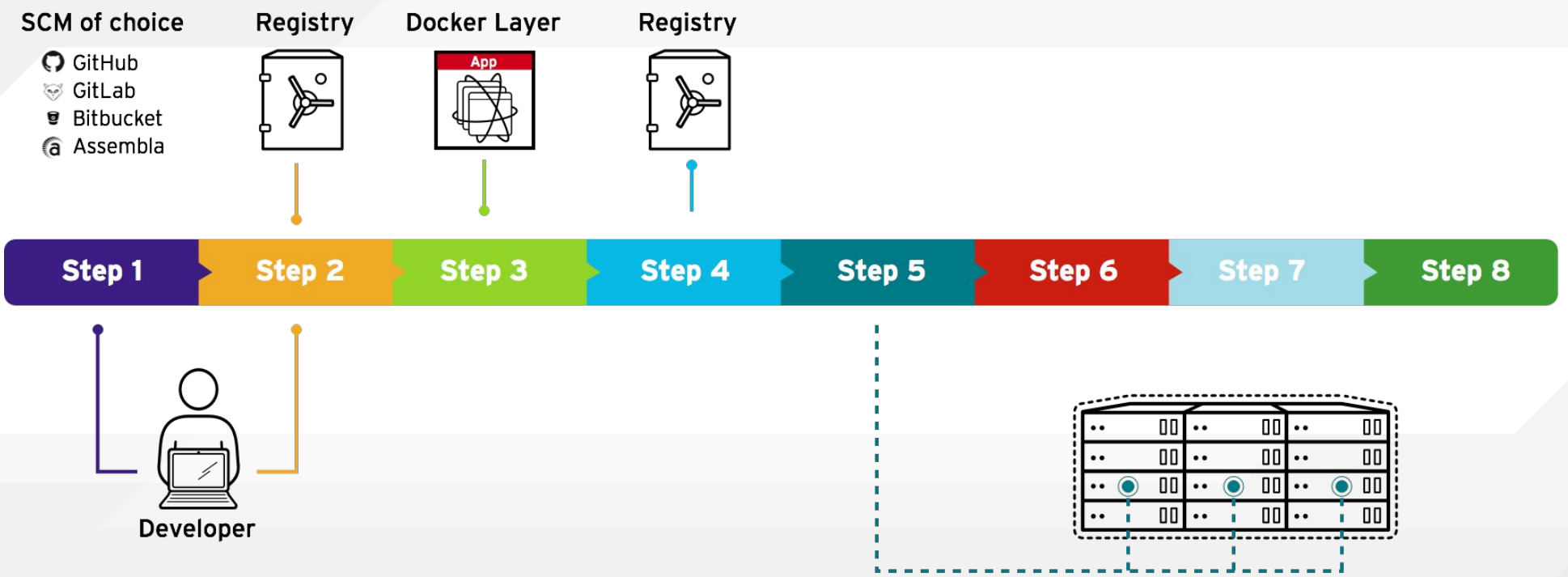
SHARING

The application image is registered and inserted into the registry



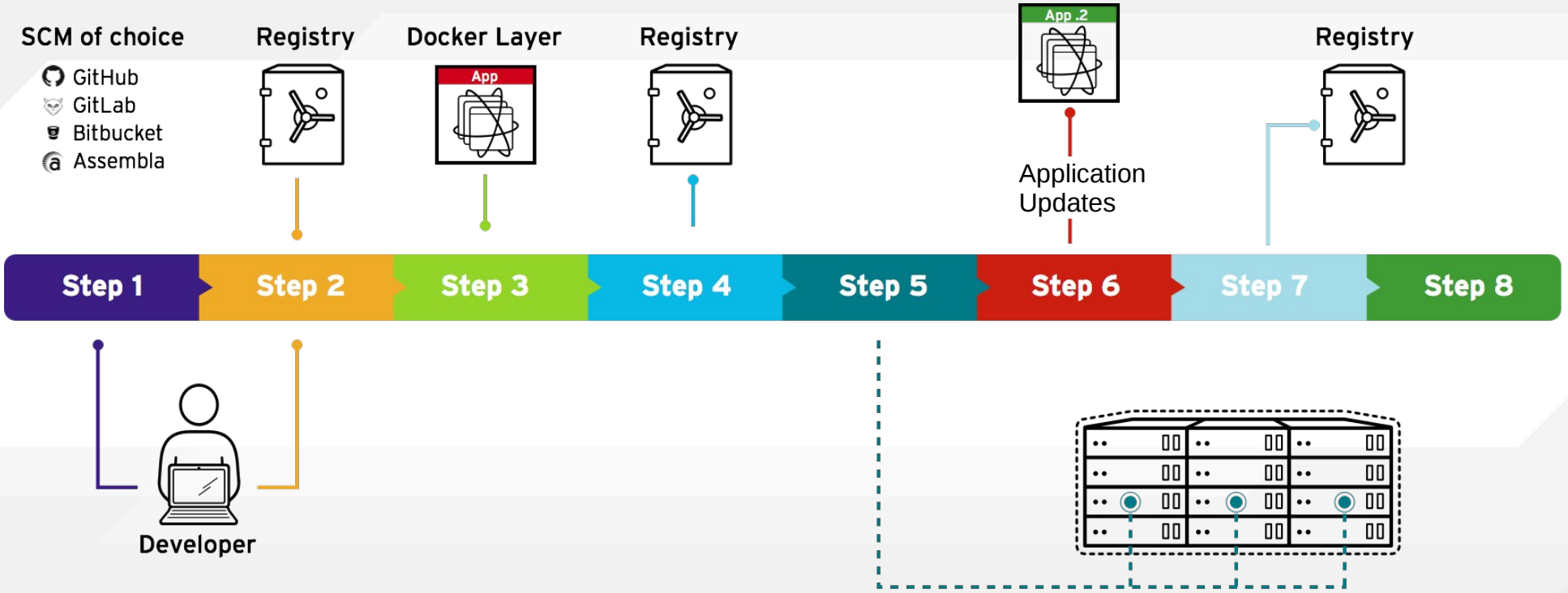
SCHEDULING

Application containers are scheduled and deployed to nodes



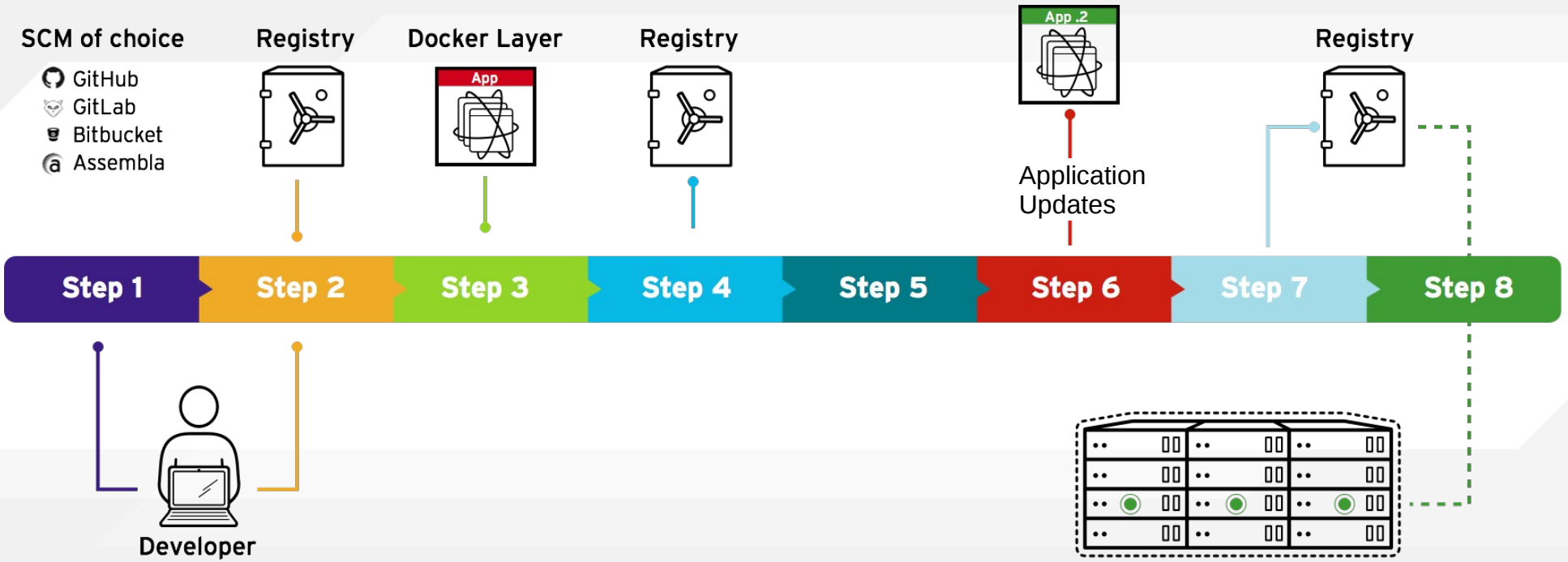
