



## RED HAT Partner BOOT CAMP DAY 2

# Why using a Hybrid Cloud ?

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**Goal:** Applications into the Cloud



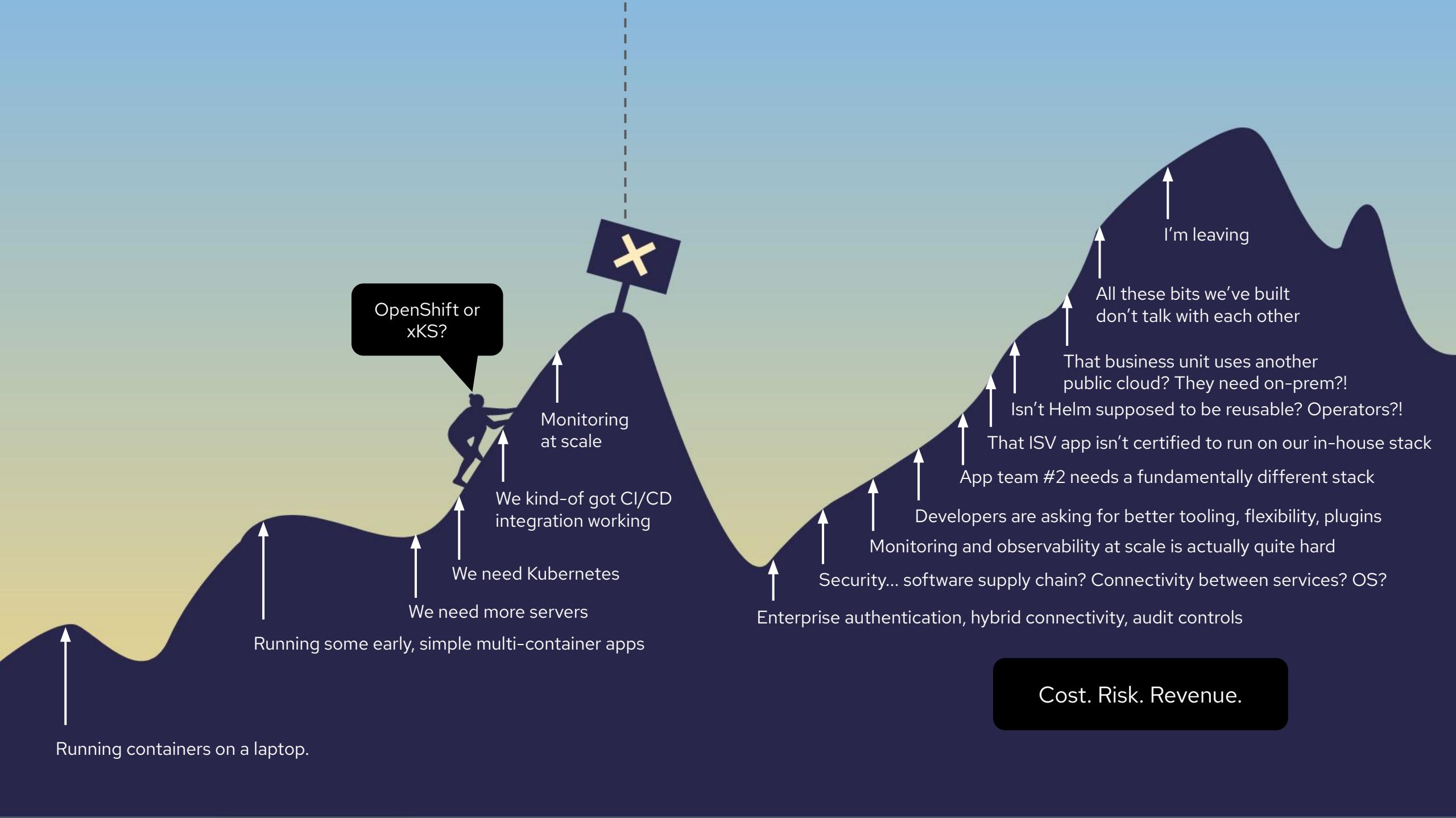
# Mt. Kubernetes





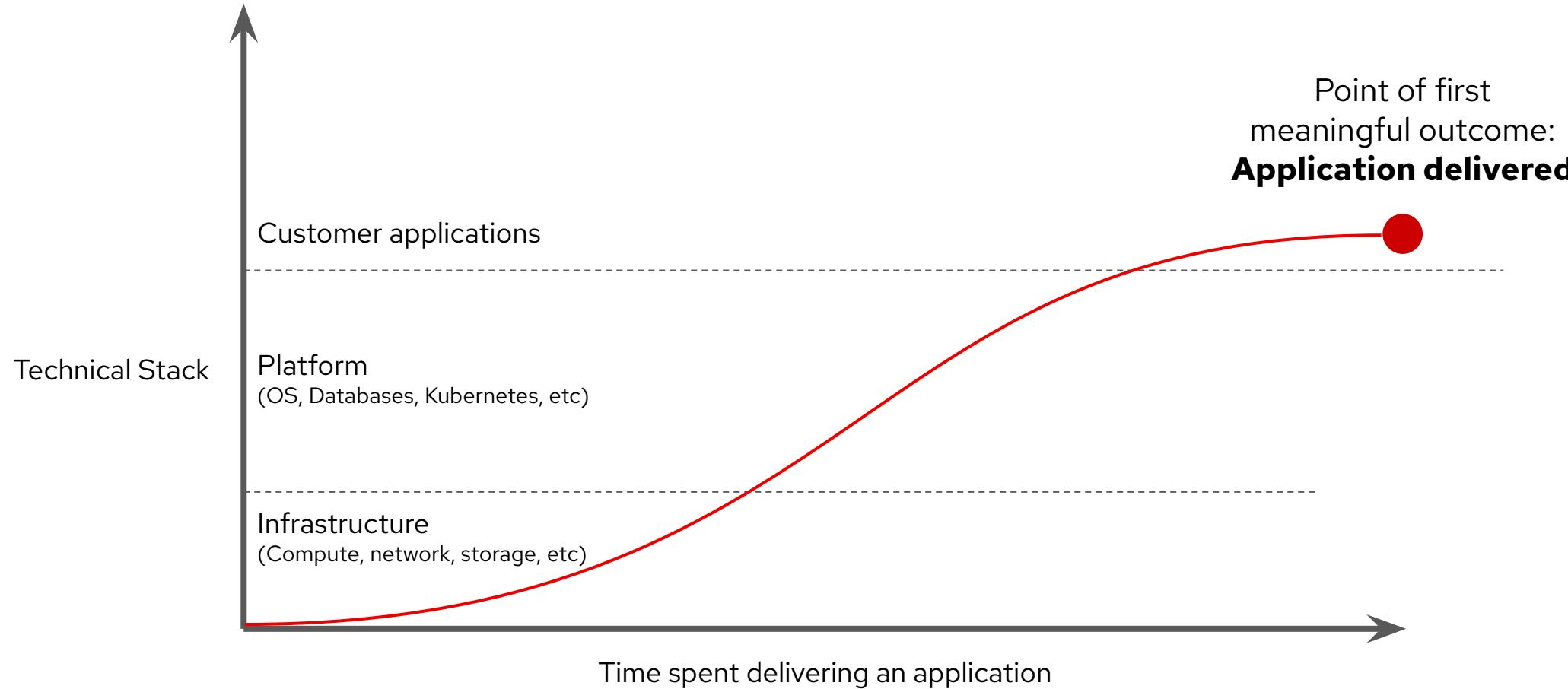
IT Professionals  
are climbing  
Mt. Kubernetes...

Many new skills.  
Not many apps  
migrated.



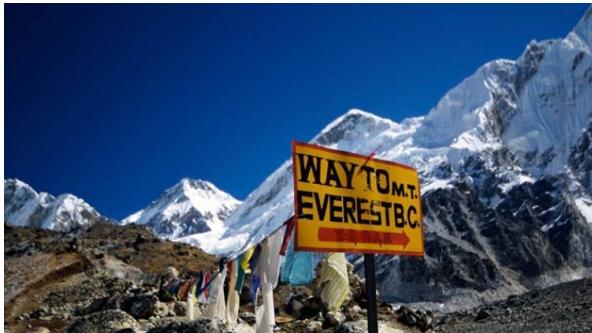
# What? Kubernetes is for Application Modernization

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# What is your starting point?

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Build it yourself Kubernetes



