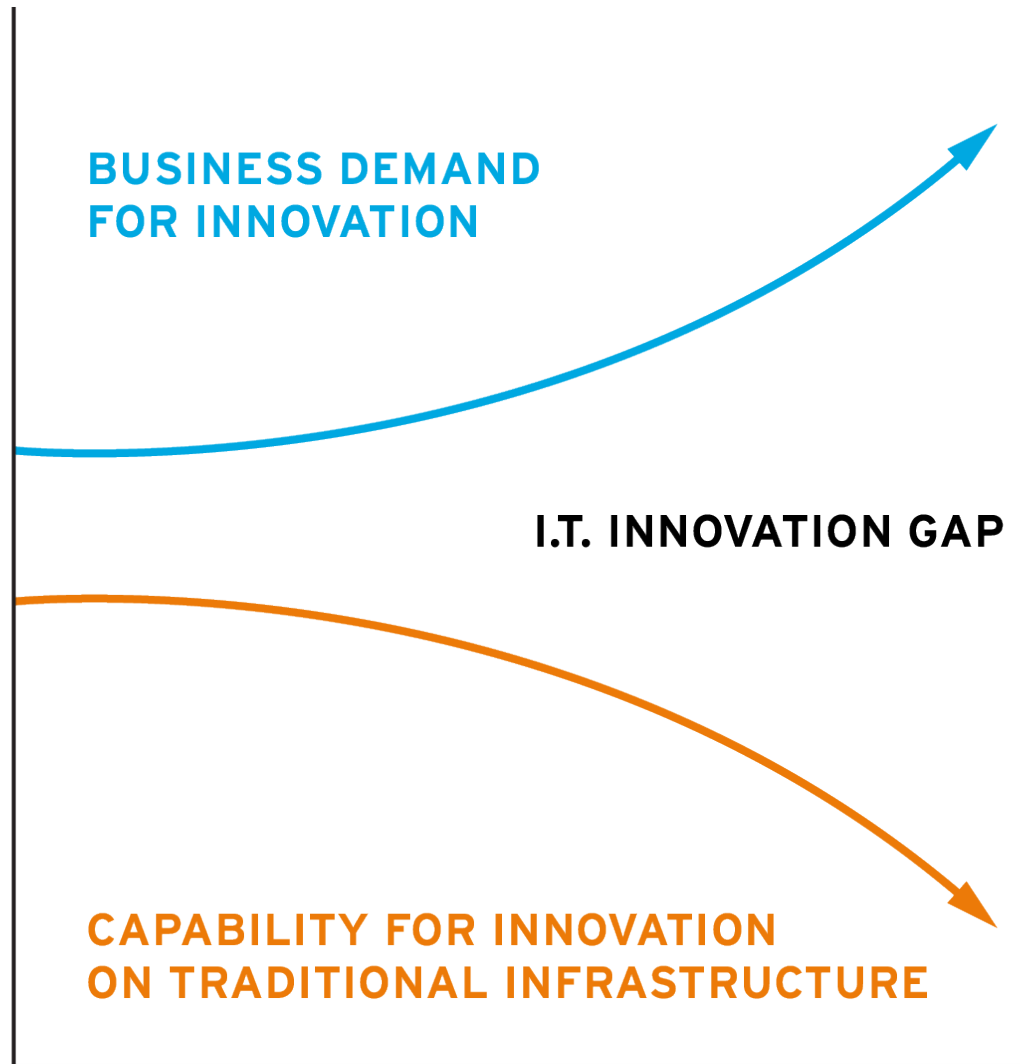




# OPENSIFT ACCÉLÉREZ LE DÉVELOPPEMENT AVEC UN PAAS

Michael Lessard  
Senior Solutions Architect  
Février 2015  
 michaellessard

# BUSINESS DEMANDS DRIVE I.T. TRANSFORMATION



- Business wants agility, lower cost, new capabilities
- IT struggling with existing legacy infrastructure architecture and cost model
- Cloud providers are using next-generation IT built on open source technologies
- IT needs to adopt cloud architectures and technologies to close innovation gap

# TYPICAL DEVELOPMENT LIFECYCLE



## PHYSICAL

1. Have Idea
2. Get Budget
3. Submit Hardware Request
4. Wait...
5. Get Hardware
6. Rack and Stack Hardware
7. Install Operating System
8. Install Operating System Patches
9. Create User Accounts
10. Deploy Application Server
11. Deploy Framework/Tools
12. Code
13. Test
14. Buy and Configure Prod Servers
15. Push to Prod
16. Launch
17. Order More Servers to Meet Demand
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19. Deploy New Servers
20. Etc.



## VIRTUAL

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8. Test
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# WHAT IF...

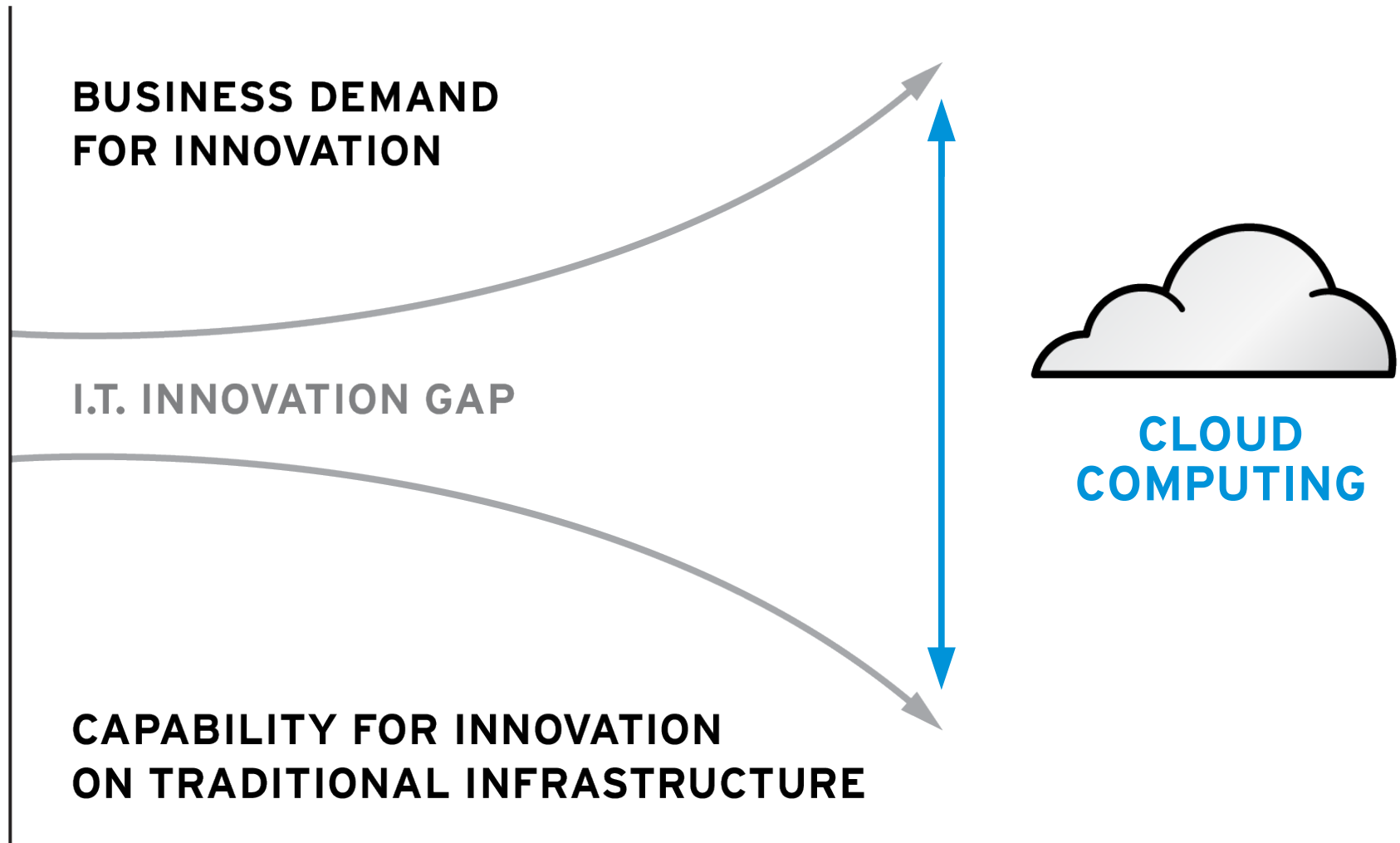


We could **automate** environment provisioning?

We could **standardize** technology stacks and platforms?

We could **consolidate** our resources and pool usage?