NEW IMAGES

Updated images are added back into the Registry



UPDATE STRATEGY

New Images are deployed as rolling, replacement, or custom updates




How OpenShift Works
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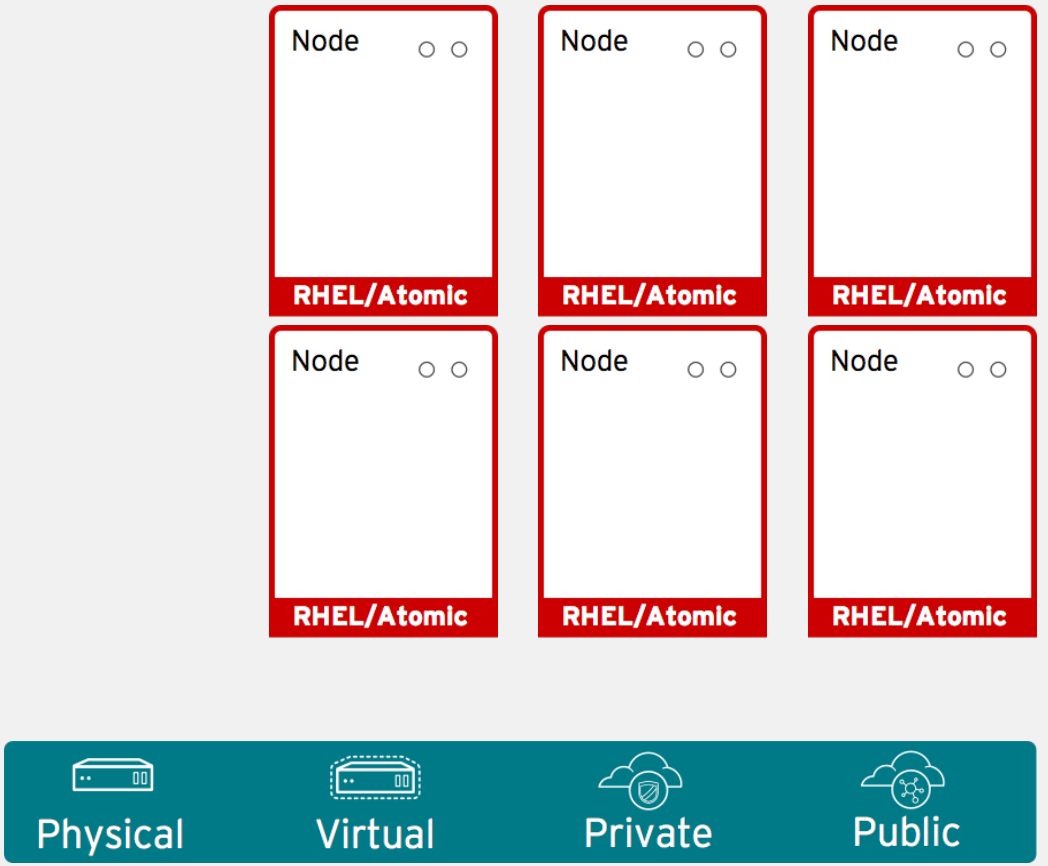
INFRASTRUCTURE