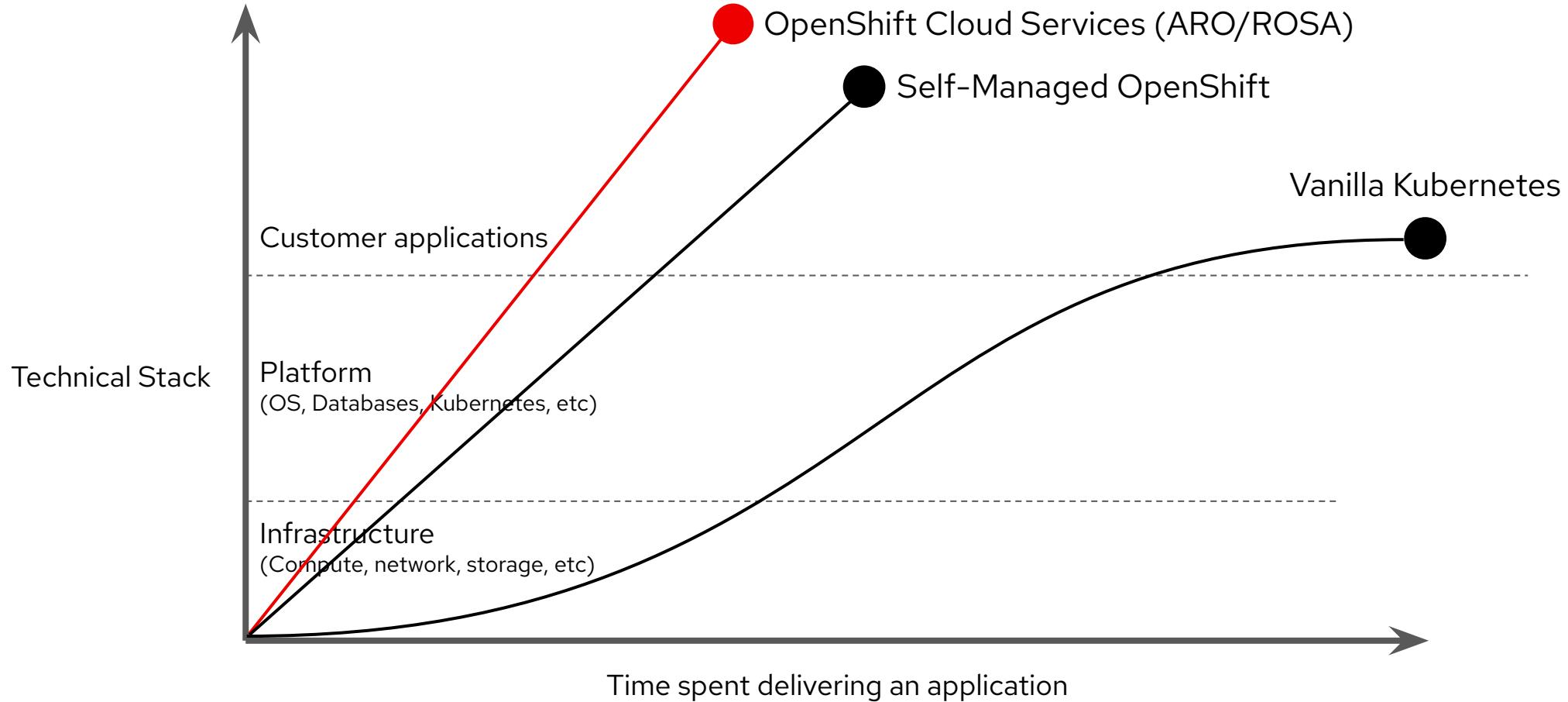
Self Managed OpenShift



OpenShift Cloud Services

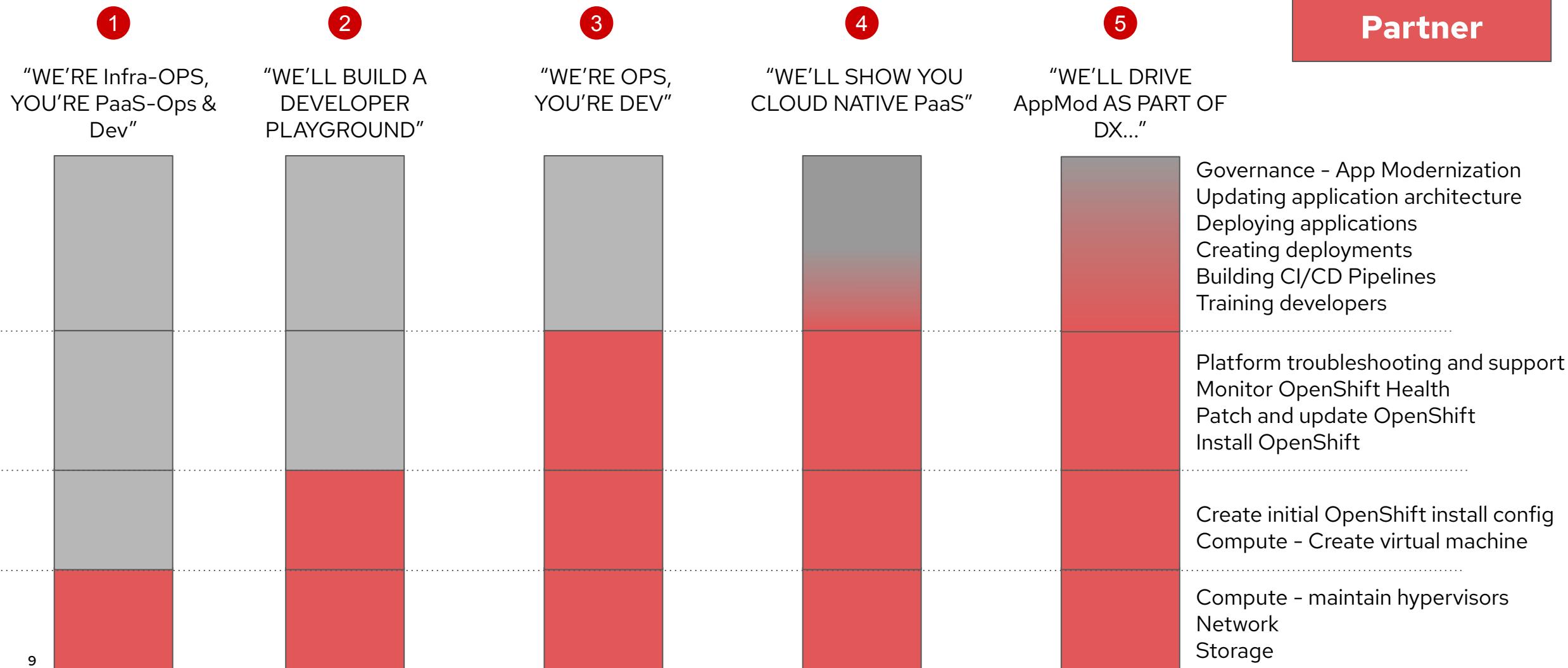
# Time to value with OpenShift

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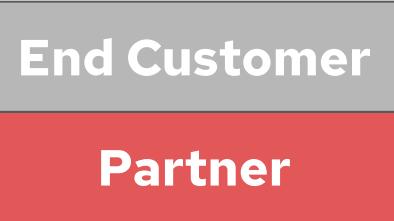
# Partner involvement with OpenShift as a Service

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# Partner involvement with OpenShift as a Service

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"WE'RE Infra-OPS,  
YOU'RE PaaS-Ops &  
Dev"

"WE'LL BUILD A  
DEVELOPER  
PLAYGROUND"

"WE'RE OPS,  
YOU'RE DEV"

"WE'LL SHOW YOU  
CLOUD NATIVE PaaS"

"WE'LL DRIVE  
AppMod AS PART OF  
DX..."

Governance - App Modernization  
Updating application architecture  
Deploying applications  
Creating deployments  
Building CI/CD Pipelines  
Training developers

Platform troubleshooting and support  
Monitor OpenShift Health  
Patch and update OpenShift  
Install OpenShift

Create initial OpenShift install config  
Compute - Create virtual machine

Compute - maintain hypervisors  
Network  
Storage

## OpenShift Cloud Services

ARO (Azure), ROKS (IBM), ROSA (Amazon)

Limit of "kubernetes-only" services (EKS, etc)



v0000000



# Partner involvement with OpenShift as a Service

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1

2

3

4

5

"WE'RE Infra-OPS,  
YOU'RE PaaS-Ops &  
Dev"

"WE'LL BUILD A  
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PLAYGROUND"

"WE'RE OPS,  
YOU'RE DEV"

"WE'LL SHOW YOU  
CLOUD NATIVE PaaS"

"WE'LL DRIVE  
AppMod AS PART OF  
DX..."

**Opportunity of the greatest  
value add for a local partner**

**Commoditized market;**  
AKS/EKS like offering

**Commoditized market;**  
Management of OpenShift

Governance - App Modernization  
Updating application architecture  
Deploying applications  
Creating deployments  
Building CI/CD Pipelines  
Training developers

Platform troubleshooting and support  
Monitor OpenShift Health  
Patch and update OpenShift  
Install OpenShift

