

Red Hat

Rhys Powell

Managed Openshift Black Belt
Red Hat

Red Hat
Summit

Hybrid Cloud: How managed services can deliver cloud success

And help clean up your on prem



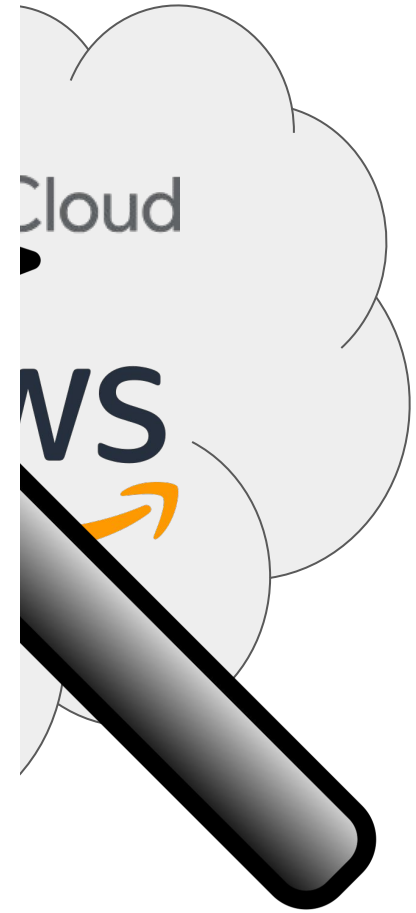
Rhys Powell

Managed Openshift Black Belt

MOBB

Managed Services, DC Cleanup, what?

- ▶ Value
- ▶ Team
- ▶ Heavy lifting
- ▶ Focus
- ▶ Support
- ▶ Familiar





Why Use Amazon Web Services?

Battle-Tested Web Services

Amazon has spent 11 years and over \$2 billion building the infrastructure, technical knowledge, and operational excellence to operate a world class web-scale computing platform. Amazon Web Services has now released a variety of web services (programmatically access to its open APIs) that enable developers to leverage Amazon's data and robust infrastructure, easily and inexpensively. These fundamental services allow external developers and businesses to build their web applications in a reliable, scalable, and cost-effective manner.

Web-Scale Computing

Amazon Web Services (AWS) provides customers the opportunity to replace existing infrastructure and scale up or down based on resource demands. This flexibility allows you to run your business at "web-scale"--uninhibited by growth in the number of geographic markets. On average, businesses spend 70% of their time building and maintaining and worrying about infrastructure, and 30% of their time focused on the ideas that will propel their business forward. Web-scale computing is helping to invert the 70/30 ratio, enabling you to spend your energy creating the difference that will make your business successful.

Web-scale computing characteristics:

- Elastic capacity both up and down
- Fast response time
- 24/7 availability
- Rock solid reliability

Only Pay For What You Use

With AWS offerings, you only pay for what you use. You dynamically scale your system up and down, depending on your immediate requirements and only pay for resources when you need them. This means there are no upfront costs, so your developers can get started using web services without huge investment. Developers don't need to give up equity or incur huge capital expenses, because costs scale along with usage.

Focus on the Idea

Free up your most valuable resource: time. Don't spend time worrying about scaling data centers, buying hardware, negotiating lease contracts, dealing with downed servers, or backing-up customer data. Amazon Web Services takes care of those issues and does the "heavy lifting". Shifting the focus from managing infrastructure to driving your business allows you to concentrate on what matters. This business approach also levels the playing field so everyone can now compete on ideas, not resources.

Who's Using AWS?

A growing community of 200,000+ developers, start-ups, and Fortune 1000 companies are building robust applications using our technology. Browse through our Success Stories to learn how organizations across a variety of vertical markets are realizing the benefits of Amazon Web Services. Explore the AWS [Solutions Catalog](#) to experience the breadth of solutions that can be built with our services.

How Can I Get Started?

- 1) Create an Amazon Web Services account** to receive our monthly newsletter and free access to Amazon E-Commerce Service.
- 2) Browse our offerings** to learn about the benefits of services that provide everything from the storage and computing power of Amazon Simple Storage Service and Amazon Elastic Compute Cloud (beta), to Amazon Mechanical Turk's innovative new marketplace.
- 3) Sign up for individual services** by clicking the **Sign Up for Web Service** button on the relevant service detail page.
- 4) Start building!** Explore the Amazon Web Services [Developer Connection](#) to access our Developer Forums, Resource Center, and to learn about co-marketing opportunities.

[Jobs](#)

Learn About Amazon Web Services

- [AWS Home](#)
- [Why Use AWS?](#)
- [What's New in AWS?](#)
- [Upcoming Events](#)
- [Success Stories](#)
- [Solutions Catalog](#)
- [Create an Account](#)
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Browse Web Services

- [Amazon E-Commerce Service](#)
- [Amazon Elastic Compute Cloud \(Beta\)](#)
- [Amazon Flexible Payments Service \(Beta\)](#)
- [Amazon Mechanical Turk \(Beta\)](#)
- [Amazon Simple Storage Service](#)
- [Amazon Simple Queue Service](#)
- [Alexa Web Services](#)

[Browse All Web Services](#)

Developer Connection

- [Resource Center](#)
- [Forums](#)
- [Blog](#)
- [Newsletter](#)
- [User Groups](#)

[Your Web Services Account](#)

Sign-up Today!

Reasons to Sign-up for AWS:

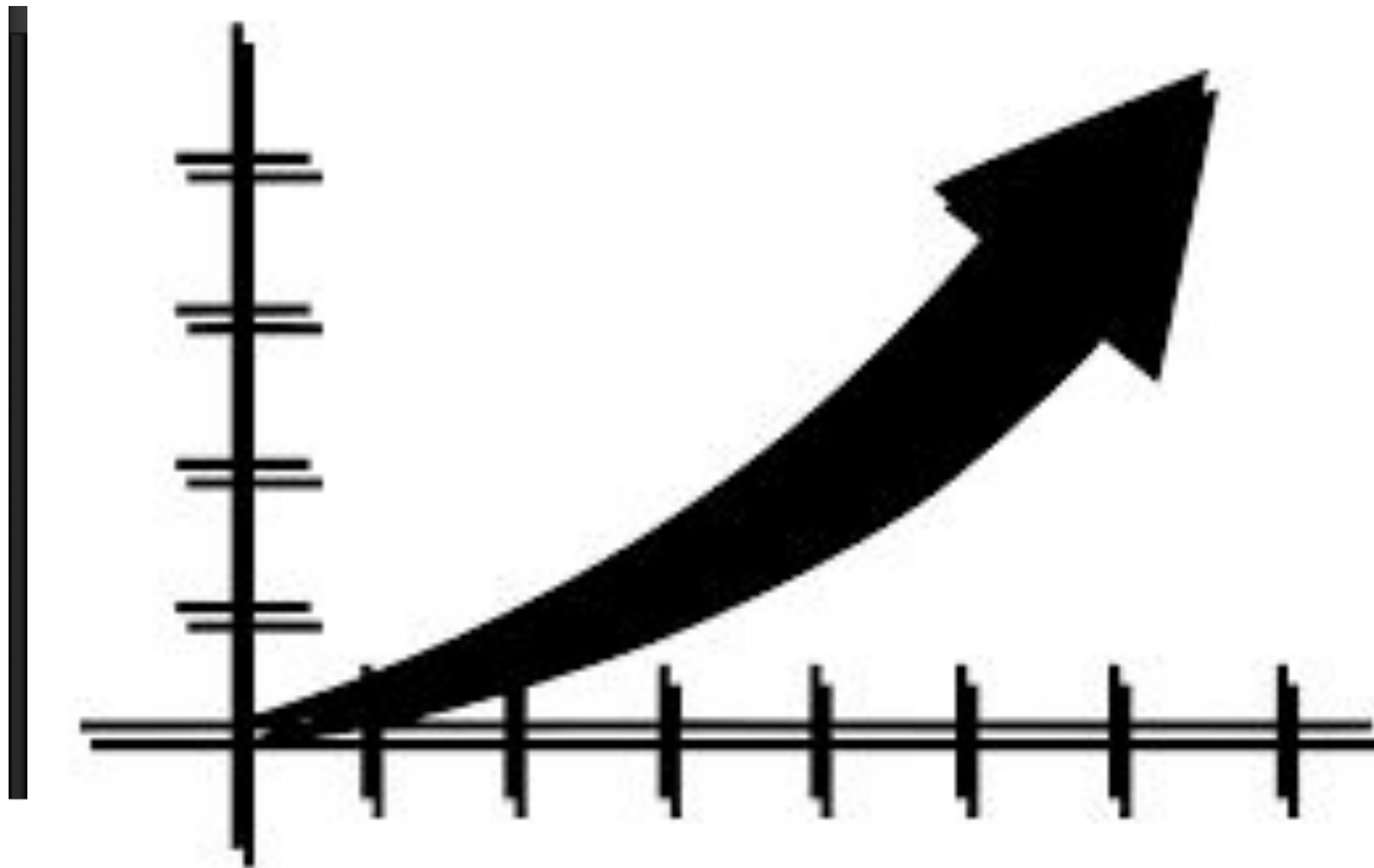
- Access several Amazon Web Services for FREE.
- Receive FREE newsletters about AWS.
- Join an innovative developer community
- Learn to build new solutions and applications to make money.

[Click here to Sign-Up.](#)

Source:

[Wayback machine](#)





Cloud computing boosts gross margins and profitability (Source: Wipro FullStride)

73% believe cloud technology has made IT more complex (Source: Fujitsu)

Migrating to the cloud reduces carbon emissions by 84% (Source: Accenture)

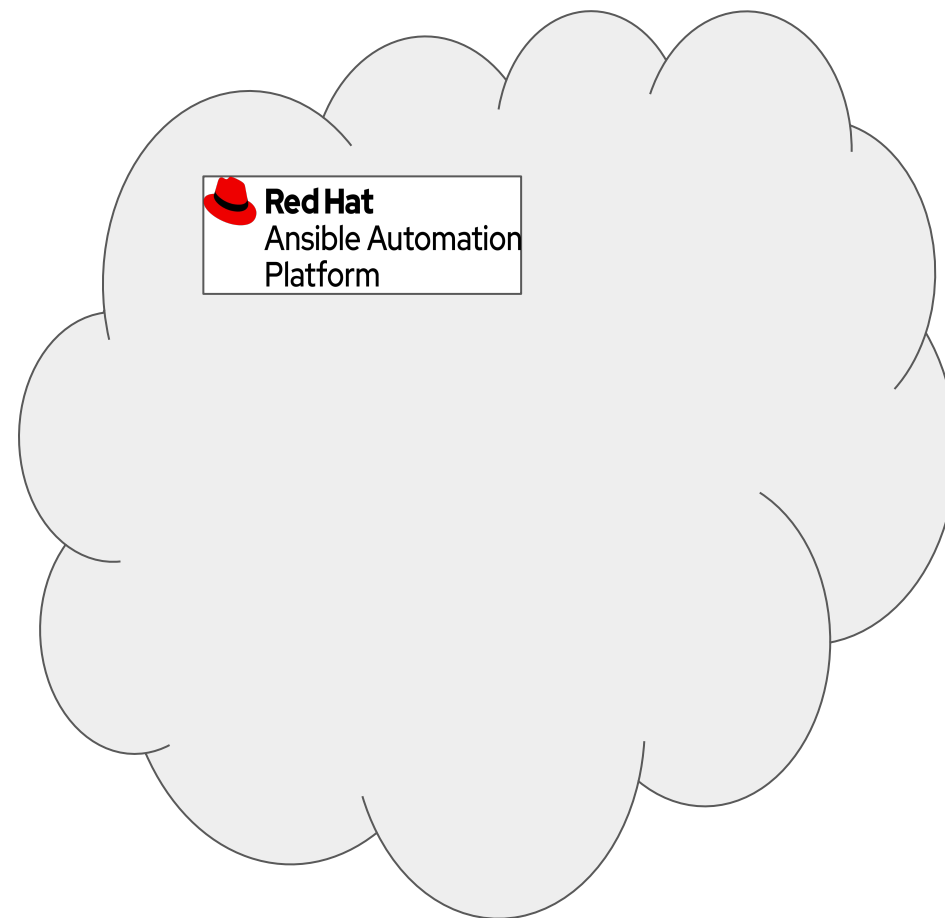
Cloud computing generates more revenue (Source: Infosys)

Cloud computing is helping organizations to manage for organizations (BetterCloud)

Cloud computing improves security (Source: Oracle)

Achieve faster time to market (Source: IBM)

Configuration is easier for 68% of users (Source: Fortinet)