# CLOUD CLOSES THE INNOVATION GAP



# CLOUD SERVICE MODELS

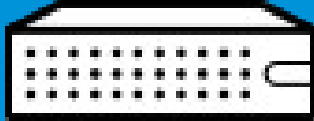
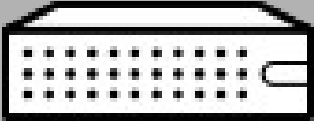


## IAAS

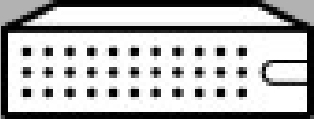
## PAAS

## SAAS

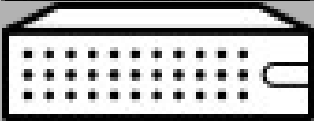
**APPLICATION**



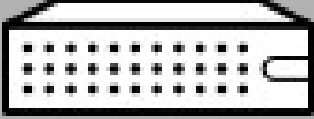
**DEVELOPER TOOLING**  
(Source Control, Build Tools, CI)



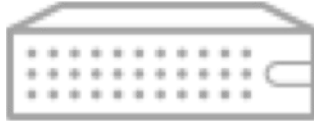
**APPLICATION PLATFORM**  
(App Server, Middleware, Languages, Frameworks)



**OPERATING SYSTEM**



**VIRTUAL GUEST IMAGES**



**COMPUTE RESOURCES**  
(CPU, RAM, Network, Disk)



Provided and Controlled by  
the Cloud Consumer



Automated and Managed by  
the Cloud Provider

INCREASED CONTROL

INCREASED AUTOMATION

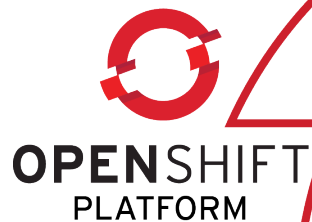


# IMPLEMENTING A PAAS

Gartner

“The use of Platform-as-a-Service technologies will enable IT organizations to become more agile and more responsive to the business needs. —GARTNER

# OPENSIFT IS PAAS BY RED HAT



- ✓ Multi-Language
- ✓ Auto-Scaling
- ✓ Self-Service
- ✓ Open Source
- ✓ Enterprise-Grade
- ✓ Secure
- ✓ Built on Red Hat

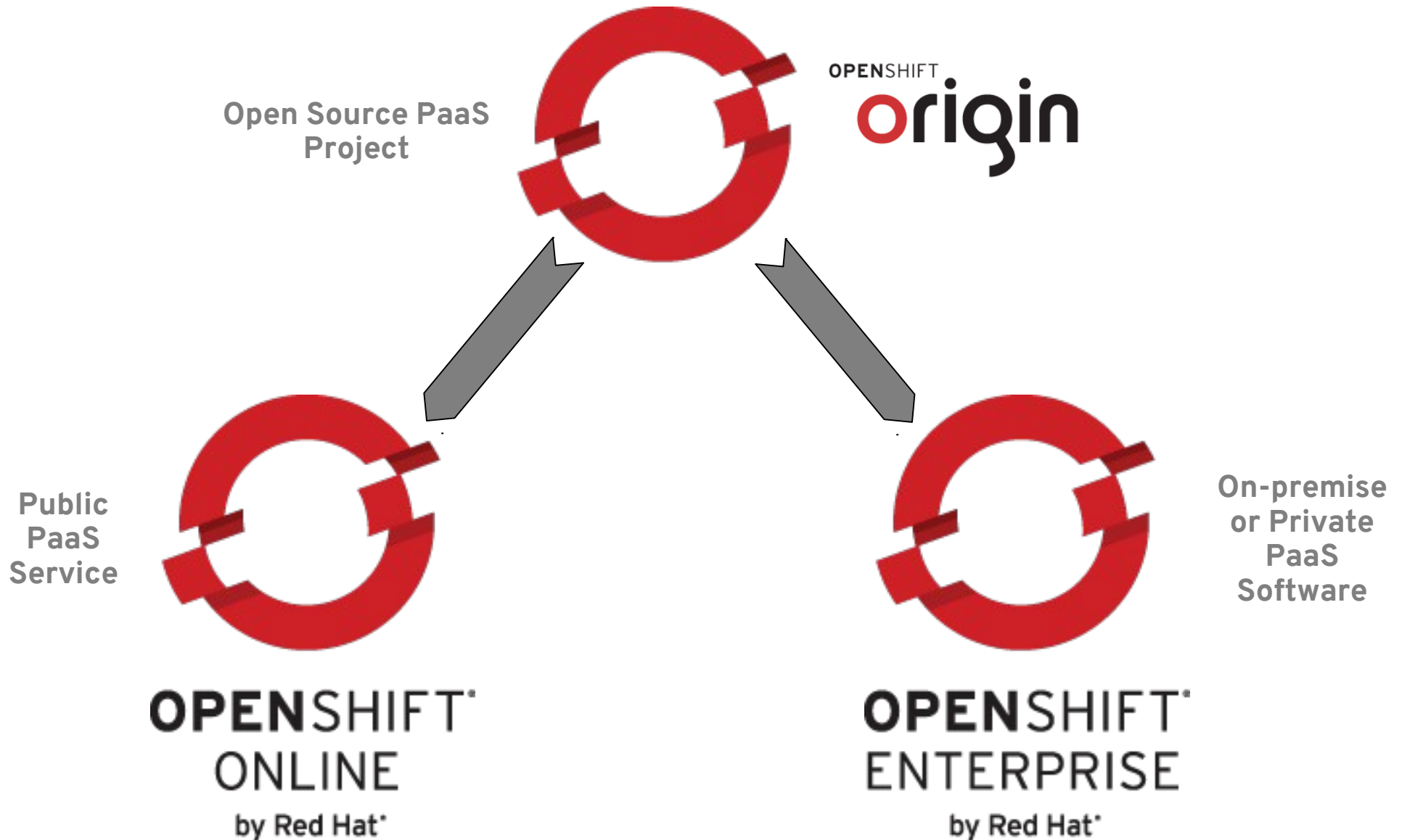


Powering Your Apps





# RED HAT'S PAAS STRATEGY



**You're one shell command away from  
deploying your own Platform as a Service.**

**<http://install.openshift.com>**



## OPENSHIFT PAAS ON YOUR CHOICE OF CLOUD OR INFRASTRUCTURE...



**Public - Hybrid - Private - Virtualization - Bare Metal**

## THE FOUNDATION OF OPENSIFT IS RED HAT ENTERPRISE LINUX

RHEL

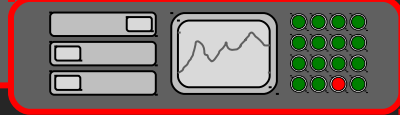
RHEL

RHEL

- OpenShift is built on instances of Red Hat Enterprise Linux (RHEL)
- OpenShift can run anywhere RHEL can run

Public - Hybrid - Private - Virtualization - Bare Metal

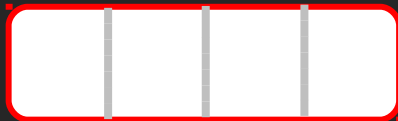
## AN OPENSIFT BROKER MANAGES MULTIPLE OPENSIFT NODES