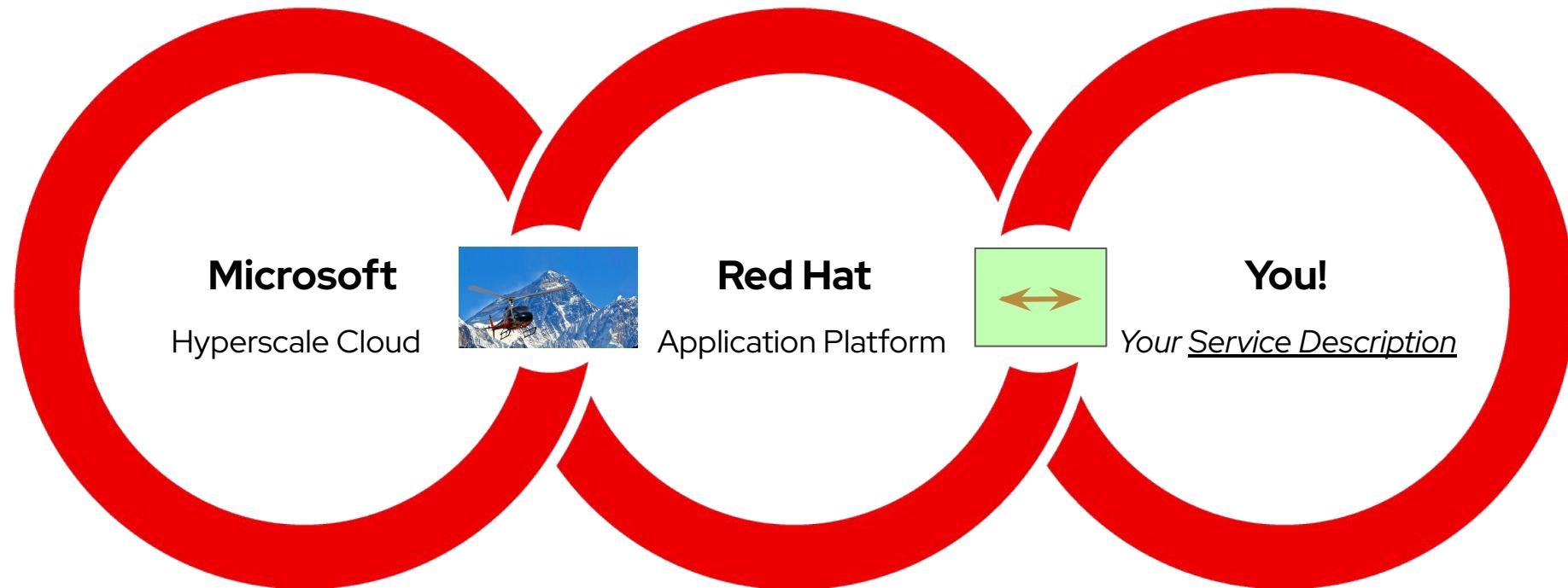
Create initial OpenShift install config  
Compute - Create virtual machine

Compute - maintain hypervisors  
Network  
Storage



# Partnering on top of OpenShift Cloud Services

# Serving Customers from a 3-way partnership



# Partnering with OpenShift Cloud Services

## 3x Partner Service Descriptions

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### SaaS

#### Build

**Serves** an app as a service, built on top of OpenShift. (Typically an ISV)

#### Directly consumes ARO

Example partners today;

- MyCom
- Lufthansa Technik

### Adoption

#### Sell

**Teaches** how to adopt OpenShift to deliver on application modernization.

#### Sells to multiple customers

Example partners today;

- DevoTeam
- Nordcloud

### Manage

#### Service

**Abstracts** the platform, allowing customers to have a workload focus

#### Sells to multiple customers

Example partners today;

- Accenture
- IBM

# OpenShift Cloud Services - Decision-Making Unit

## SaaS

Serves an app as a service, built on top of OpenShift. (Typically an ISV)

**Directly consumes ARO**

DMU:

- **Users:** Developers, Operations
- **Gatekeepers:** Networking, Security
- **Buyer:** <as normal>
- **Decision Maker:**
  - Cloud Engineering / Cloud Competency centre
  - Lead Software Architect
  - Lead Service Owner

## Adoption

Teaches how to adopt OpenShift to deliver on application modernization.

**Sells to multiple customers**

DMU:

- **Users:** Developers, Operations
- **Gatekeepers:** Networking, Security
- **Buyer:** <as normal>
- **Decision Maker:**
  - Customer has already decided!
  - Application owners
  - DevOps practice teams
  - etc