Openshift runs on your choice of infrastructure

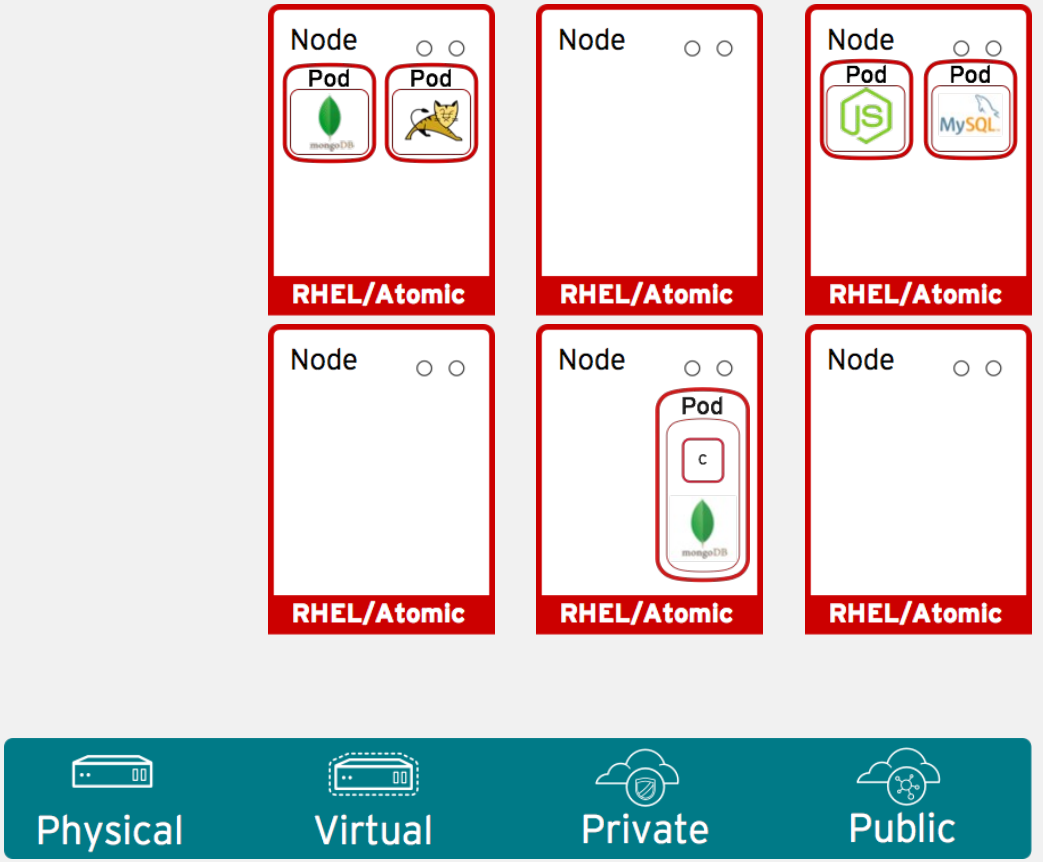
NODES

Nodes are instances of RHEL where applications will run



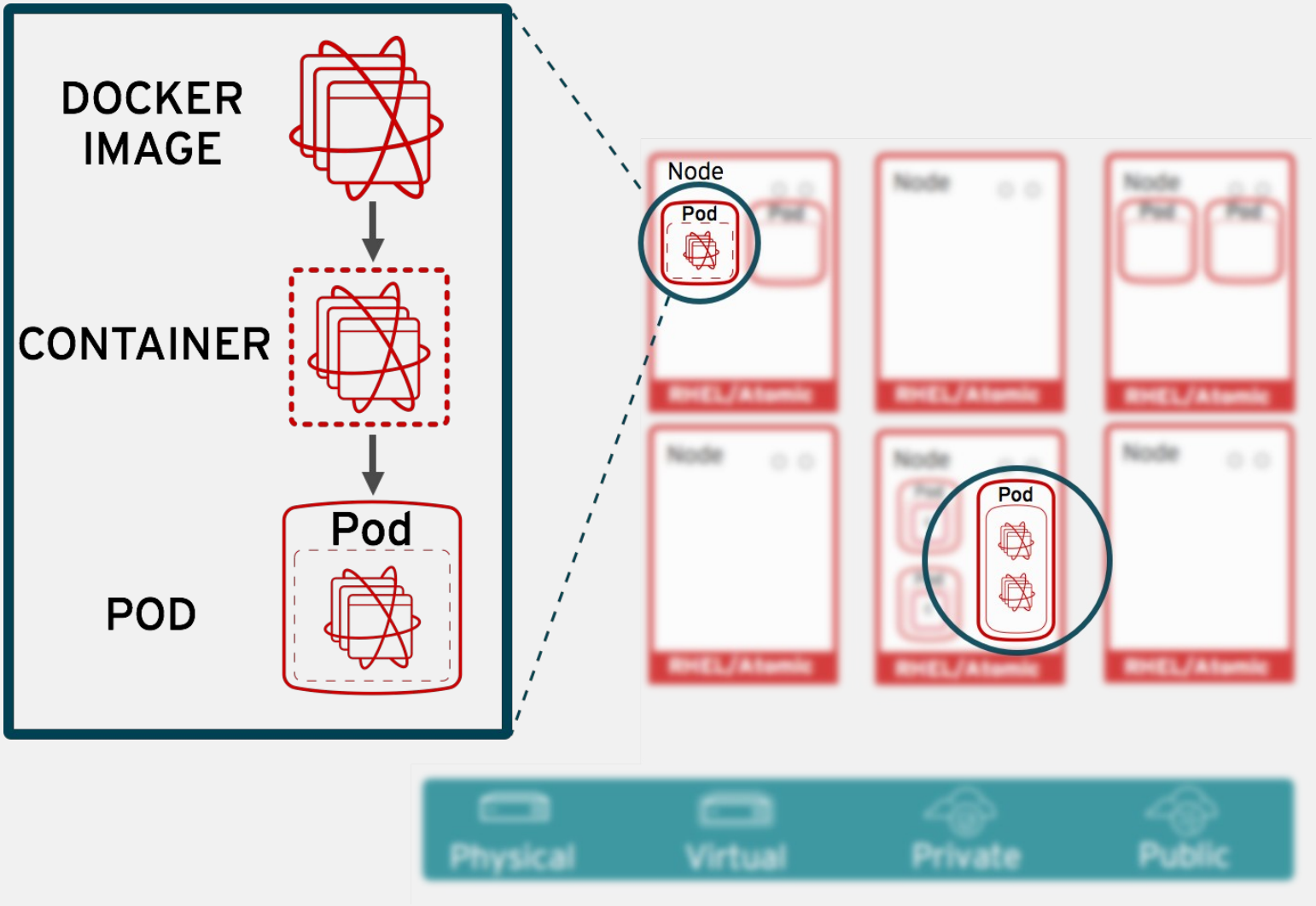
CONTAINERS

Application services run in Dockers containers, distributed across your nodes