**Broker (RHEL)**

### **OpenShift Broker**

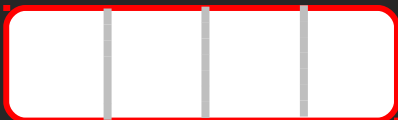
Management and Orchestration Engine



**Node (RHEL)**

### **OpenShift Nodes**

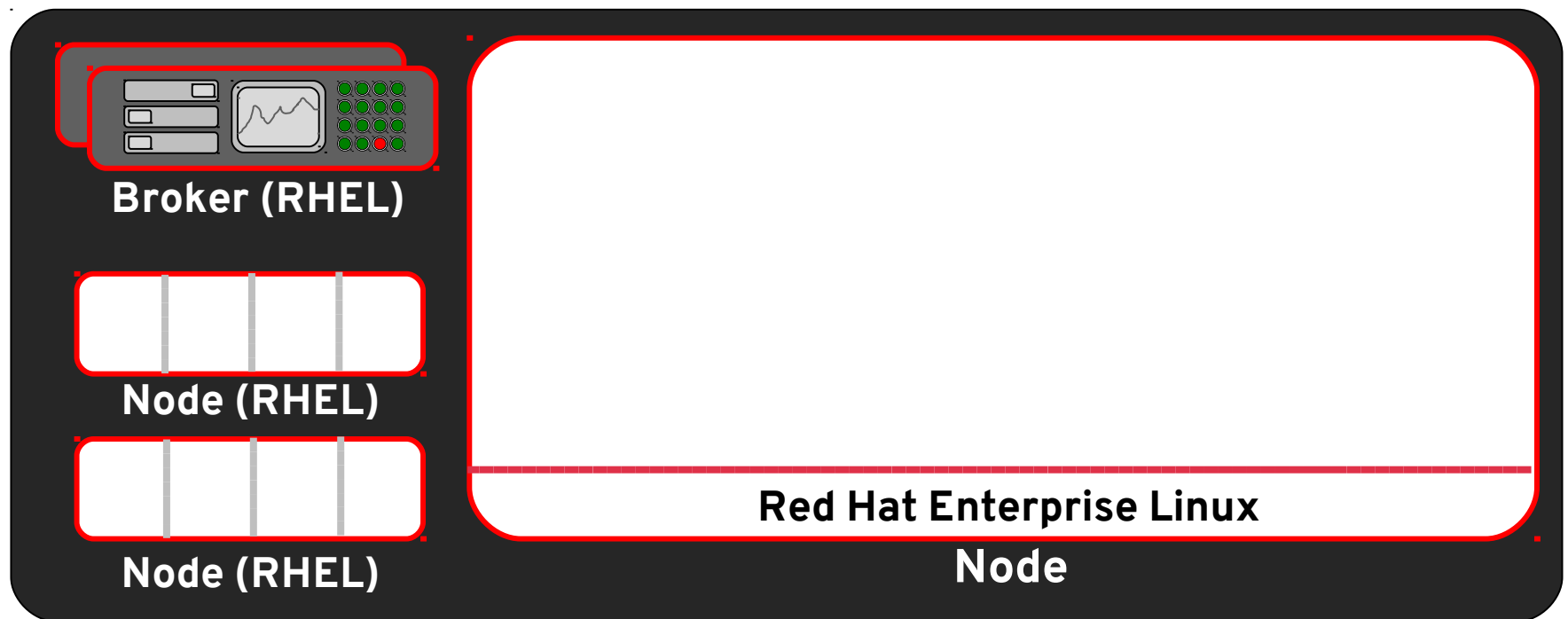
Application Hosting Infrastructure



**Node (RHEL)**

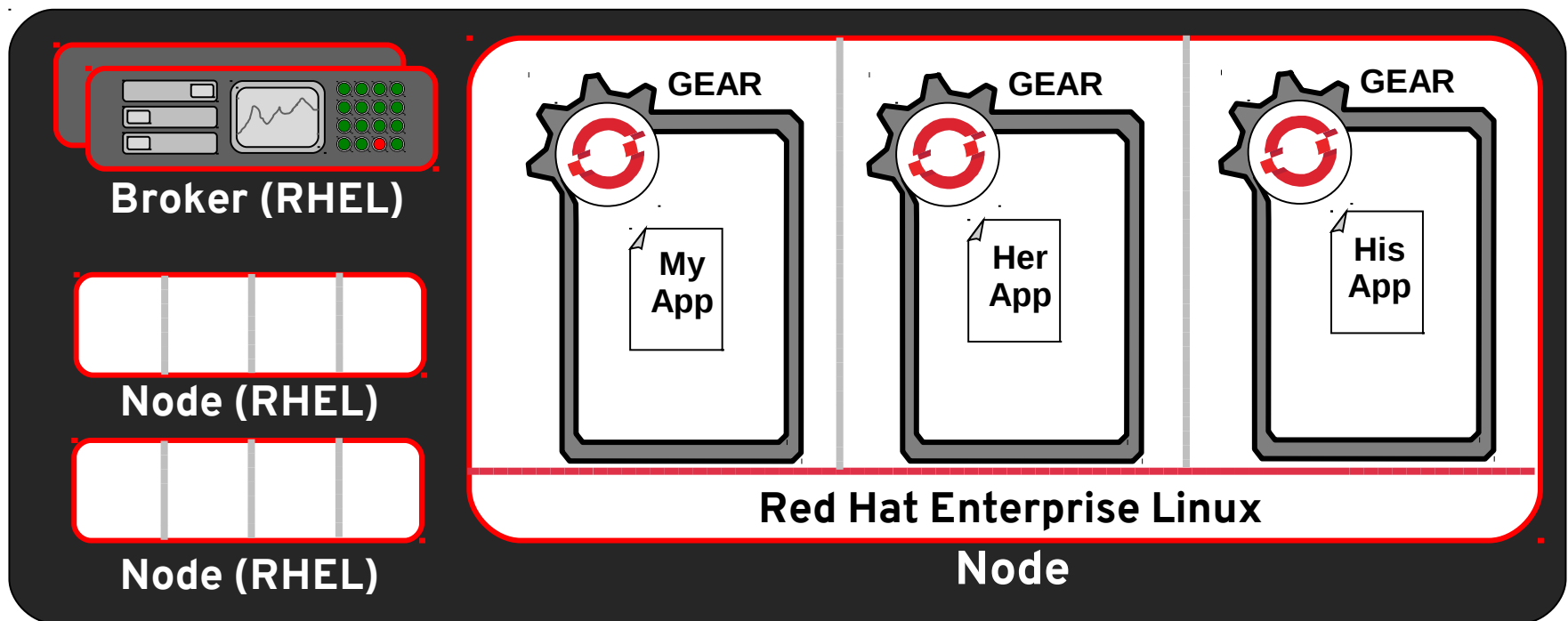
Public - Hybrid - Private - Virtualization - Bare Metal

## A NODE IS AN INSTANCE OF RHEL



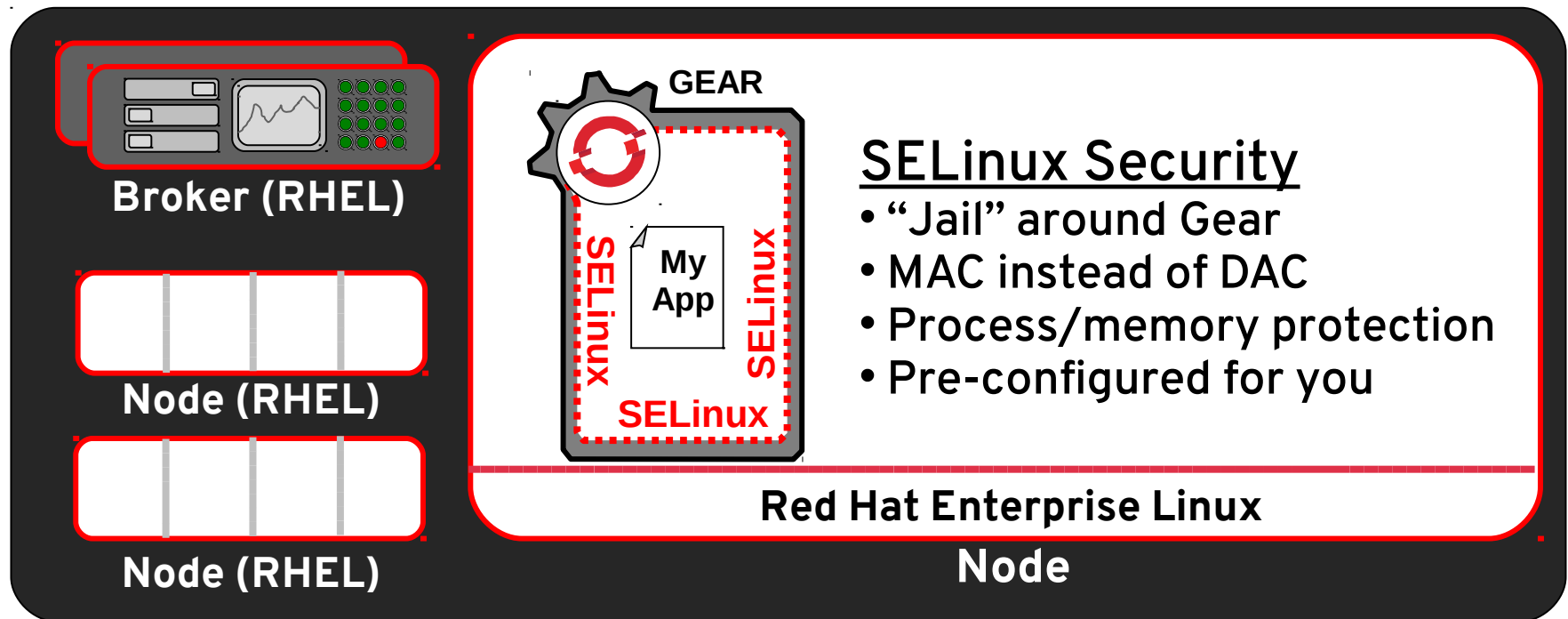
Public - Hybrid - Private - Virtualization - Bare Metal