## Manage

Abstracts the platform, allowing customers to have a workload focus

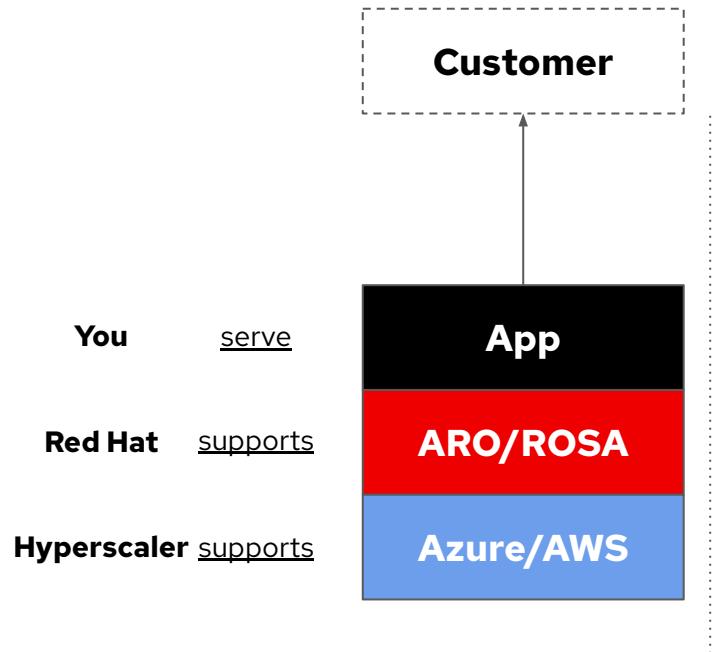
**Sells to multiple customers**

DMU:

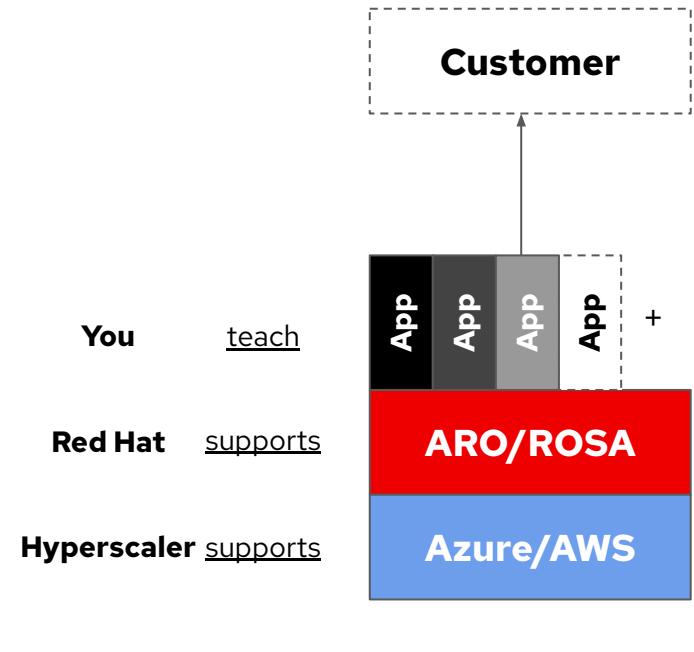
- **Users:** Developers?, Operations?
- **Gatekeepers:** Networking?, Security?
- **Buyer:** <as normal>
- **Decision Maker:**
  - Often highly abstracted, the service is defined via RFP or RFI, customer might have extremely limited knowledge of OpenShift.