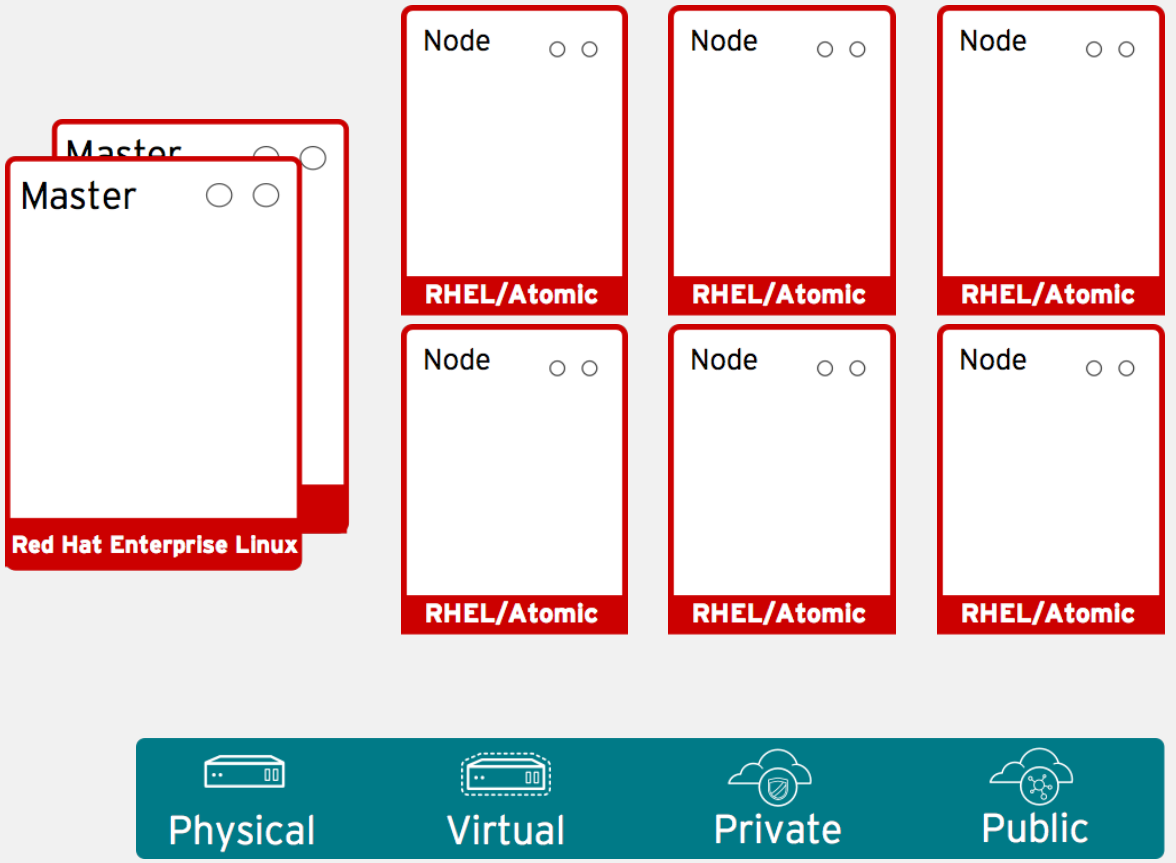
PODS

Pods bundle one or more Docker container(s) as a single unit



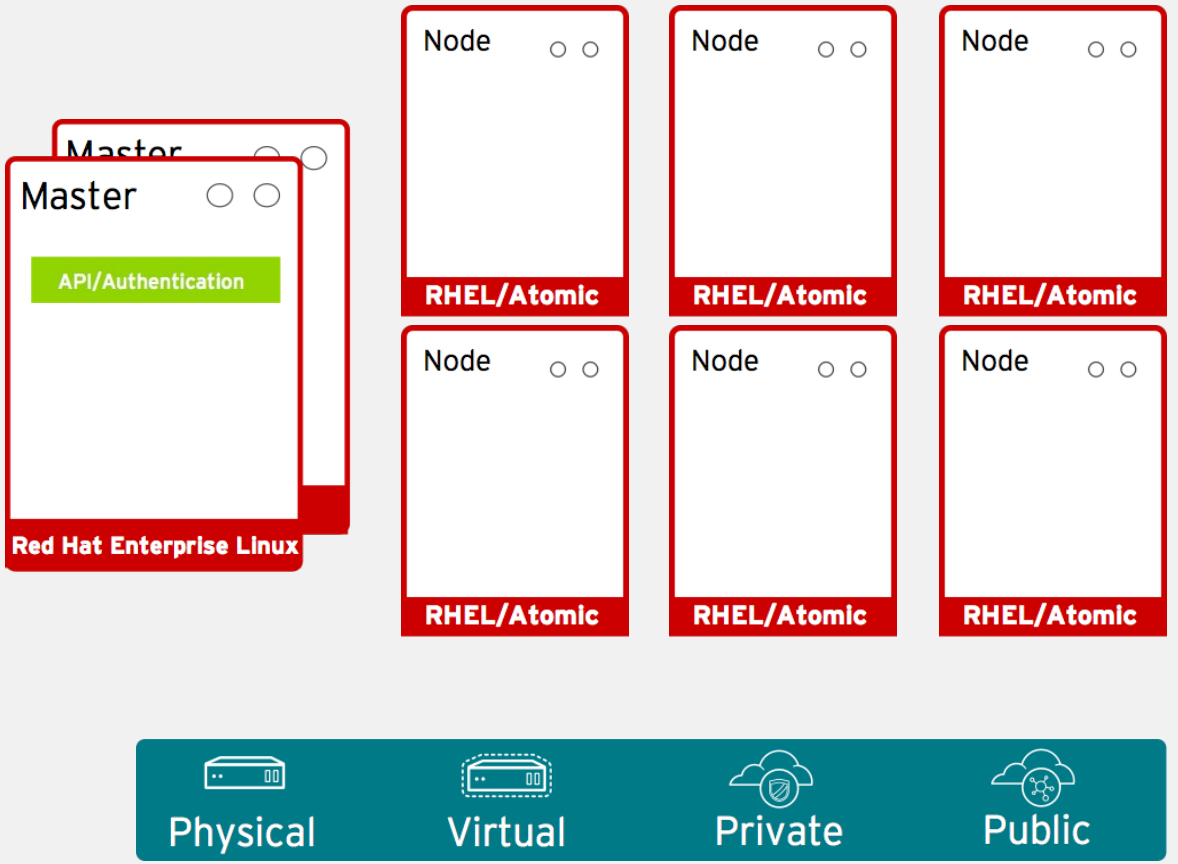
MASTERS

Drive kubernetes to orchestrate nodes and applications



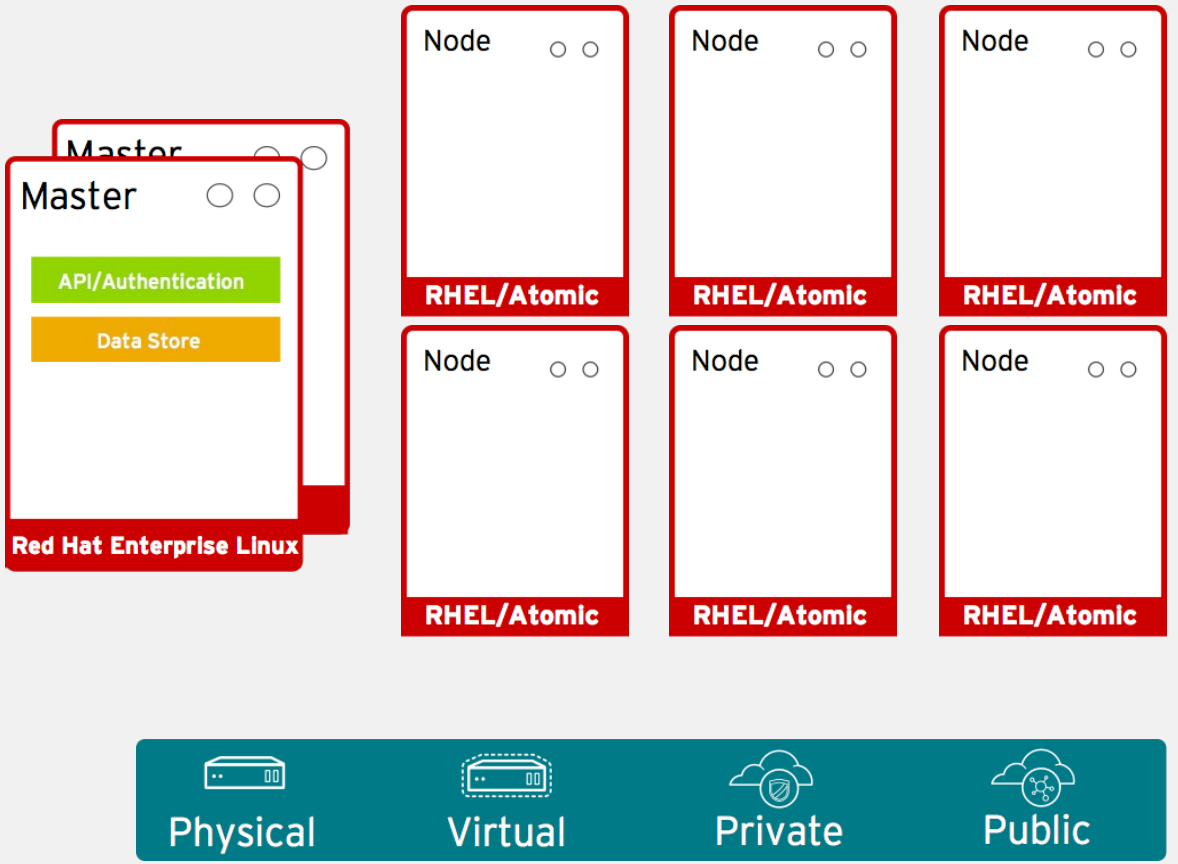
API