Red Hat Ansible Automation Platform on Azure Marketplace

Automation from your Azure cloud to on-premises, edge, and IT resources

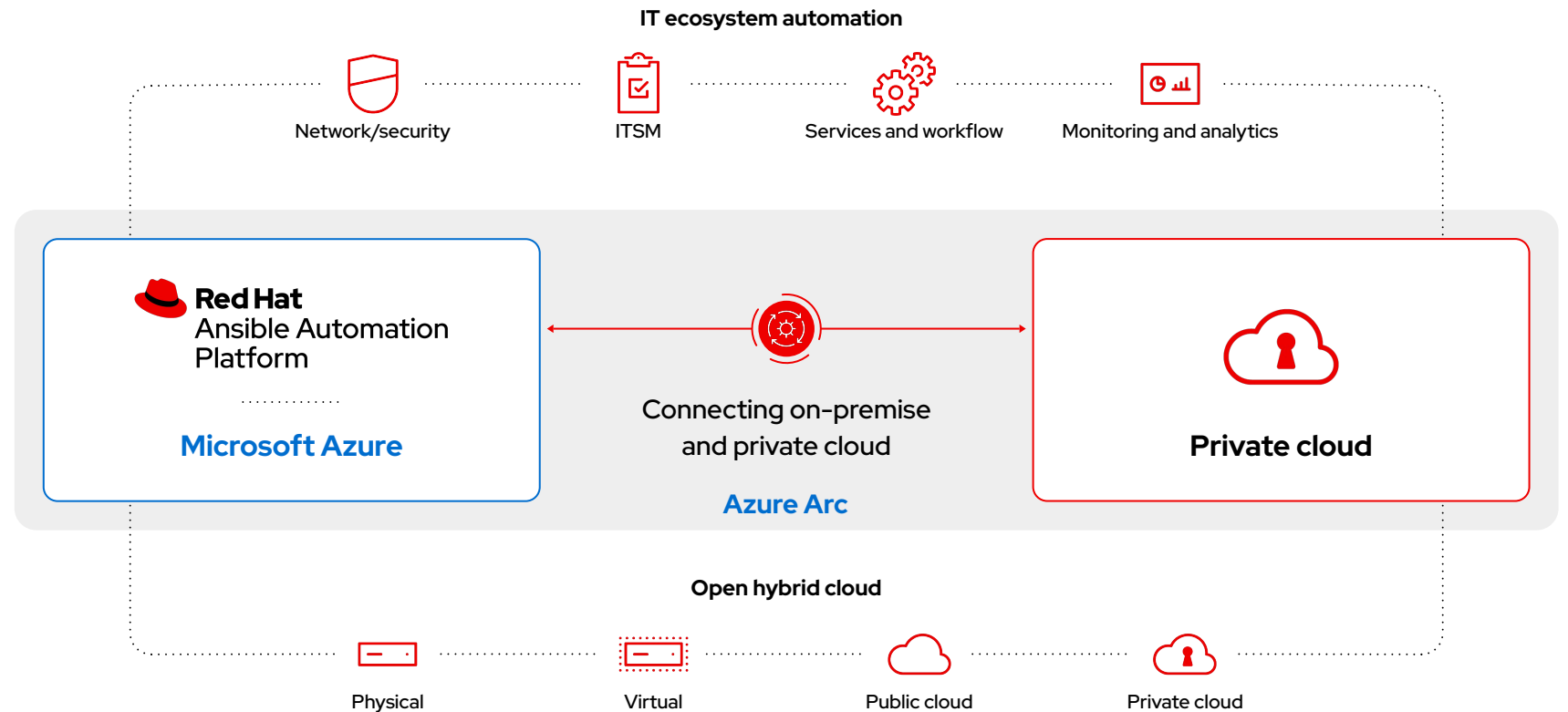
 **Runs in your Azure cloud**

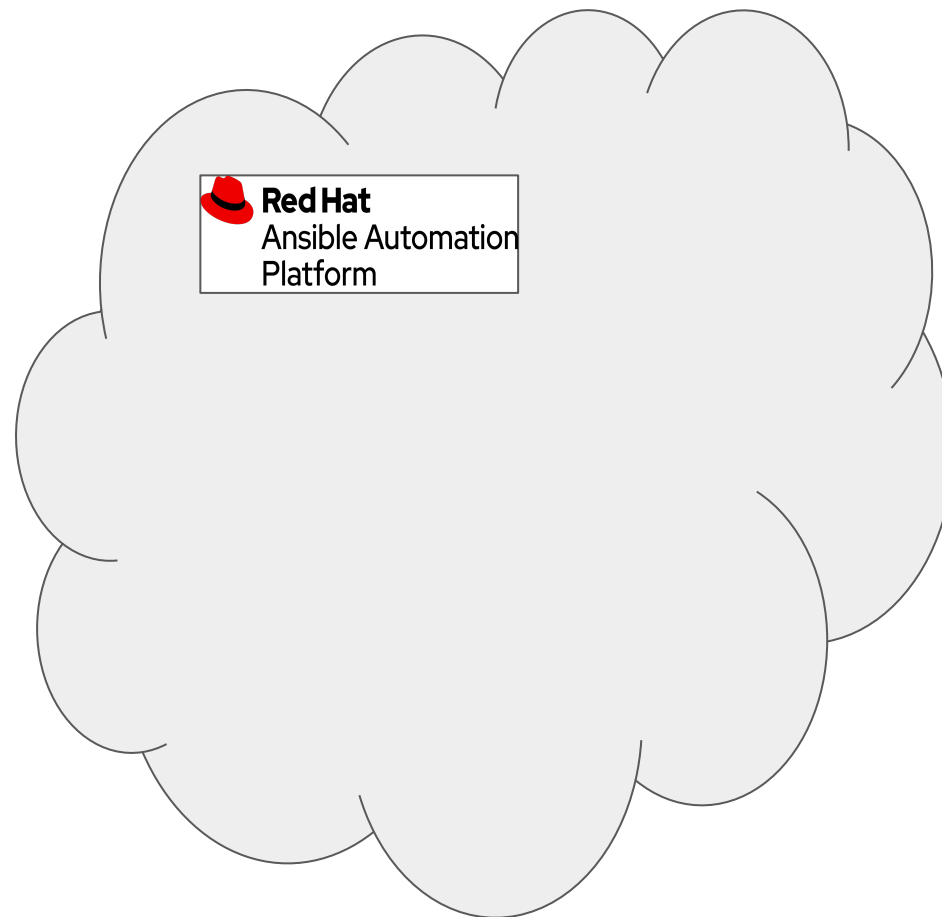
 **Fully installed and integrated**

 **Fully supported by Red Hat**

 **Integrated to Microsoft Azure billing**

 **Counts toward spend agreements**





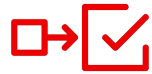
Red Hat OpenShift cloud services

A turnkey application platform with management and support from Red Hat and leading cloud providers



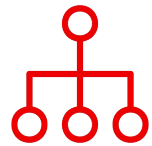
Accelerate time to value

Quickly build, deploy, and run applications that scale as needed.



Operational efficiency

Enhance operational consistency, efficiency and security with proactive management and support.



Focus on innovation

Simplify operations so your teams can refocus on innovation, not managing infrastructure.



Hybrid cloud flexibility

Deliver a consistent experience on premises and in the cloud.