# Partner Responsibilities

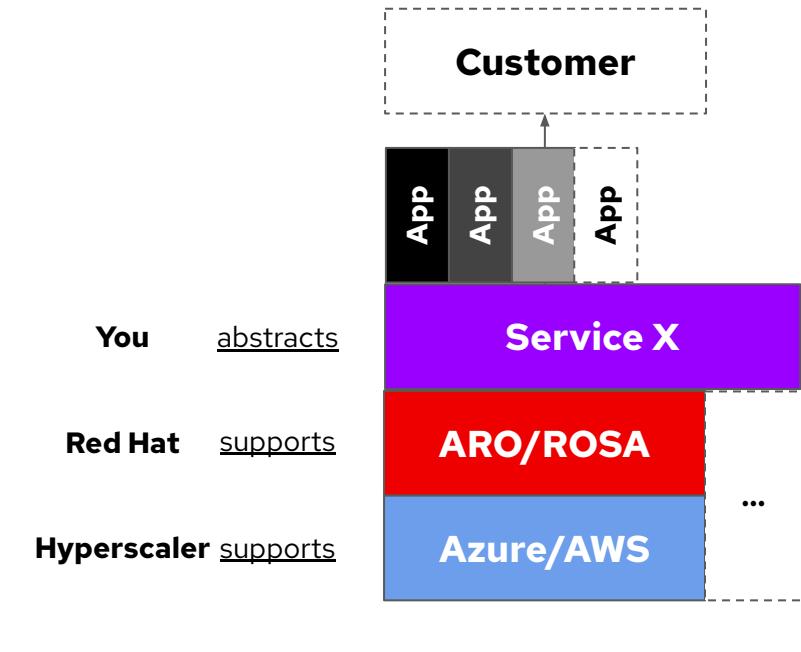
SaaS



Adoption

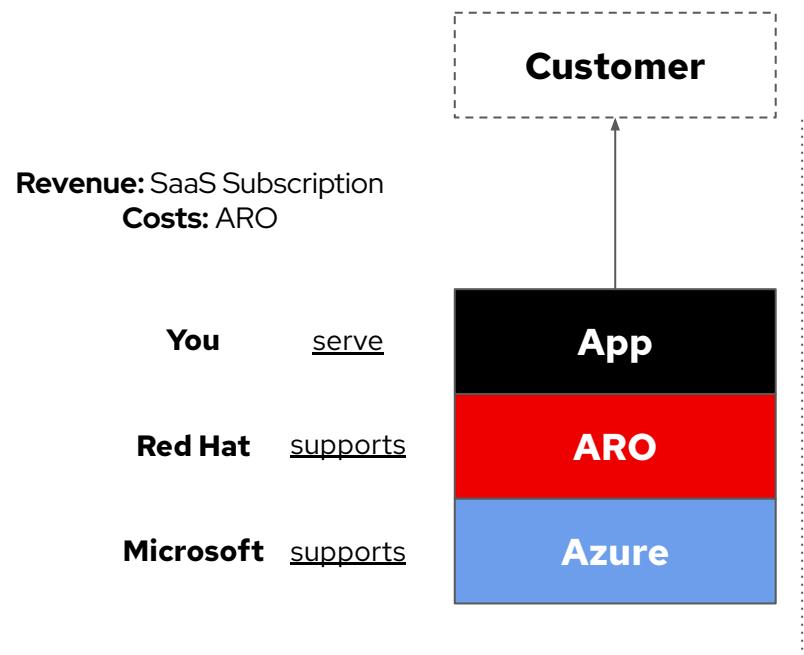


Manage

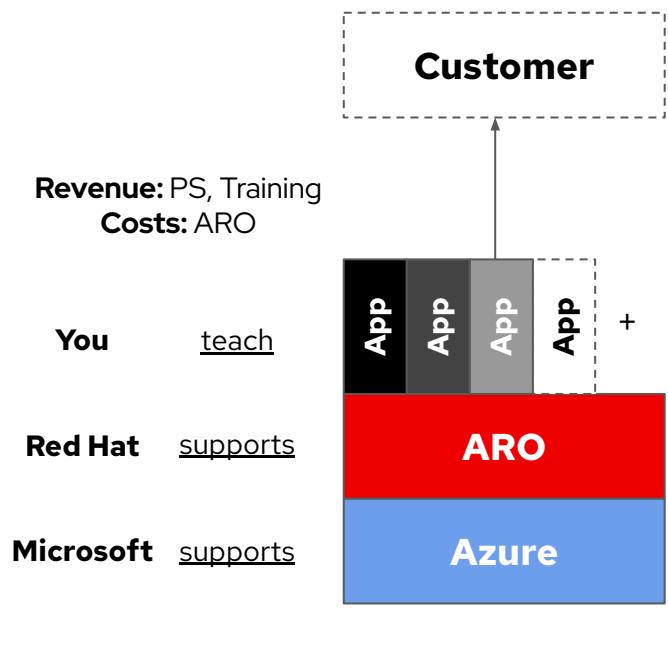


# Partner Earnings

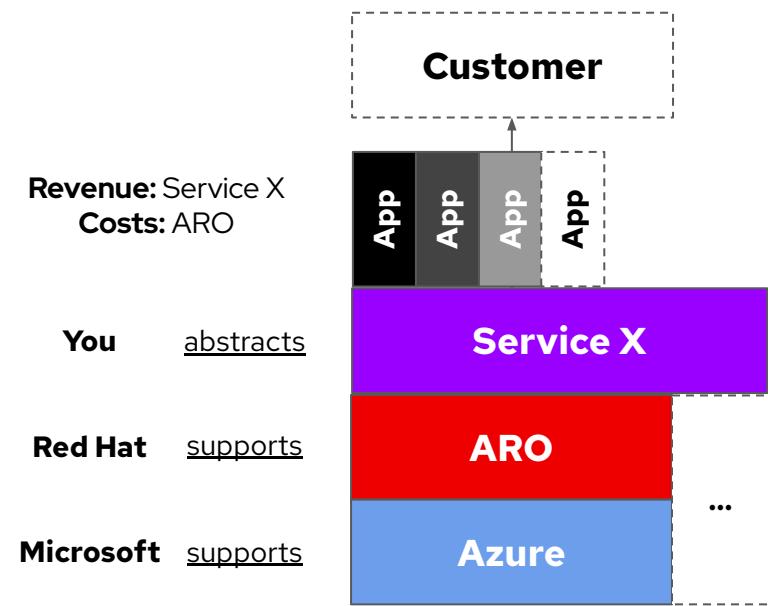
SaaS



Adoption



Manage



# Don't be afraid to remix



- Your service description can be **SaaS + Adoption...**
- Your service description can be **Adoption + Management...**
- However, these 3x Service Descriptions are patterns we see repeated time and time again.