A Master provides an API for authenticated users and clients



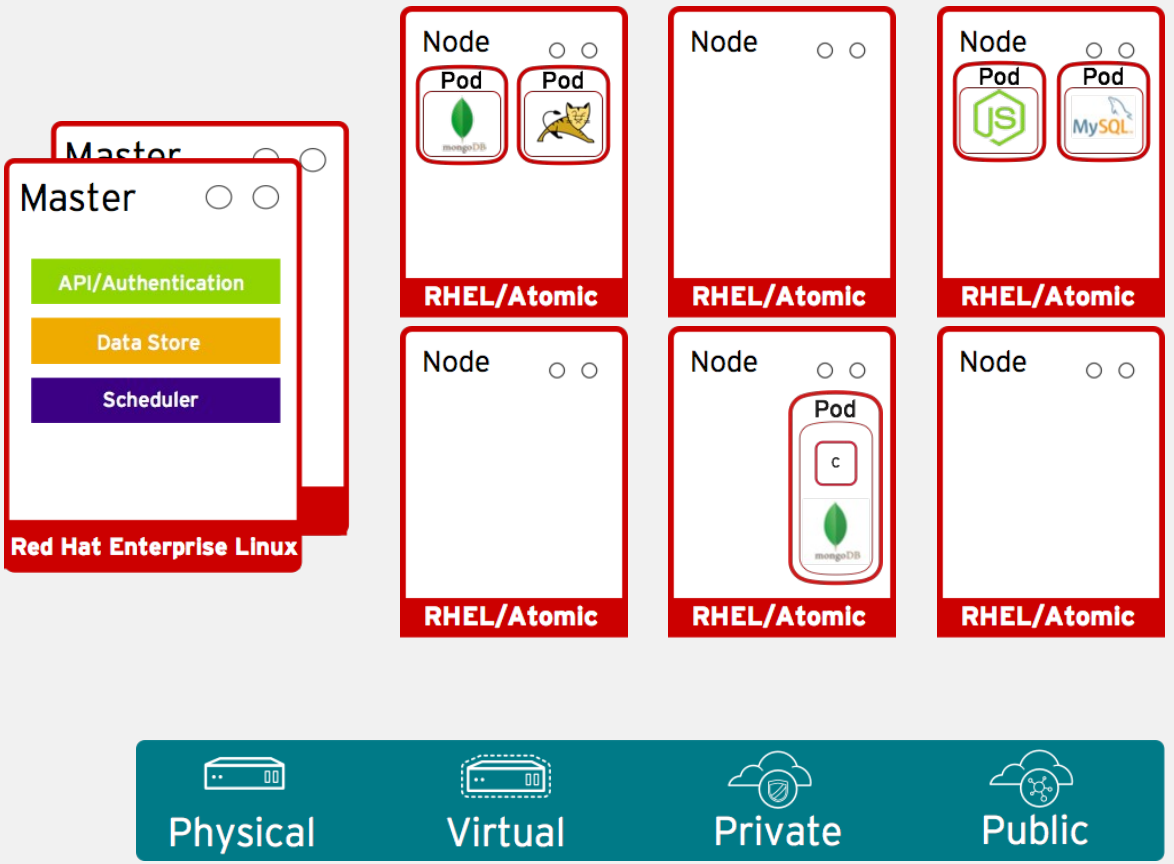
METADATA STORE

All Masters use an etcd distributed key-value store for metadata persistence



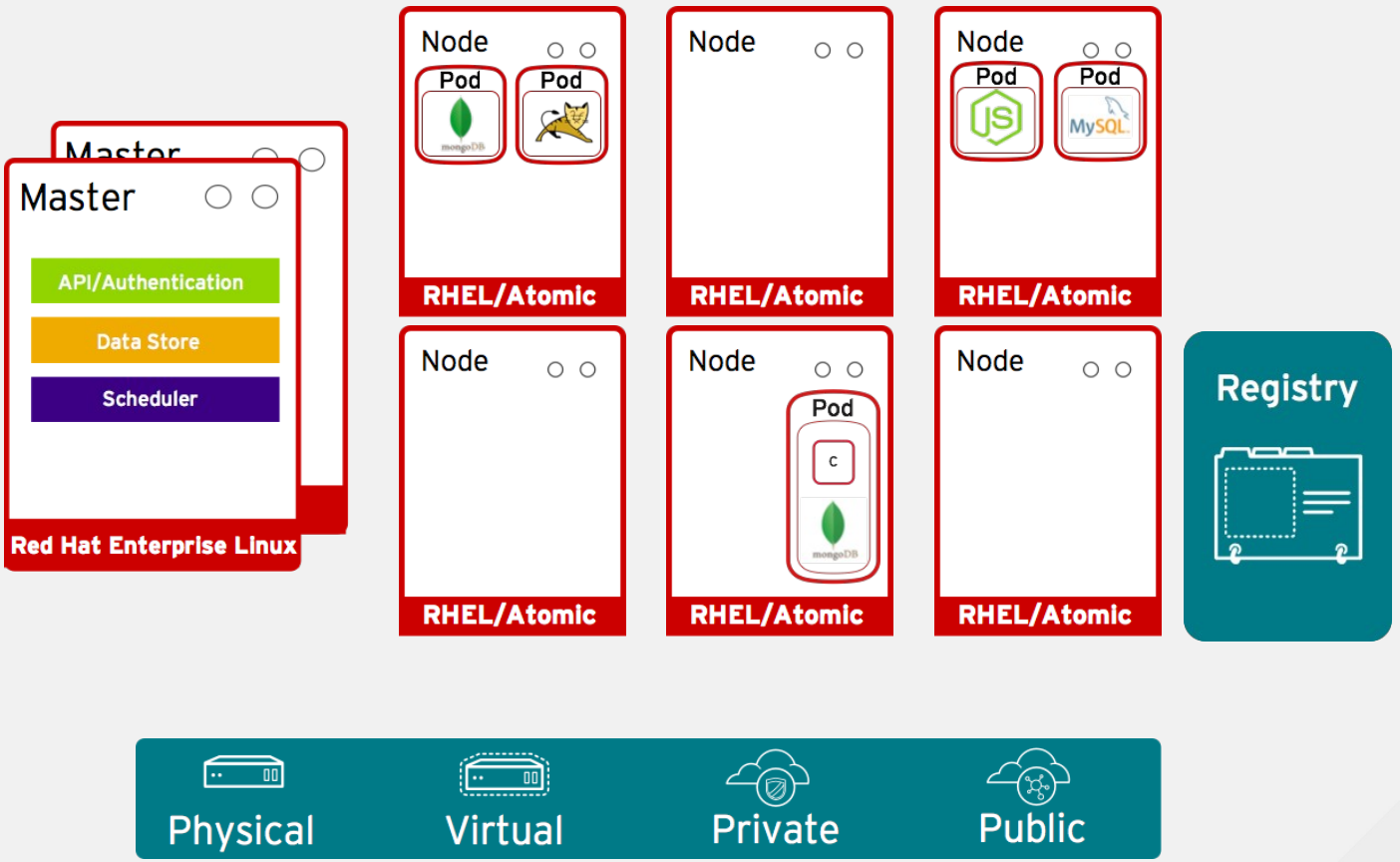
SCHEDULING

Pod placement is determined based on a defined, pluggable policy