## OPENSIFT USER APPLICATIONS RUNS IN CONTAINERS CALLED GEARS



Public - Hybrid - Private - Virtualization - Bare Metal

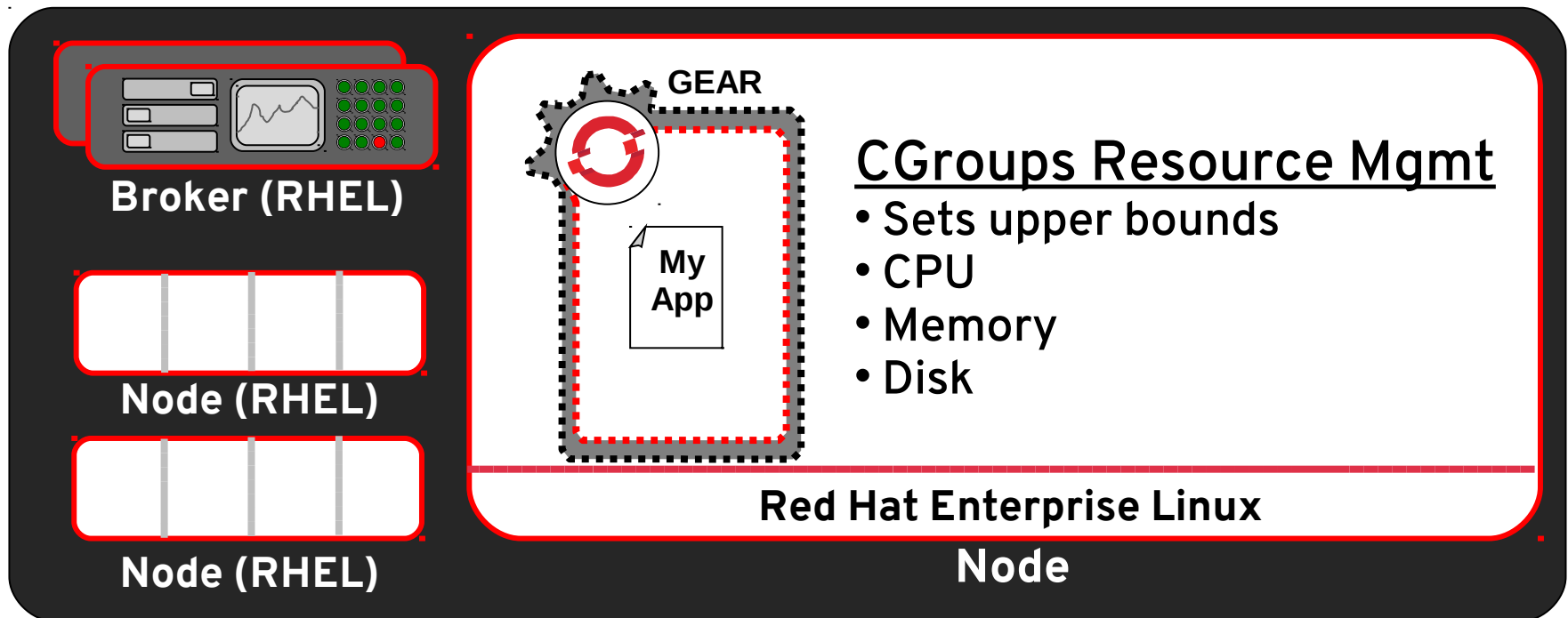
## GEARS USE SELINUX FOR PRE-CONFIGURED, NSA-GRADE SECURITY



Public - Hybrid - Private - Virtualization - Bare Metal

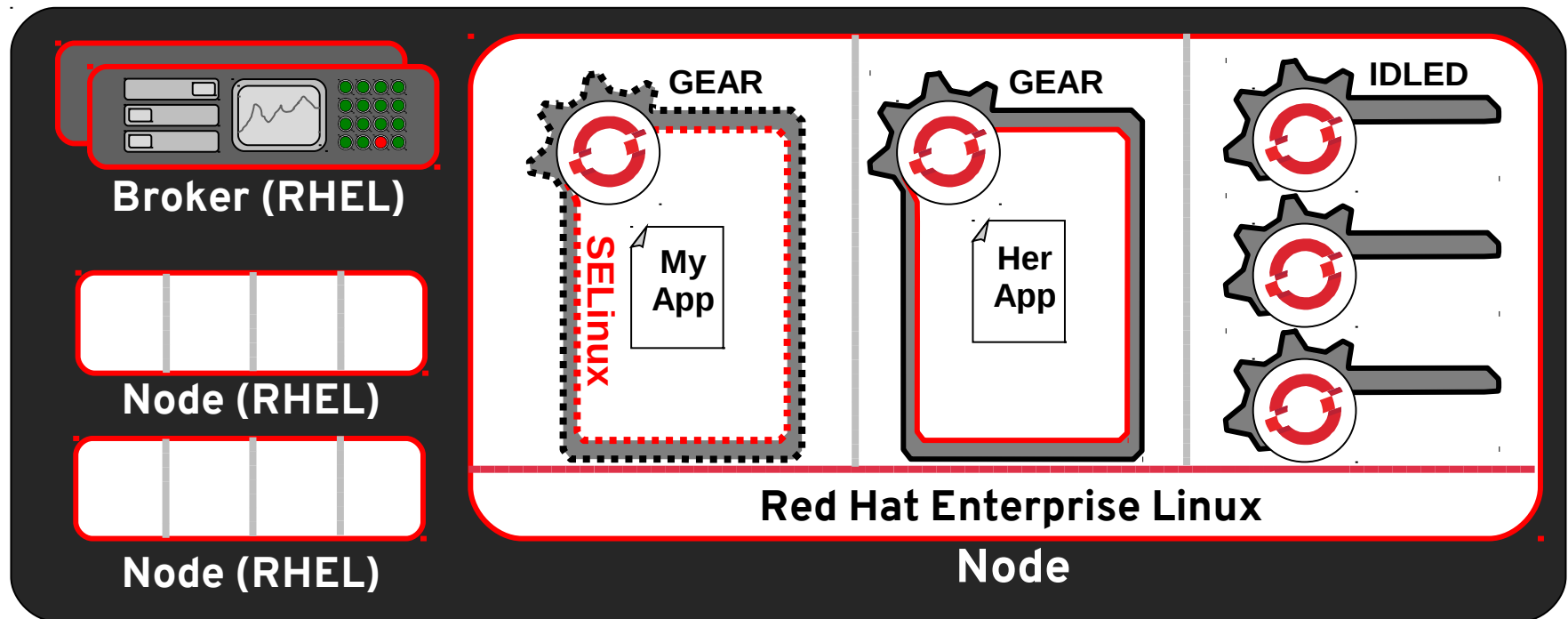


## GEARS USE LINUX CGROUPS FOR RESOURCE MANAGEMENT



Public - Hybrid - Private - Virtualization - Bare Metal

## IDLE GEARS CAN BE “DE-HYDRATED” BY THE OPENSIFT BROKER



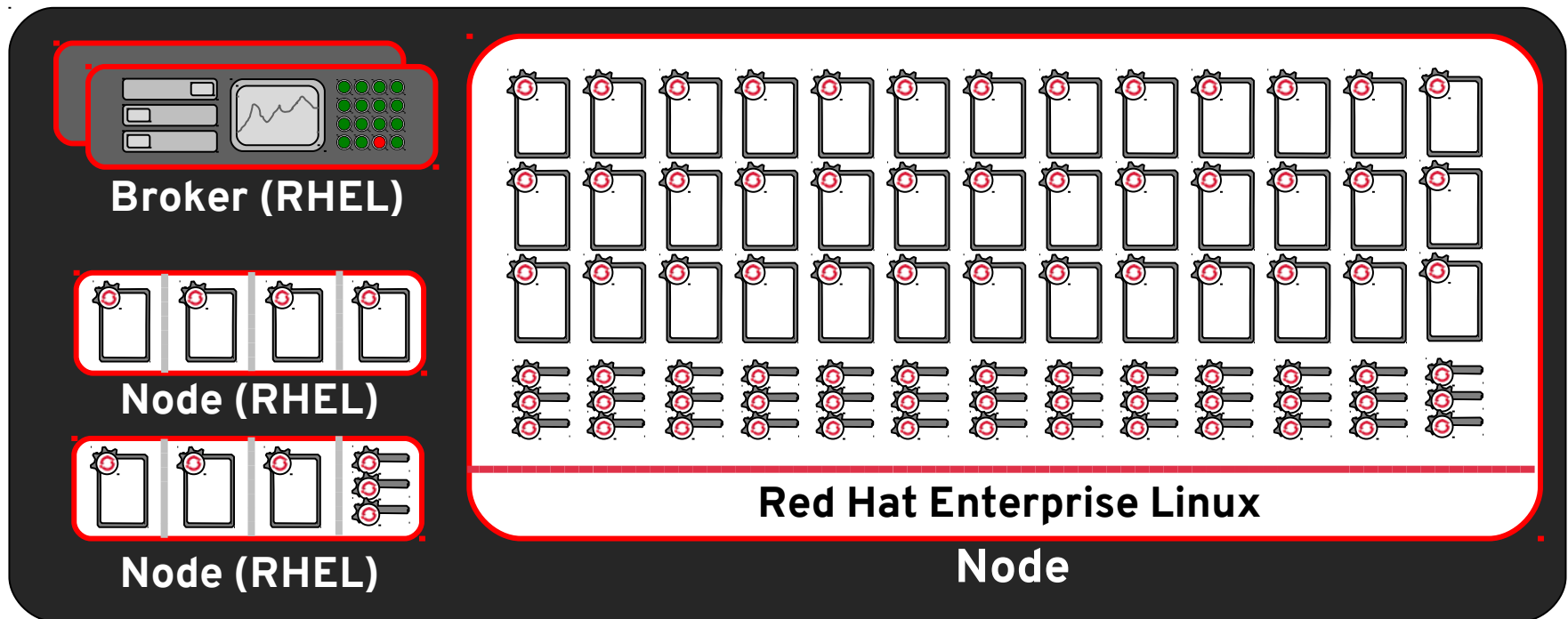
Public - Hybrid - Private - Virtualization - Bare Metal