Red Hat OpenShift

Administrator

Overview

Cluster

Getting started resources

- Build with guided documentation
- Monitor your sample application
- Get started with Quarkus using a Helm Chart

View all quick starts

Details

- Cluster API address: https://api.crc.testing:6443
- Cluster ID: 9f4e016d-723f-480c-8975-a98fcae56444
- OpenShift Cluster Manager
- Infrastructure provider: Libvirt
- OpenShift version: 4.13.14
- Update cluster
- Service Level Agreement (SLA): Unknown
- Manage subscription settings
- Update channel: stable-4.13

Red Hat OpenShift Service on AWS

Administrator

Overview

Cluster

Details

- Cluster API address: https://api.rhys-test.911z.p1.openshiftapps.com:6443
- Cluster ID: b487630f-a0bc-4f12-8a14-f8aa1287eb33
- OpenShift Cluster Manager
- Infrastructure provider: AWS
- OpenShift version: 4.12.39
- Service Level Agreement (SLA): Premium
- Manage subscription settings
- Update channel: stable-4.12

Cluster Inventory

- 7 Nodes
- 314 Pods
- 4 StorageClasses
- 4 PersistentVolumeClaims

Red Hat OpenShift

Administrator

Overview

Cluster

Getting started resources

- Set up your cluster
- Finish setting up your cluster with recommended configurations.
- Add identity providers
- Configure alert receivers

View all steps in documentation

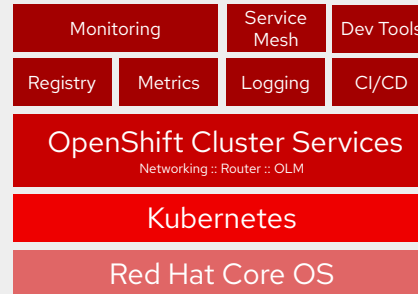
Details

- Cluster API address: https://api.ploe7afye0bfd7a06b.uksouth.aroapp.io:6443
- Cluster ID: d324ec7-de7f-47b8-8b6d-39b42e3a4673
- Infrastructure provider: Azure
- OpenShift version: 4.12.2F
- Update channel: Not available

The same system but with a team for your team.



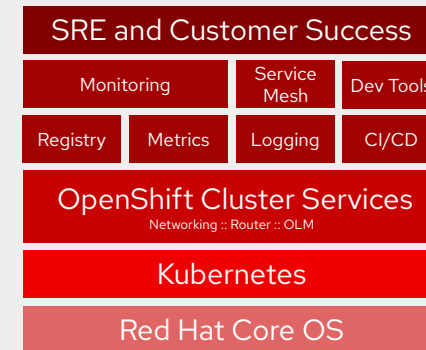
The Assembled Car



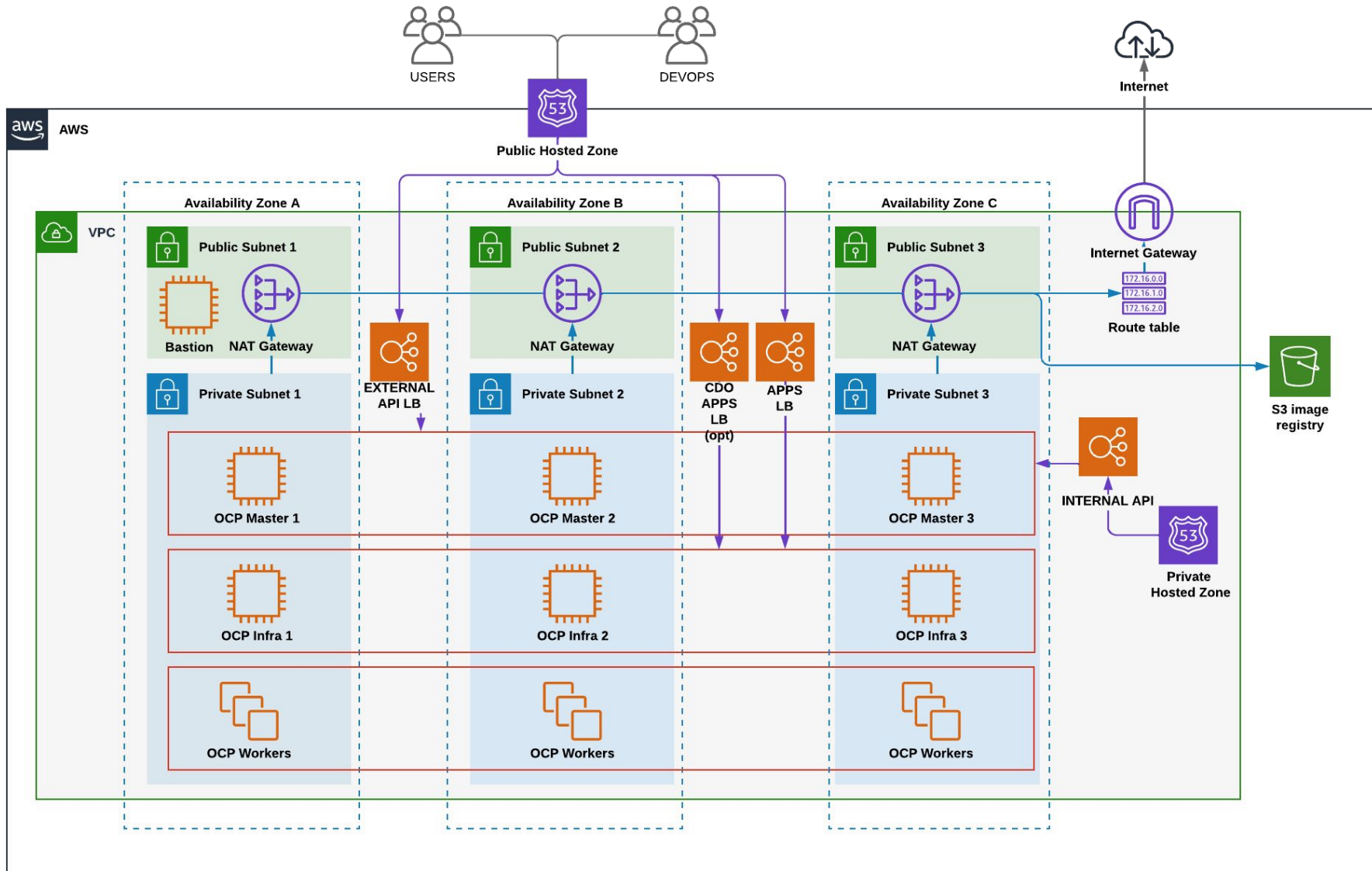
- Application Platform -
Self-managed Red Hat OpenShift