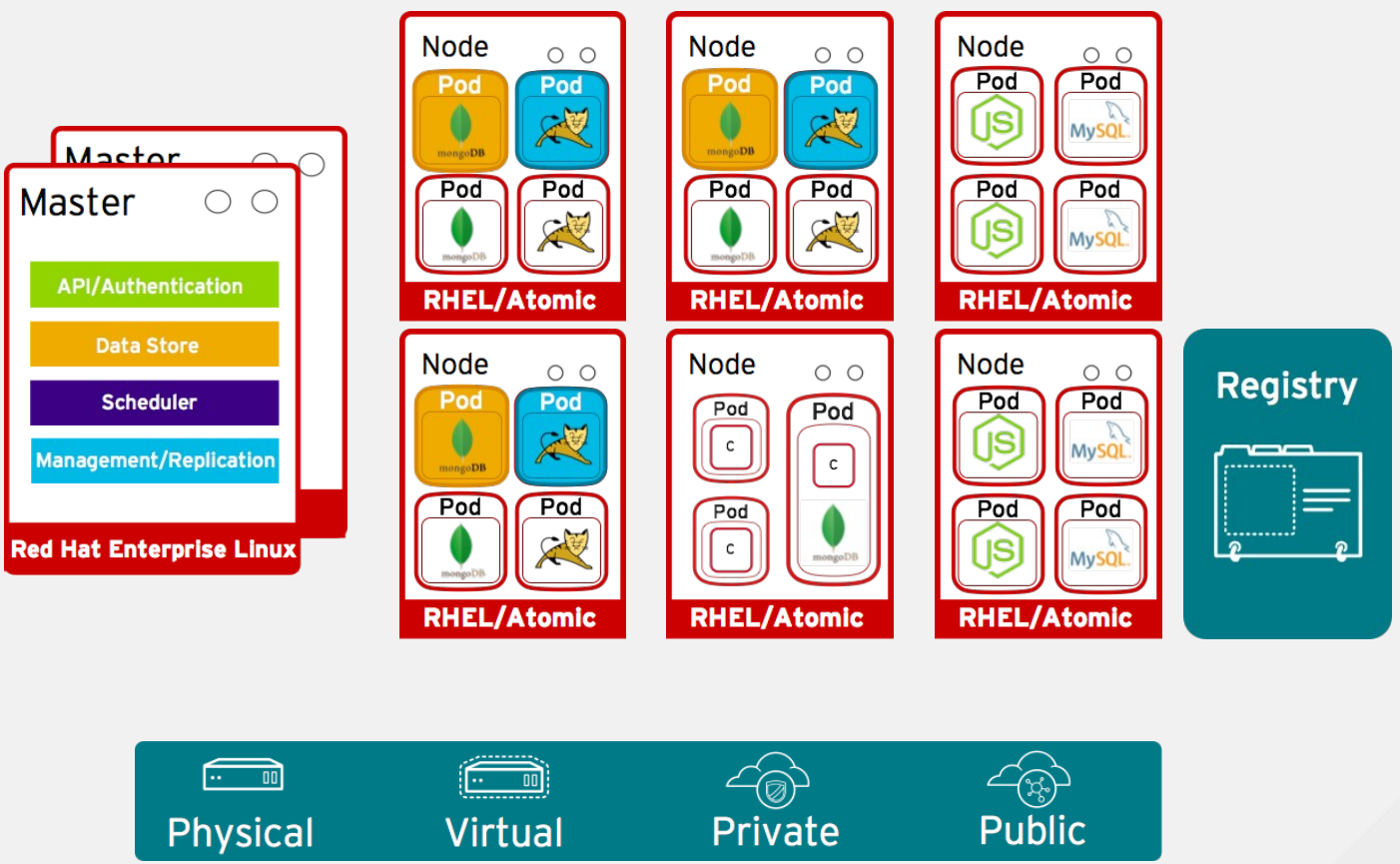
REGISTRY

Registries store images and versions for provisioning



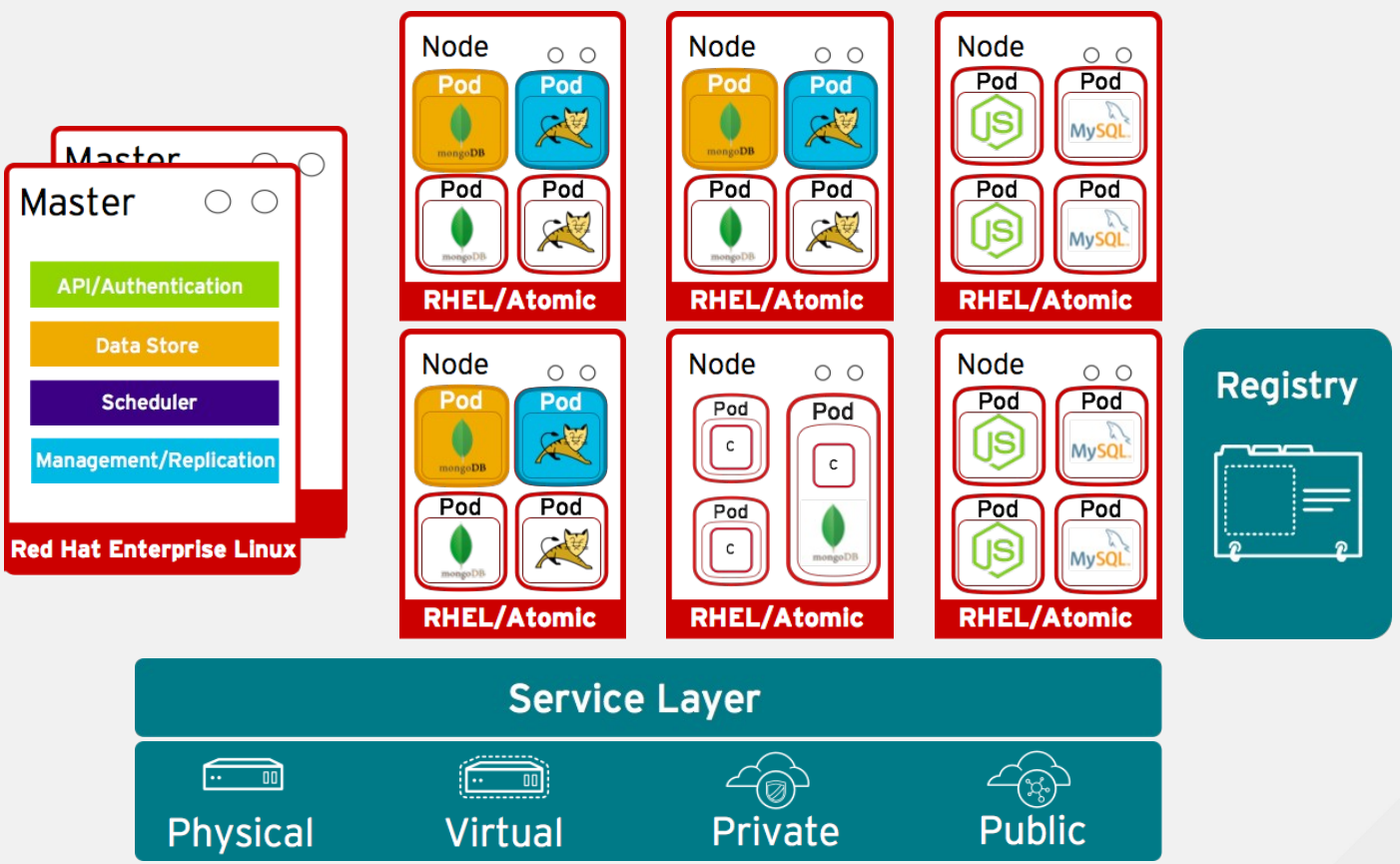
LIFECYCLE

The kubernetes controller manages the lifecycle for each Pod



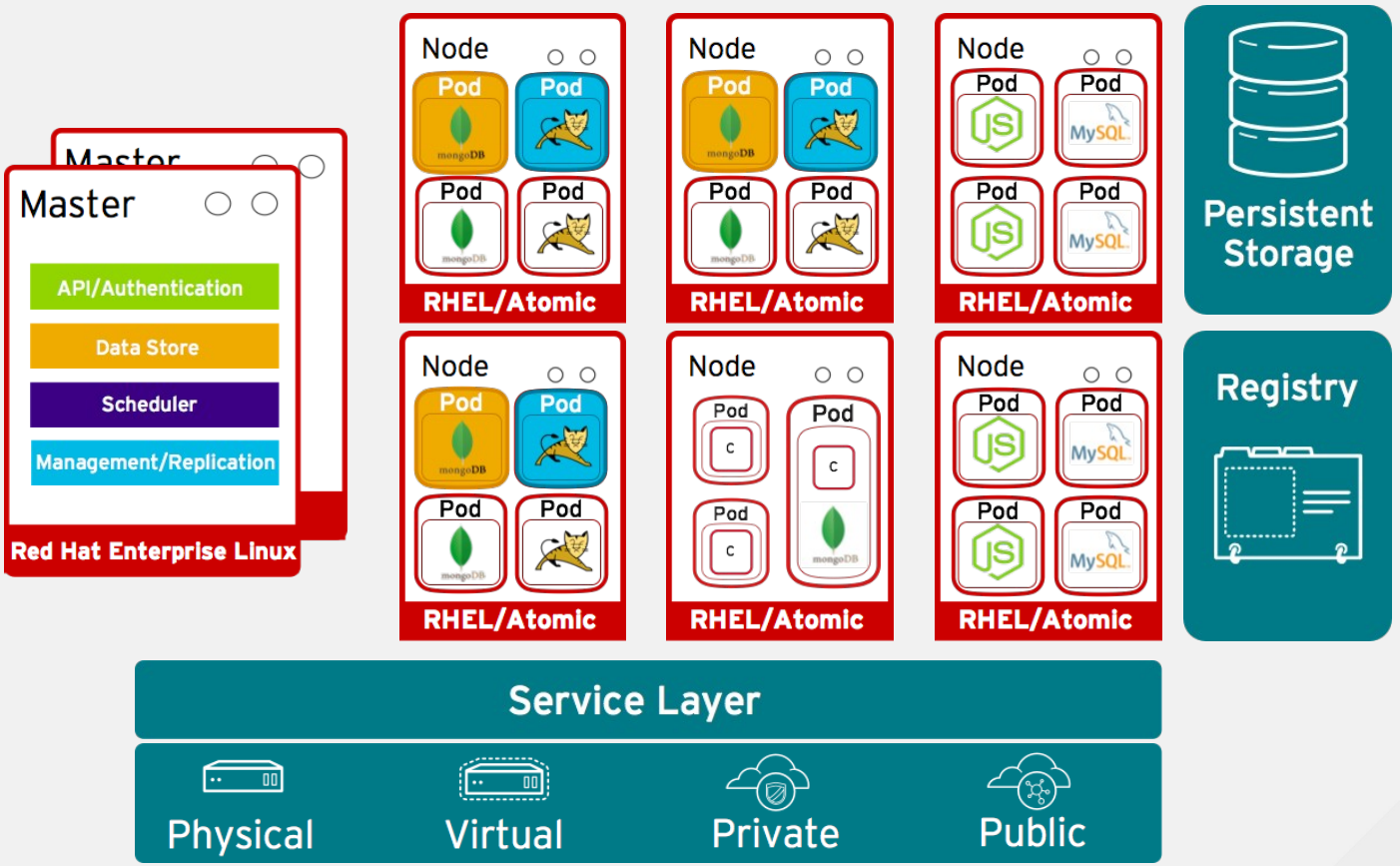
SERVICES