# OPENSIFT<sup>®</sup>

by Red Hat<sup>®</sup>

## OPENSIFT MULTI-TENANCY PROVIDES DENSITY, EFFICIENCY, AND SECURITY



Public - Hybrid - Private - Virtualization - Bare Metal



# STREAMLINING DEVELOPMENT WITH OPENSIFT

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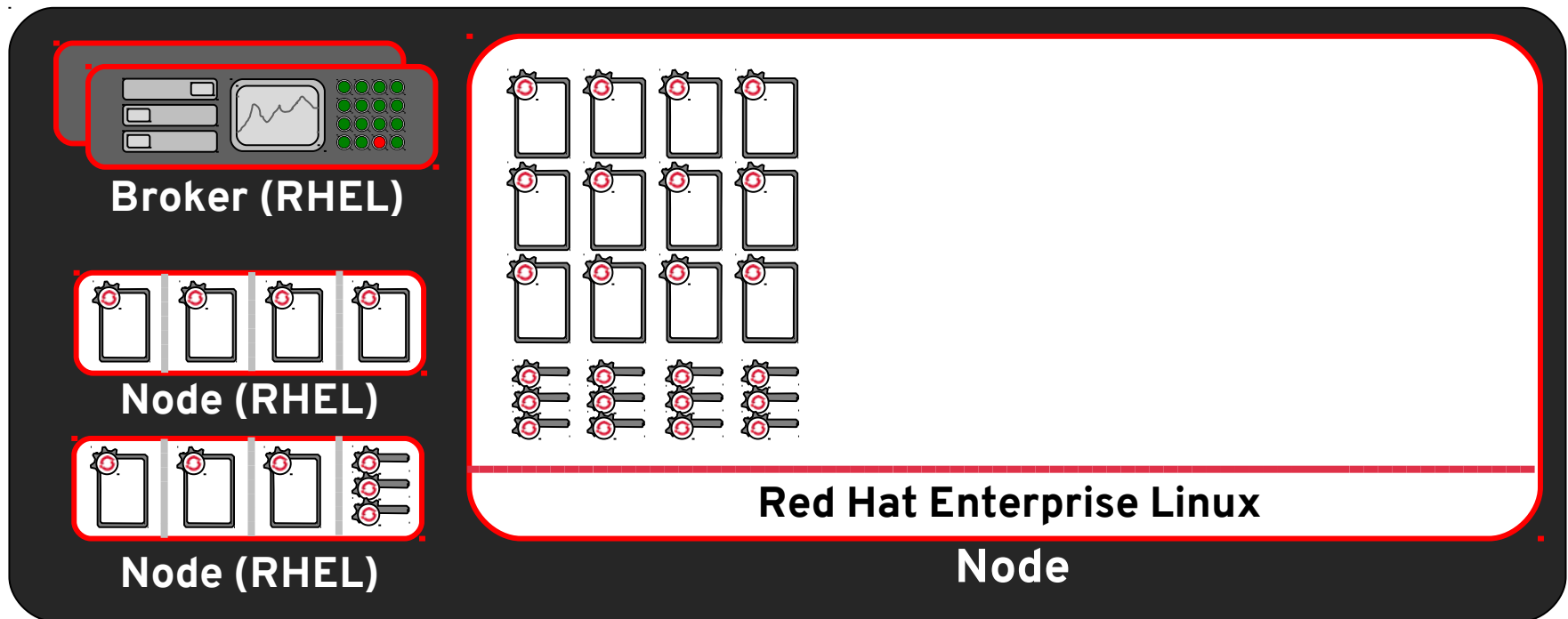
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# DEVELOPER WORKFLOW



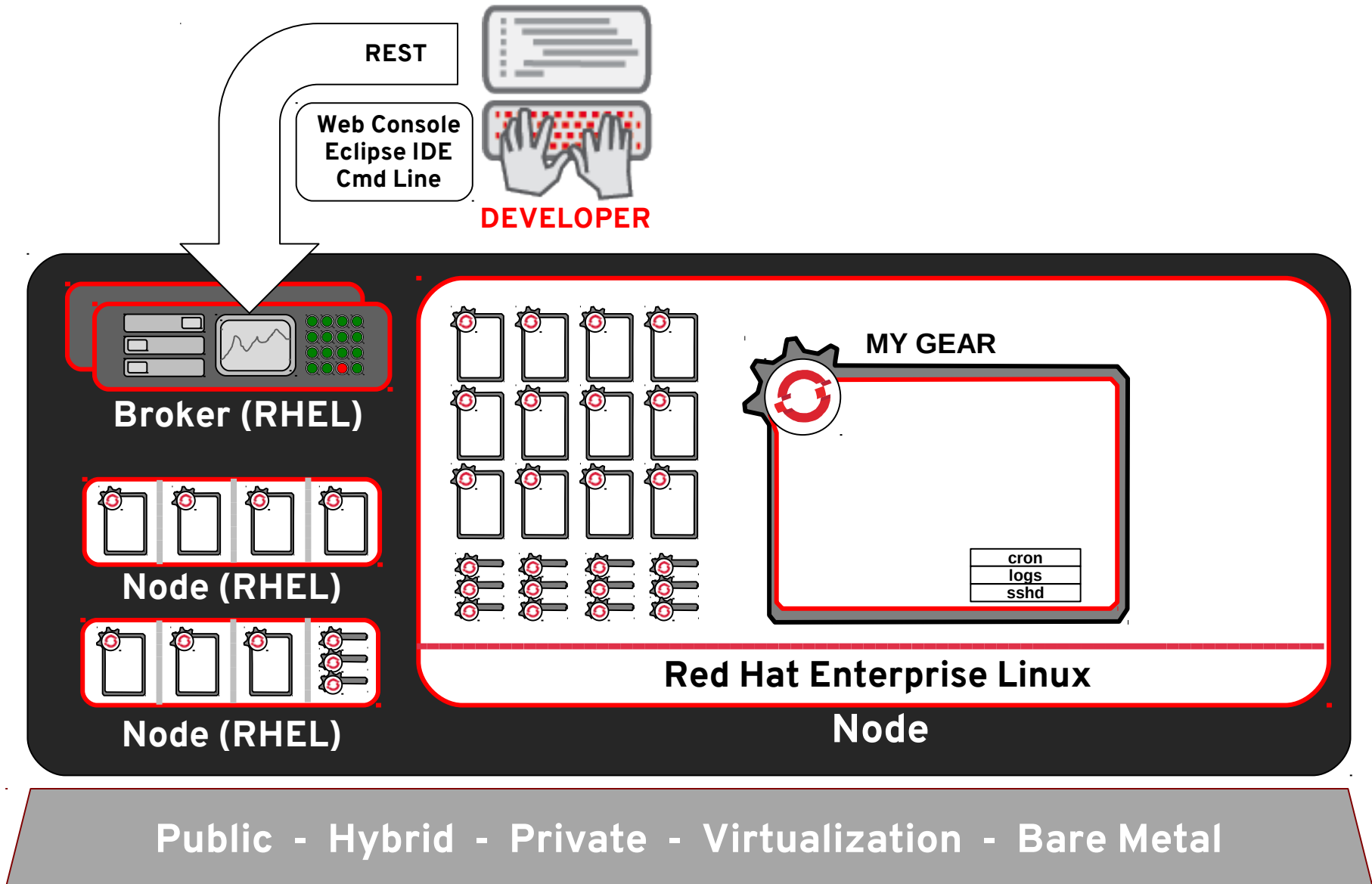
**DEVELOPER**

A developer has a new idea for an application. First, they need to create a new gear in OpenShift...



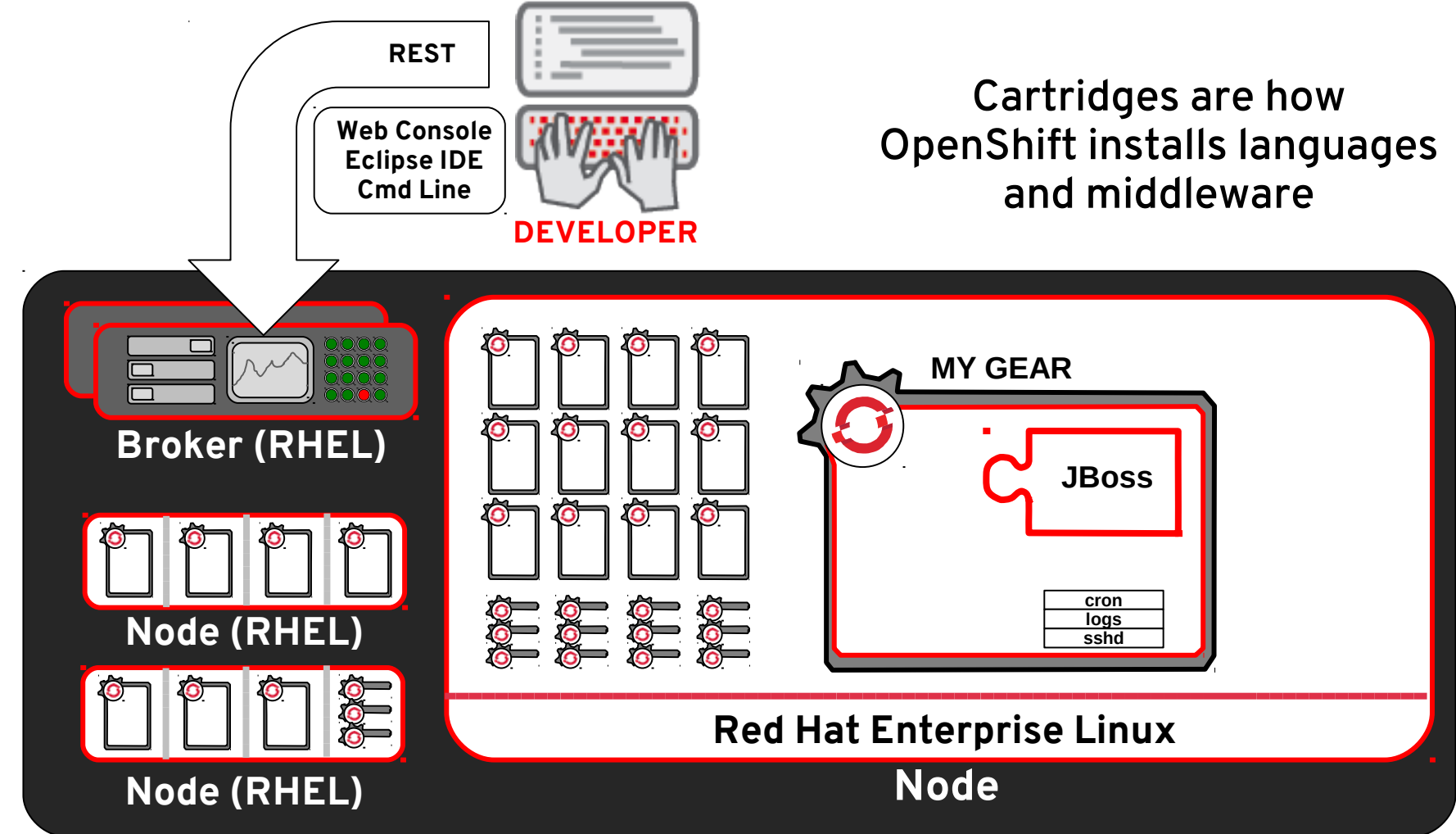
Public - Hybrid - Private - Virtualization - Bare Metal