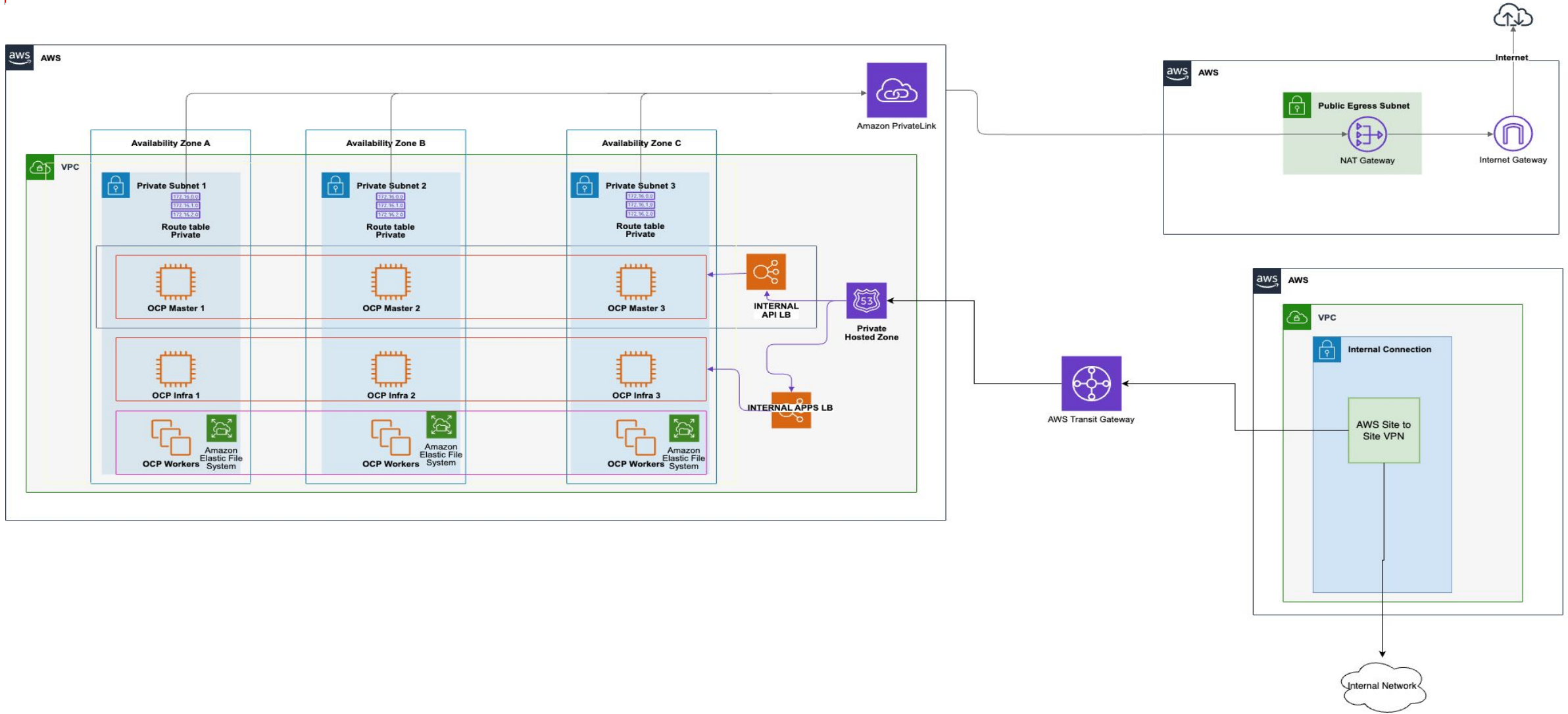


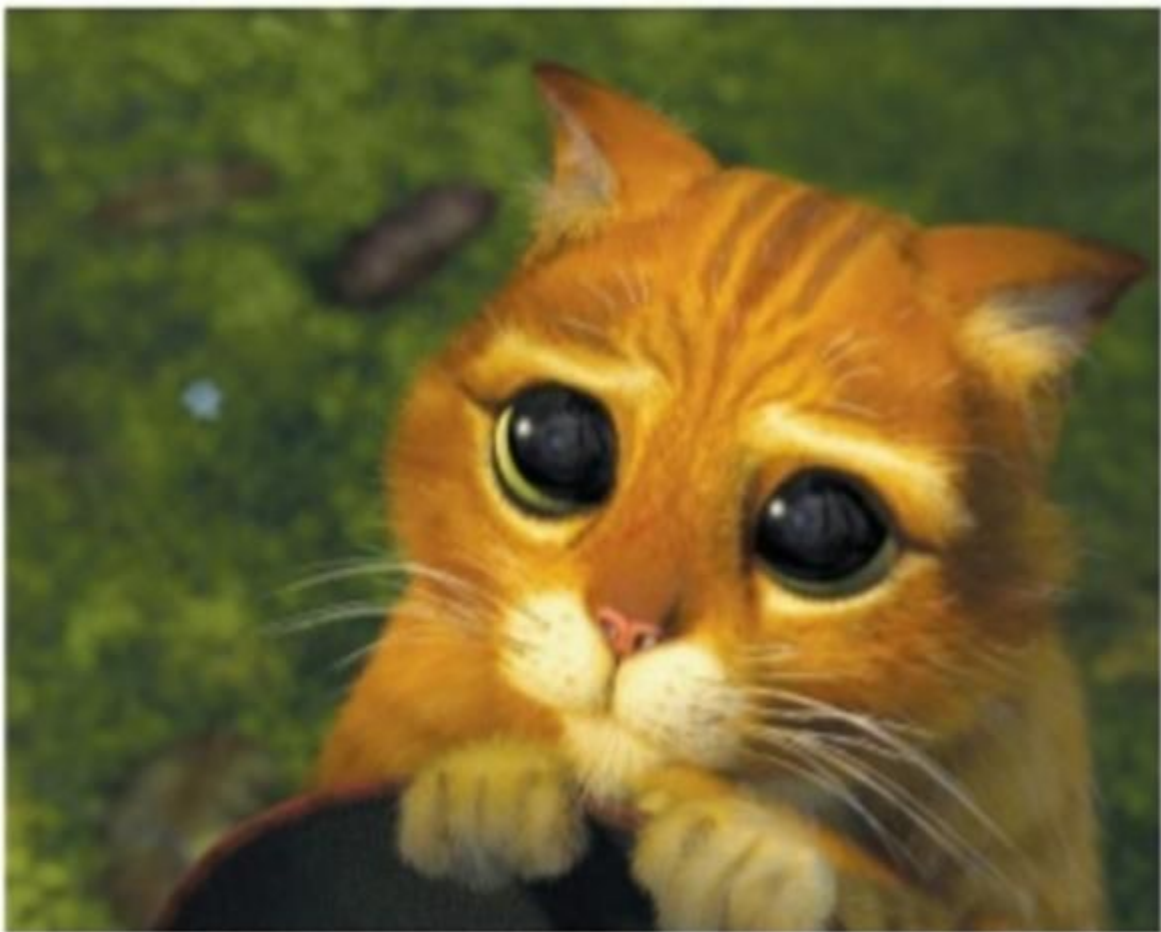
The Car & Pit Crew

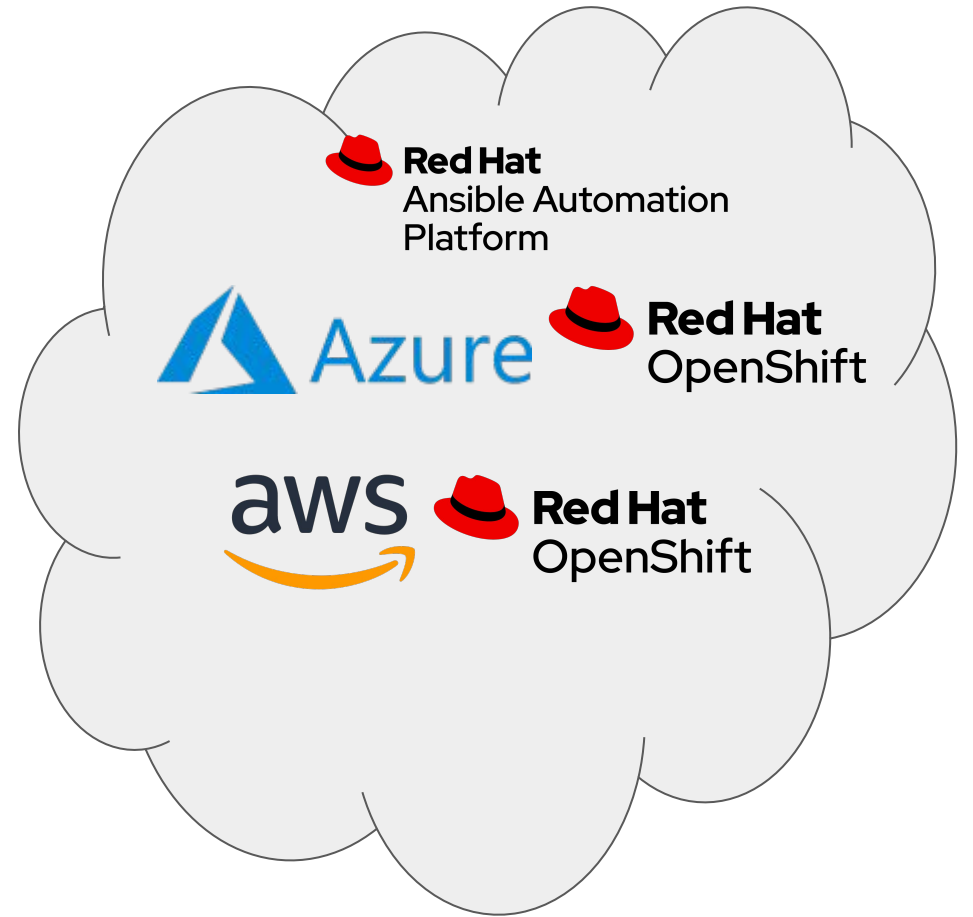
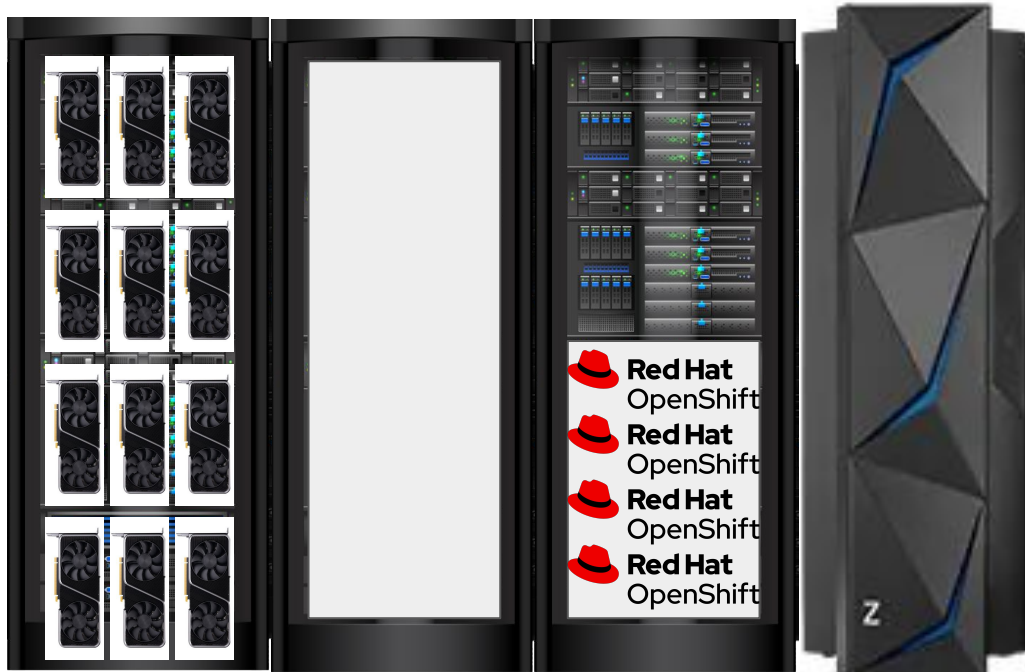


- Turnkey Application Platform -
Red Hat OpenShift cloud services









Red Hat OpenShift Dev Spaces

cluster-admin

Create Workspace

Quick Add

Import from Git











Git Repo URL * Create & Open

Import from a Git repository to create your first workspace.

Select a Sample

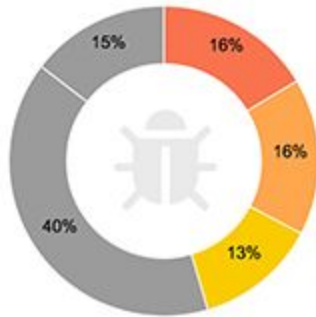
Select a sample to create your first workspace.

Filter by Temporary Storage Off ?

 Empty Workspace Start an empty remote development environment and create files or clone a git repository afterwards	 Java 11 with Lombok Java stack with OpenJDK 11, Maven 3.6 and Lombok 1.18	 QUARKUS Java 11 with Quarkus Java stack with OpenJDK 11, Maven 3.6 and Quarkus Tools	 Node.js Express Node.js stack with NPM 8, Node.js 16 and Express Web Application	 Node.js MongoDB Node.js stack with NPM 8, Node.js 16 and MongoDB 3.6
 Python	 Community Ansible	 Tech-Preview .net .NET	 Tech-Preview C++ C/C++	 Tech-Preview Go

← exmaple/nginx

99009dfc5e95



Quay Security Scanner has detected **55** vulnerabilities.

Patches are available for **15** vulnerabilities.

- 9 High-level vulnerabilities.
- 9 Medium-level vulnerabilities.
- 7 Low-level vulnerabilities.
- 22 Negligible-level vulnerabilities.
- 8 Unknown-level vulnerabilities.

Image Vulnerabilities

Filter Vulnerabilities...