Services allow related pods to connect to one another



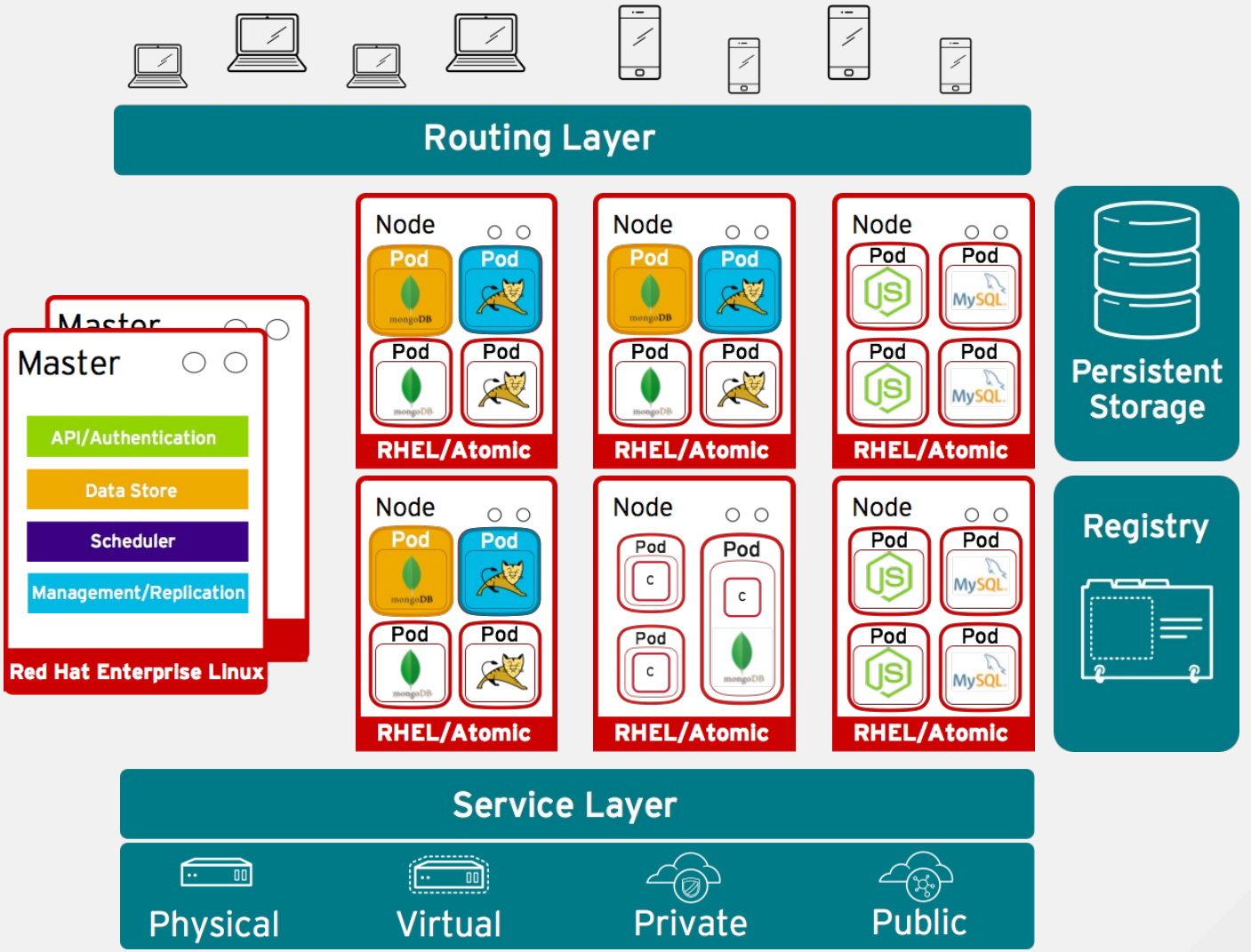
PERSISTENCE

Pods can attach to storage for stateful services and applications



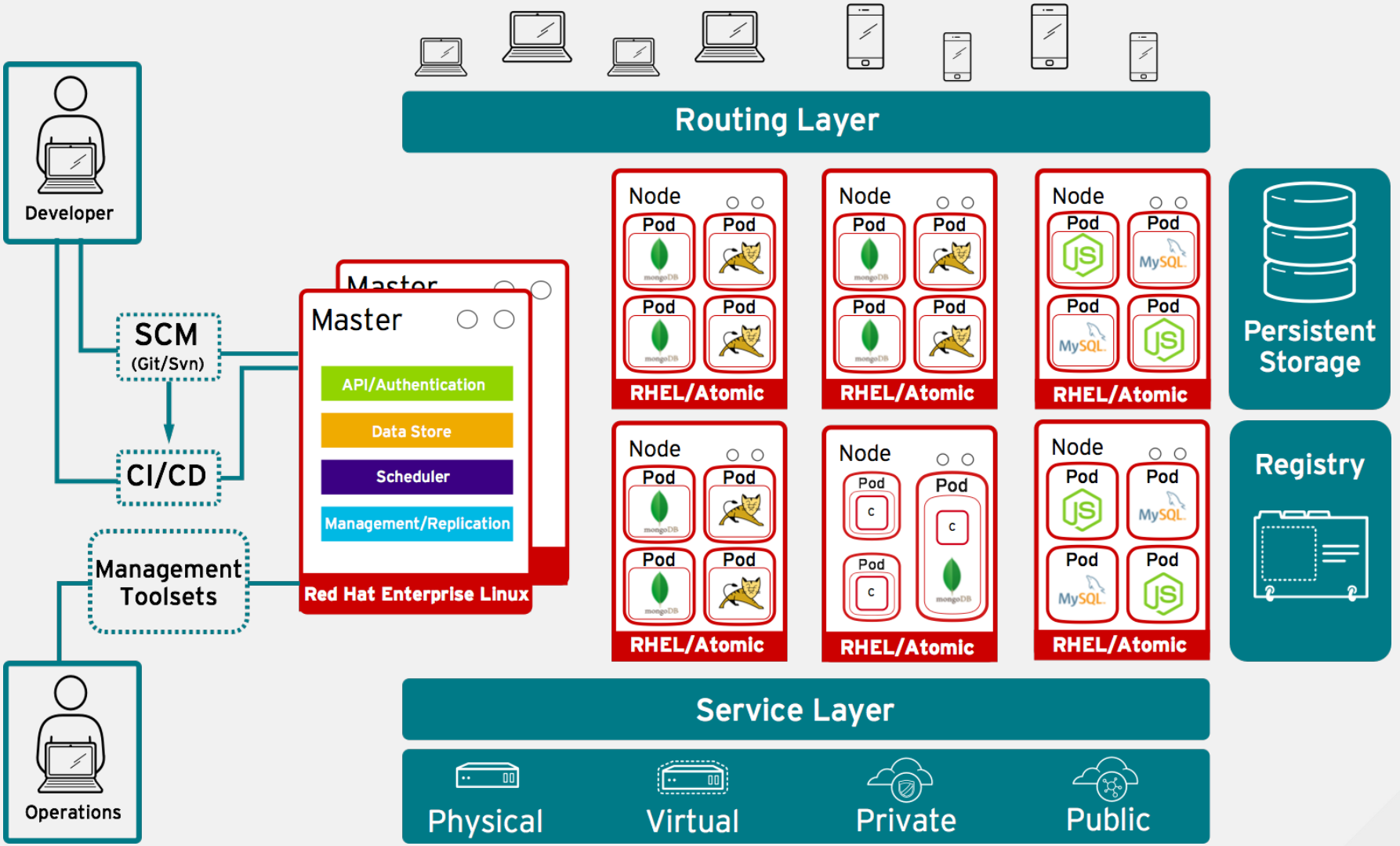
ROUTING

A Software Defined Network (SDN) layer routes external application requests to the desired pod