# GEAR CREATION (WEB, CLI, ECLIPSE)



Public - Hybrid - Private - Virtualization - Bare Metal

# OPENSIFT AUTOMATES GEAR CONFIGURATION VIA CARTRIDGES

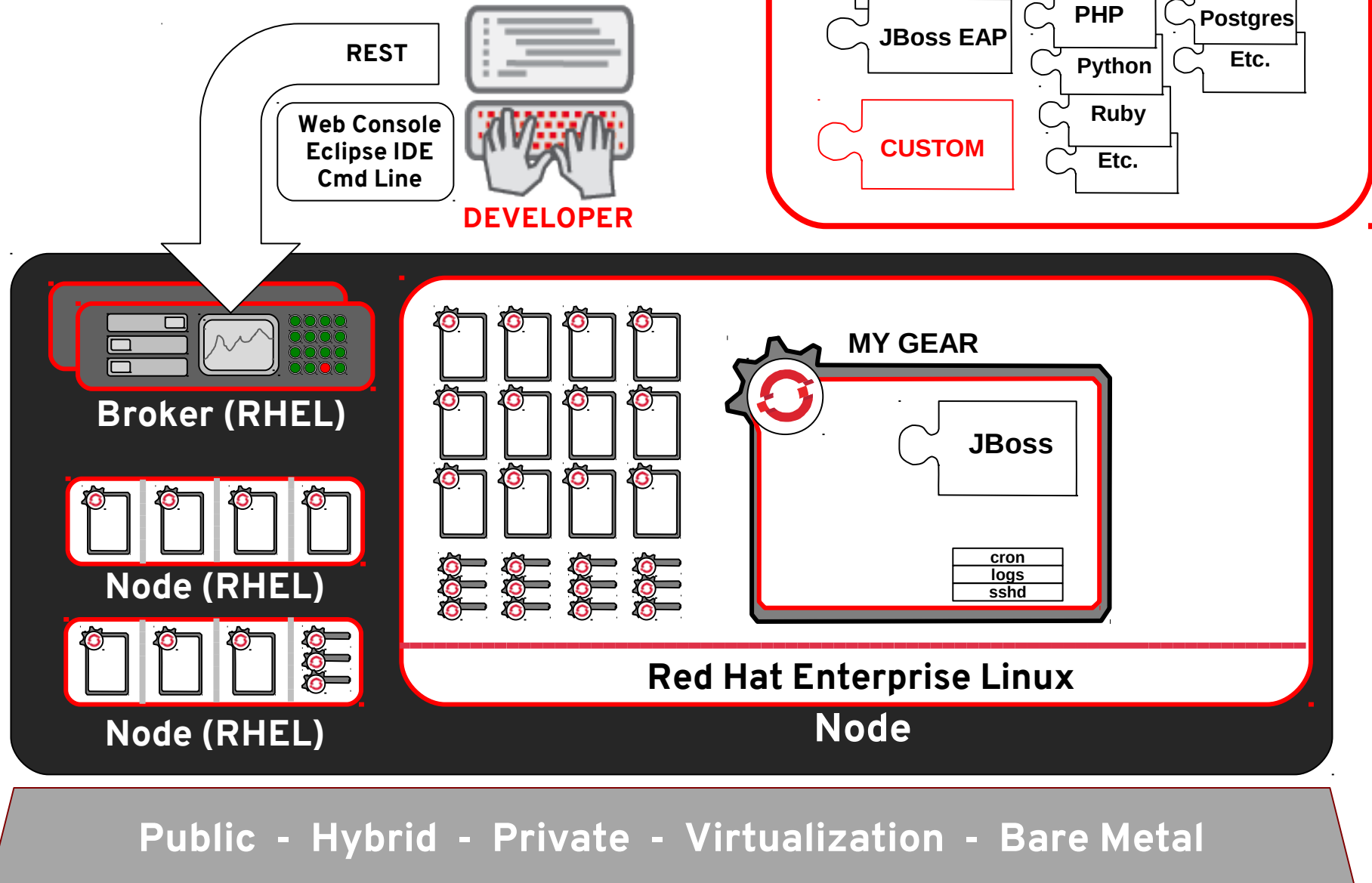


Cartridges are how OpenShift installs languages and middleware

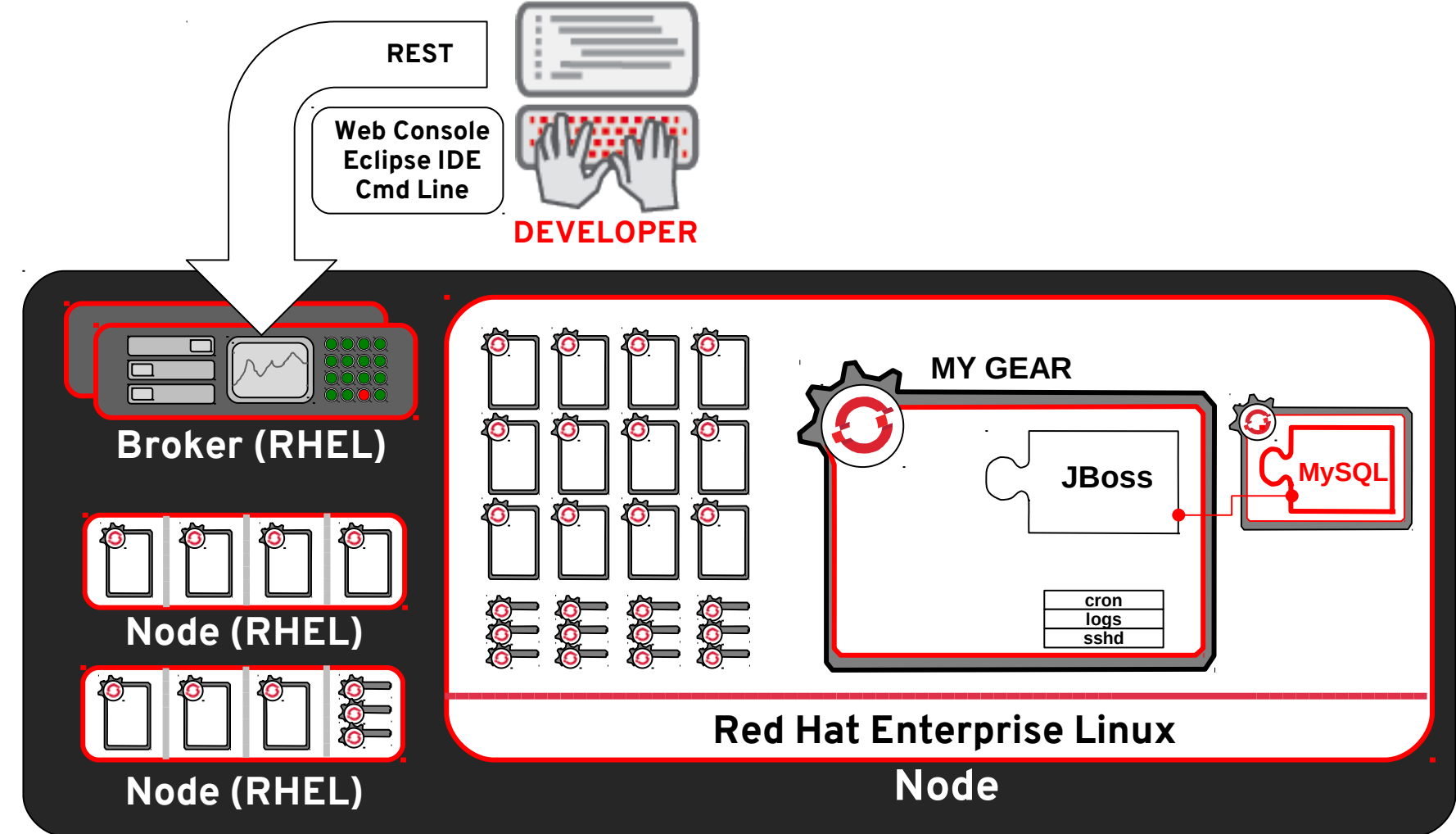
Public - Hybrid - Private - Virtualization - Bare Metal