Only show fixable

CVE	SEVERITY ↓	PACKAGE	CURRENT VERSION	FIXED IN VERSION	INTRODUCED IN IMAGE
CVE-2016-2108	10 / 10	openssl	1.0.1k-3+deb8u4	1.0.1k-3+deb8u5	RUN opt-key adv --keyserver hkp...
CVE-2016-3191	High	pcrc3	2:8.35-3.3+deb8u2	2:8.35-3.3+deb8u3	ADD file:b5391cb13172fb513dbfca...

Red Hat
 Advanced Cluster Security
 for Kubernetes

Dashboard
Network ▼
Violations
Compliance
Vulnerability Management (2.0) >
Vulnerability Management (1.0) >
Configuration Management
Risk
Platform Configuration >

Compliance
Dashboard

1 cluster (scanned)
70 namespaces (scanned)
8 nodes (scanned)
168 deployments (scanned)

Passing standards across clusters

Standard	Percentage
CIS Docker	100%
CIS K8s	62%
HIPAA	25%
NIST SP 800-190	46%
NIST SP 800-53	~2%
PCI	55%

Passing standards by cluster

my-cluster

Passing standards across namespaces

Standard	Percentage
CIS Docker	100%
HIPAA	25%
NIST SP 800-190	46%
NIST SP 800-53	~2%
PCI	55%