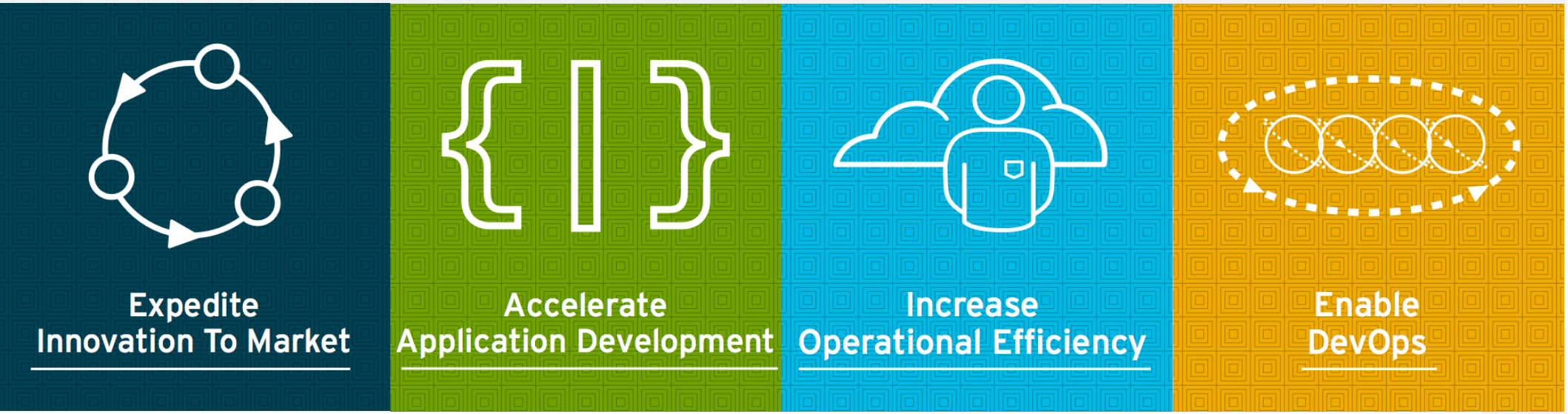
ACCESS

Developers access Openshift via the Web, CLI, or IDE

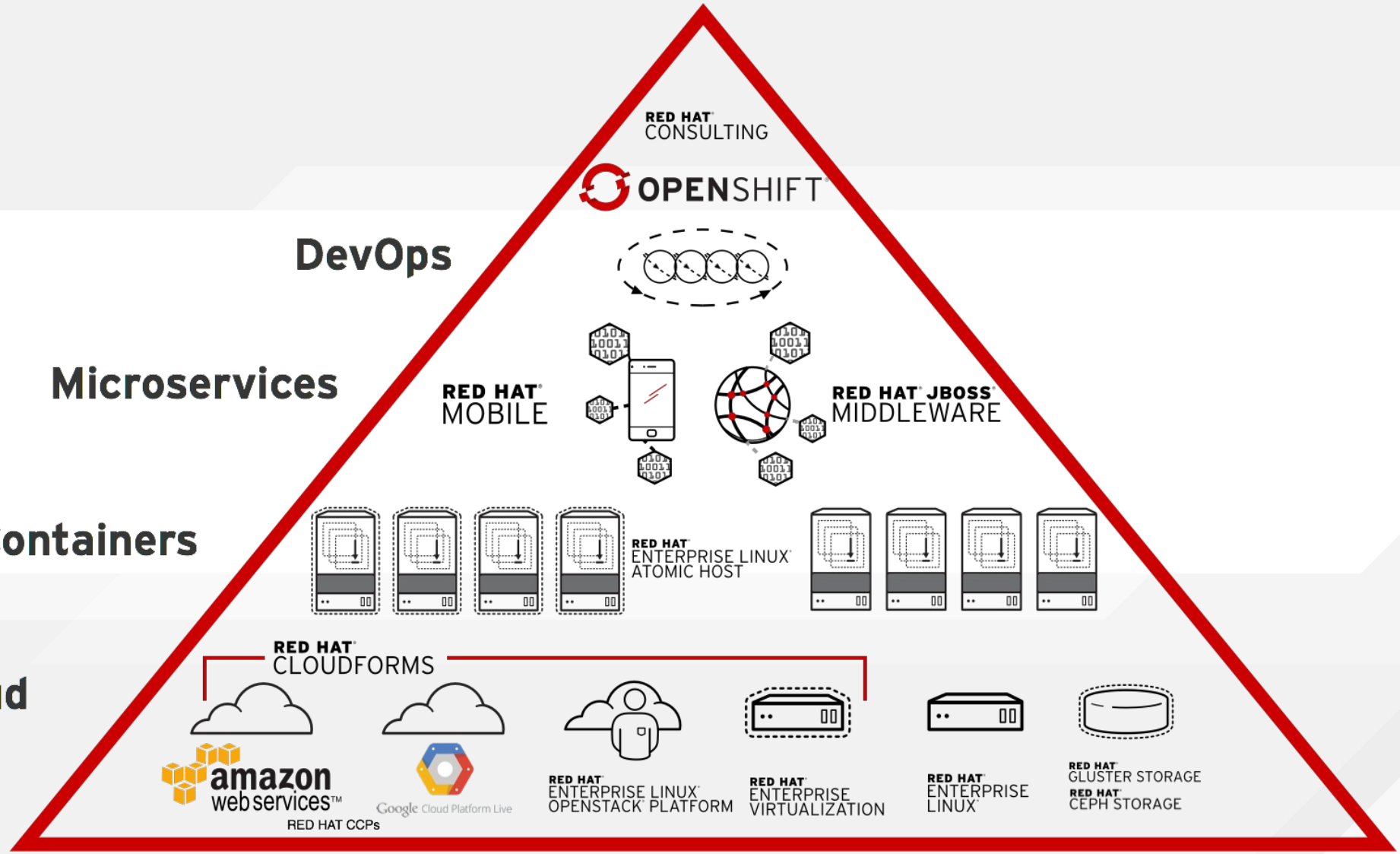


* coming soon

OPENSHIFT VALUE



THE RED HAT SOLUTION



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