# CARTRIDGE TYPES

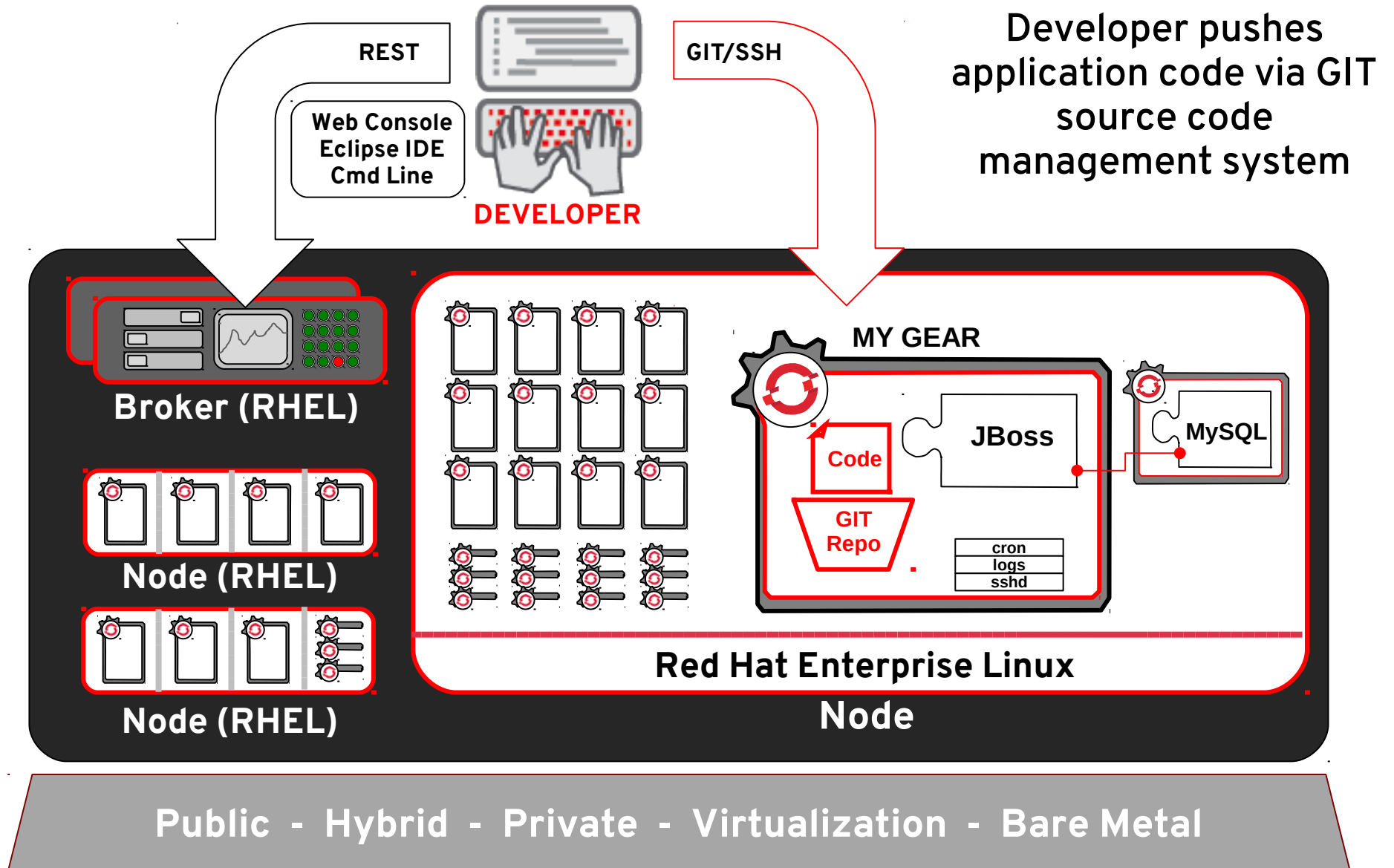


# OPENSIFT AUTOMATES GEAR CONFIGURATION VIA CARTRIDGES

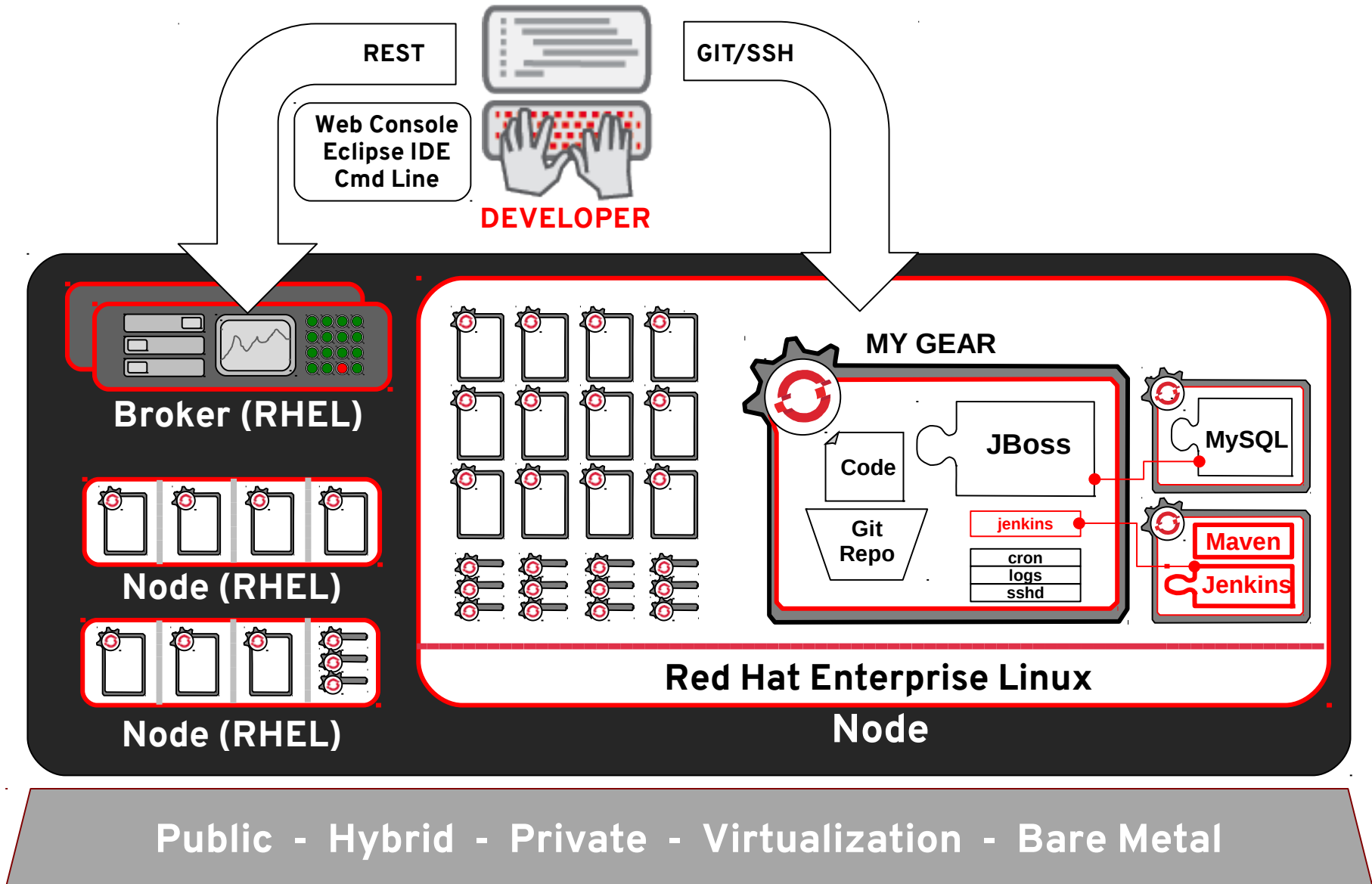


Public - Hybrid - Private - Virtualization - Bare Metal

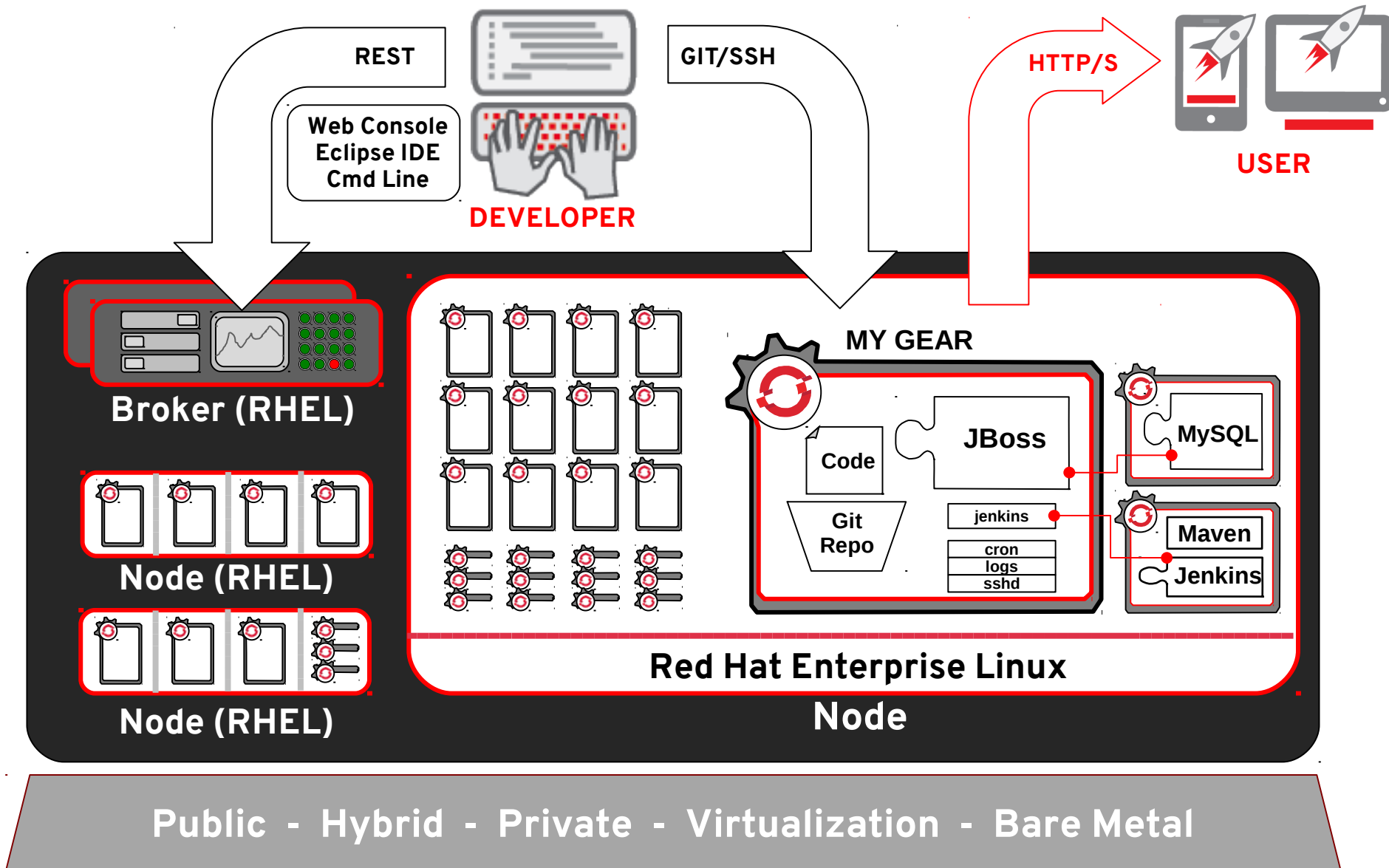
# NOW, CODE AND PUSH



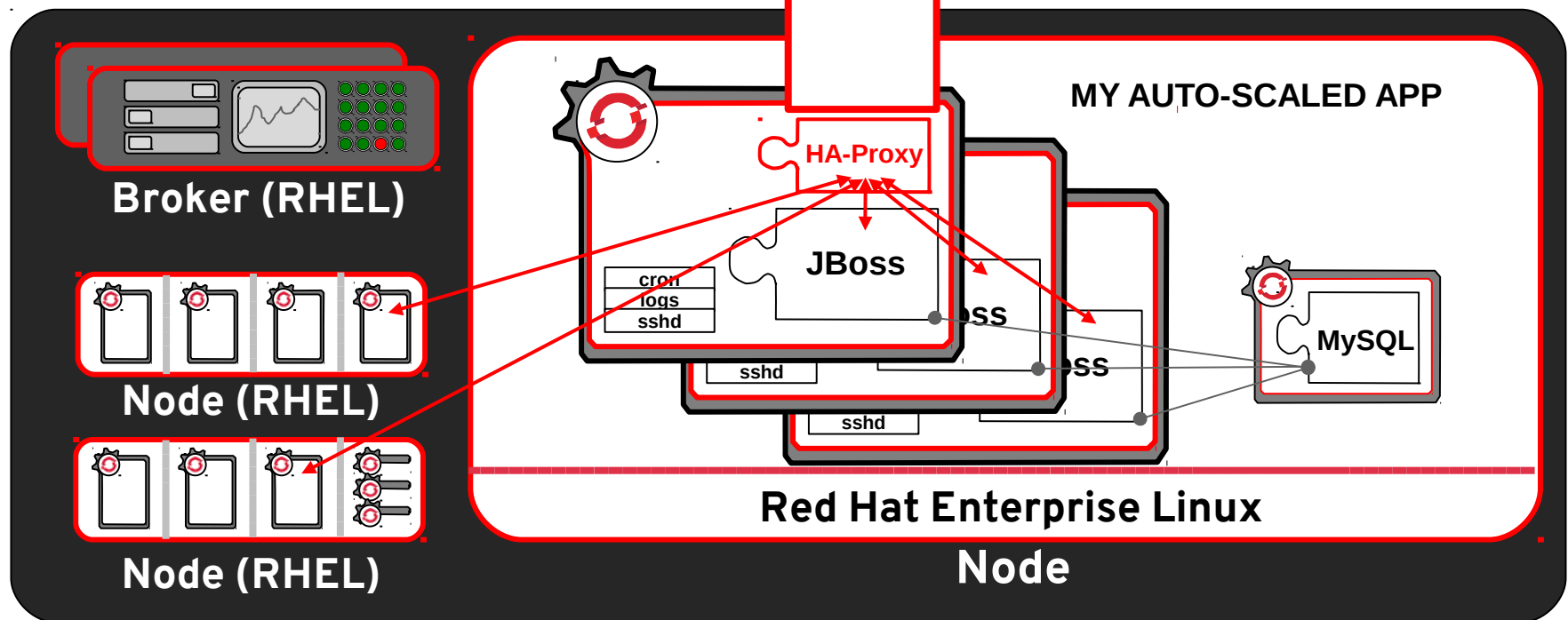
# OPENSIFT CAN AUTOMATED BUILD AND TEST WITH MAVEN AND JENKINS FOR CI



# HTTP(S) SERVED FROM GEARS



# OPENSIFT AUTOMATES APPLICATION SCALING



Public - Hybrid - Private - Virtualization - Bare Metal

# STREAMLINING DEVELOPMENT WITH PAAS



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## WITH PAAS

1. Have Idea
2. Get Budget
3. Code
4. Test
5. Launch
6. Automatically Scale

CRAFTWORK

ASSEMBLY LINE



**OPENSIFT**

# JOURNEY TO THE CLOUD

Deliver more,  
quicker, and with  
less



Improve  
consistency and  
quality of solutions



**BUSINESS**

Self-service  
provisioning



Accelerated  
development



**DEVELOPMENT**

Improved resource  
utilization with  
deployment density



Automated  
scaling



Enterprise-grade  
security



**I.T. OPERATIONS**



# PAYPAL ON OPENSIFT ENTERPRISE

"Our motto is enable and get out of the way"

"With OpenShift we've built a push-button developer stack"

"In minutes we have you up and running in a fully connected container and you are developing"



[Technologies](#)[Services & support](#)[Success stories](#)[About Red Hat](#)

## PRESS RELEASE

# OpenShift by Red Hat Named InfoWorld Technology of the Year Award Winner

## Red Hat's Platform-as-a-Service offering recognized as one of the year's best tools and technologies for developers, IT professionals, and businesses

### IN SHORT

OpenShift was the only PaaS offering – and one of the only open source offerings – to receive the award, emerging as the top PaaS offering in InfoWorld's testing.