Passing standards across nodes

Standard	Percentage
CIS K8s	65%
NIST SP 800-190	100%

HIPAA 164 Compliance

25%

- 6 Categories
- 18 Controls

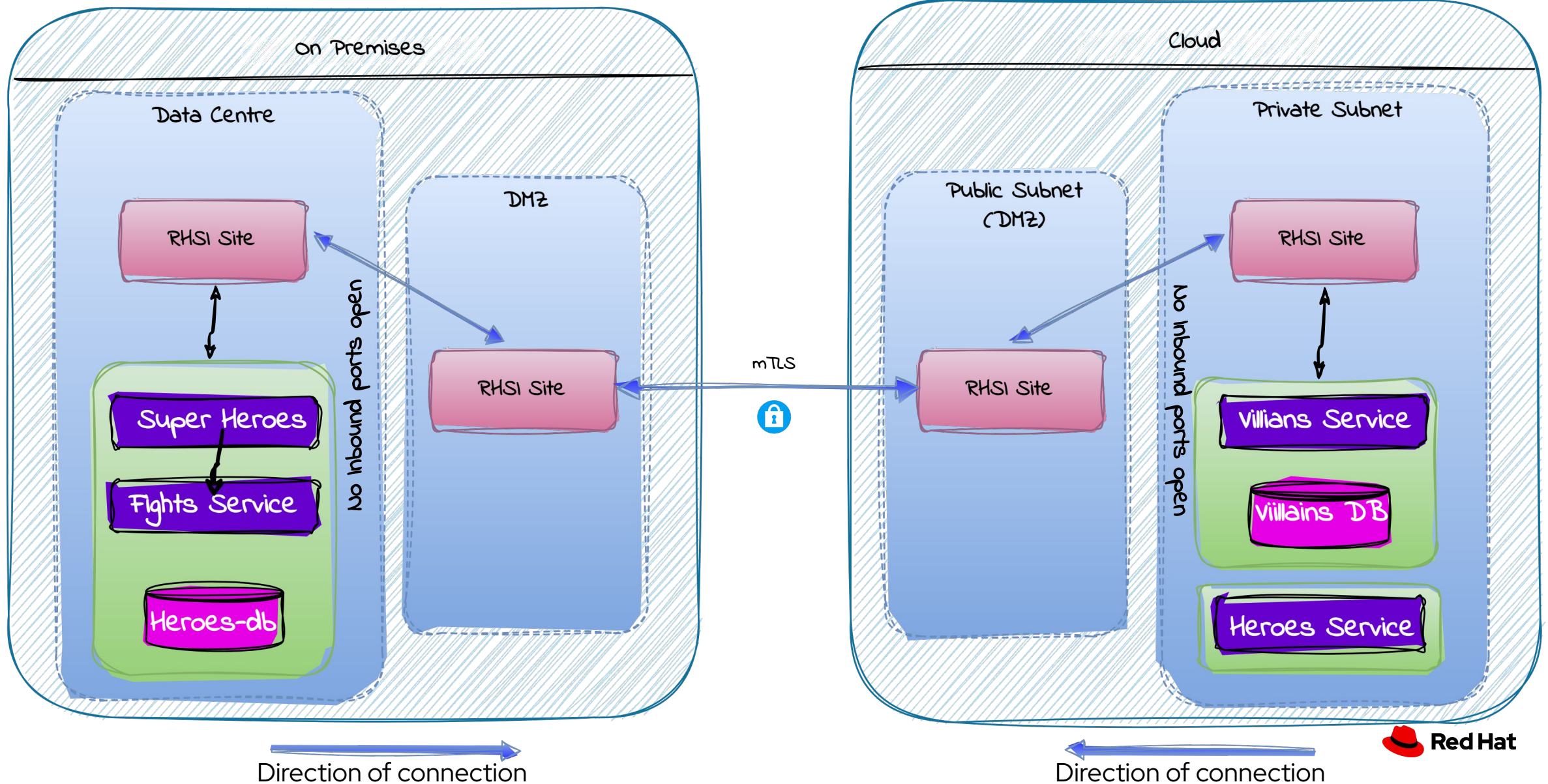
NIST SP 800-190 Compliance

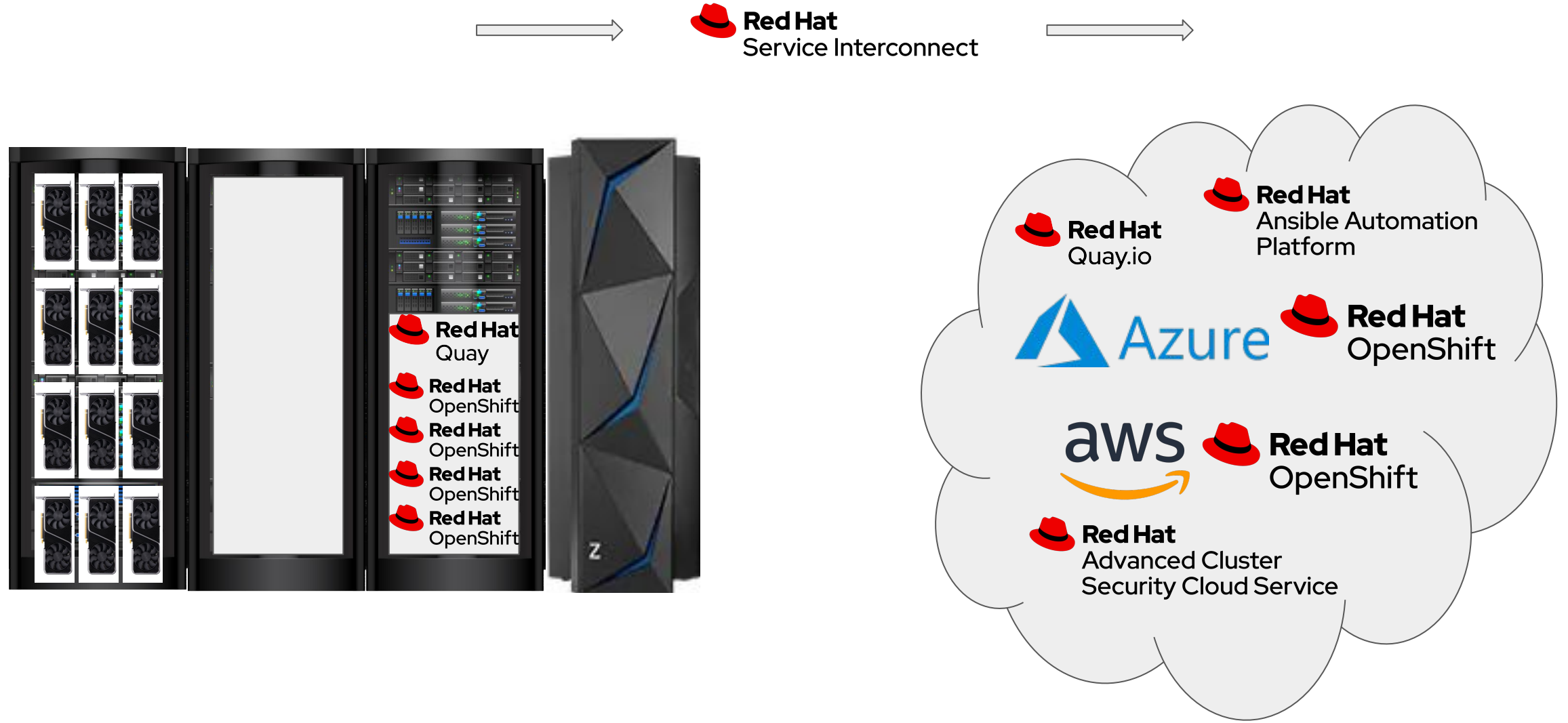
46%

- 5 Categories
- 14 Controls

Feedback

"Connect the most private to the most public"





Red Hat OpenShift Data Science

rhysp

Applications

- Enabled
- Explore

Data Science Projects

Data Science Pipelines 1

Model Serving

Resources

Settings

- Notebook images
- Cluster settings
- Serving runtimes
- User management

Notebook Server Administration

Start a notebook server

Select options for your notebook server.

Notebook image

- Minimal Python 2023.1 Python v3.9 [Versions](#)
- CUDA 2023.1 CUDA v11.8, Python v3.9 [Versions](#)
- TensorFlow 2023.1 CUDA v11.8, Python v3.9, TensorFlow v2.11 [Versions](#)
- Standard Data Science 2023.1 Python v3.9 [Versions](#)
- PyTorch 2023.1 CUDA v11.8, Python v3.9, PyTorch v1.13 [Versions](#)
- TrustyAI Python v3.9

Deployment size

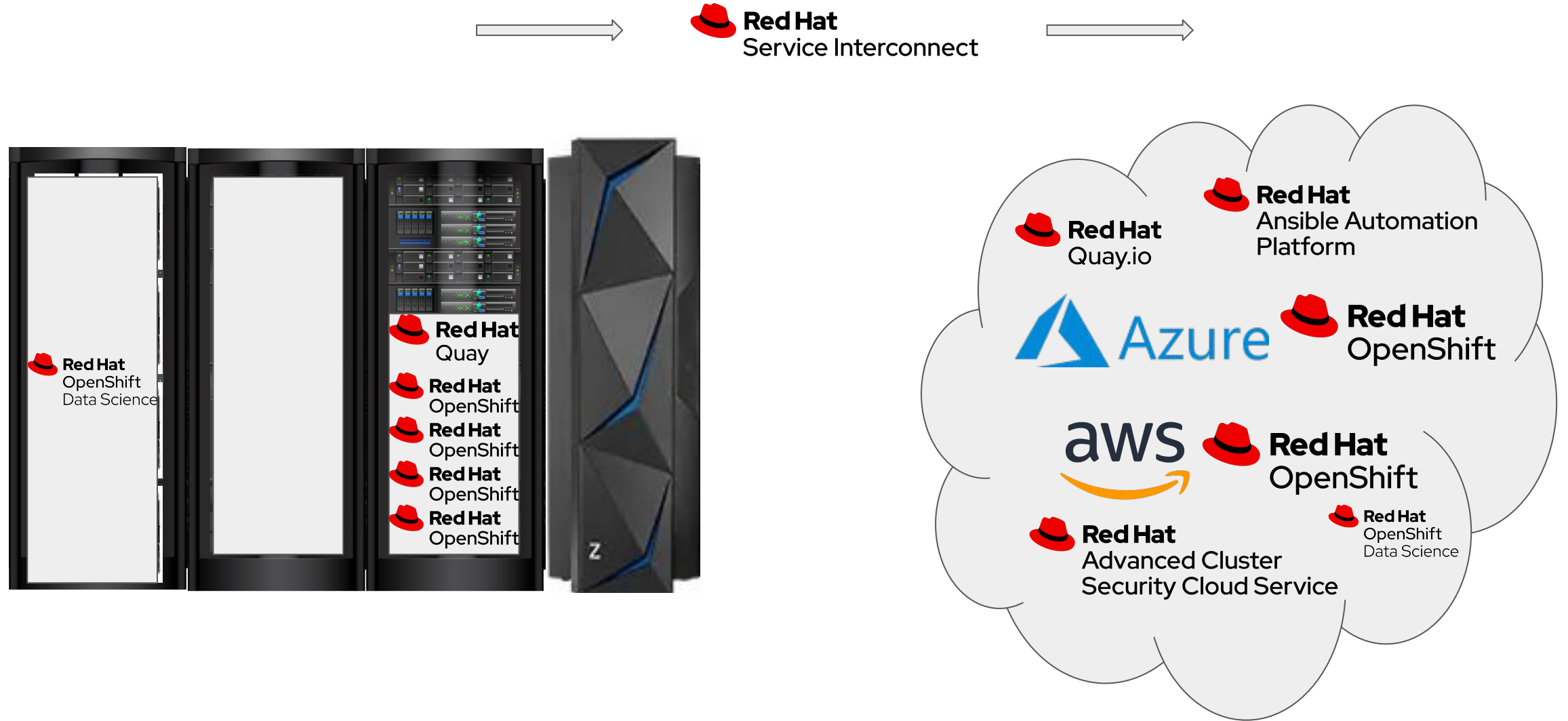
Container Size

Small

Environment variables

[+ Add more variables](#)

[Start server](#) [Cancel](#)



Managed Services

- ▶ Value
- ▶ Team
- ▶ Heavy lifting
- ▶ Focus
- ▶ Support
- ▶ Familiar

Red Hat
Summit

Thank you



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