### MENTIONED IN THIS ARTICLE

OpenShift by Red Hat

**RALEIGH, N.C. – January 29, 2015** – Red Hat, Inc. (NYSE: RHT), the world's leading provider of open source solutions, today announced that OpenShift by Red Hat, the company's Platform-as-a-Service (PaaS) offering, has received [InfoWorld's 2015 Technology of the Year award](#). The annual awards identify the best and most innovative products in the IT landscape, selected by IDG's InfoWorld Test Center editors and reviewers. Winners are drawn from all of the products tested by InfoWorld during the past year. OpenShift was the only PaaS offering – and one of the only open source offerings – to receive the award, emerging as the top PaaS offering in InfoWorld's testing. InfoWorld lauded OpenShift for its ability to support high application densities and standard continuous integration.

Red Hat is among the only technology vendors to offer a full family of open PaaS solutions: OpenShift Origin, the open source PaaS project; OpenShift Online, a commercial public PaaS offering; and OpenShift Enterprise, an on-premise private PaaS product. OpenShift delivers to developers a cloud application platform with a choice of programming languages, frameworks and application lifecycle tools to build and run their applications. The platform provides built-in support for Node.js, Ruby, Python, PHP, Perl, and Java and the capability for developers to add their own languages. OpenShift also supports many popular frameworks, including Java EE, Spring, Play and Rails.

# OPENSIFT 3 - COMING IN 2015