# Partner Learning Path

Walk before run, etc

## OpenShift Foundations

- vs "Plain" Kubernetes
- Install, Run, Demo, etc

## Hyperscale Cloud

- Robust IaaS Understanding
- Partnership status

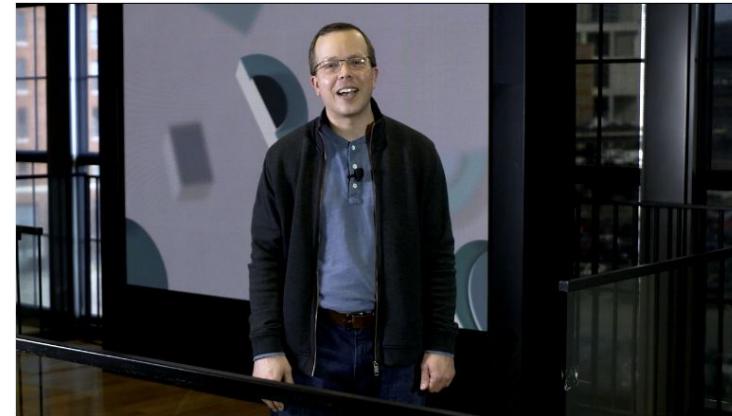
**Jointly, we Co-Create  
Your Service Description**

# Recent Managed Cloud Services Momentum



**“ARO is the best way to run Kubernetes in the cloud.”**

Scott Guthrie, EVP, Cloud + AI, Microsoft, (Red Hat Summit April 2021)



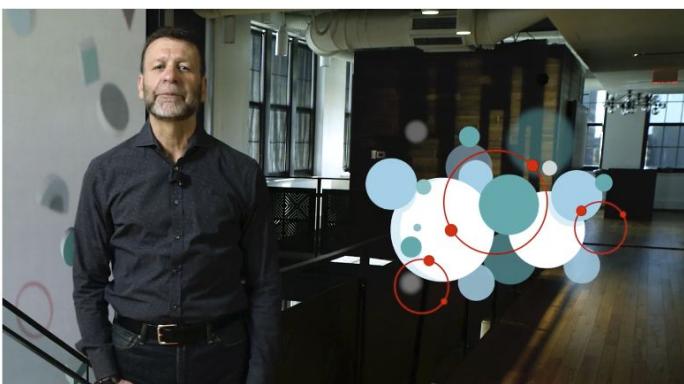
**“The fastest growing usage models for OpenShift are our managed cloud services offerings.”**

Matt Hicks, EVP, Products and Technologies, Red Hat (Red Hat Summit April 2021)



**“ROSA allows customers to take advantage of OpenShift and the breadth of AWS services, and allows customers to build more secure & scalable applications faster.”**

Matt Garman, VP, Worldwide Sales & Marketing, AWS (Red Hat Summit April 2021)



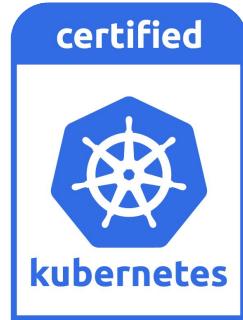
**“This partnership has expanded based on customer desire to consume Red Hat Enterprise Linux, Red Hat OpenShift and Red Hat Applications and Data Services on AWS. Together we provide native integration of AWS services on OpenShift which enable a critical piece of a hybrid cloud architecture for applications to run on.”**

Paul Cormier, President and CEO, Red Hat (Red Hat Summit April 2021)

Now over to Alfred.....

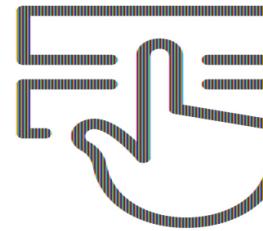
# Why OpenShift

CONFIDENTIAL Red Hat associates only



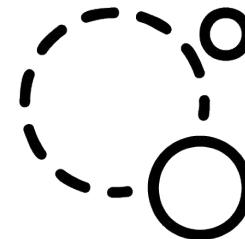
## 100% Kubernetes

OpenShift is certified as 100% Kubernetes by the CNCF.



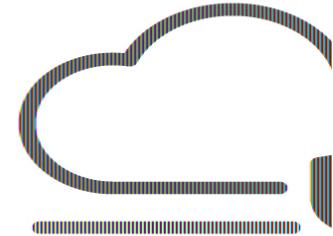
## Ecosystem of choice

Red Hat partners offer customers a choice of technologies: Networking, Storage etc without lock-in



## Open source

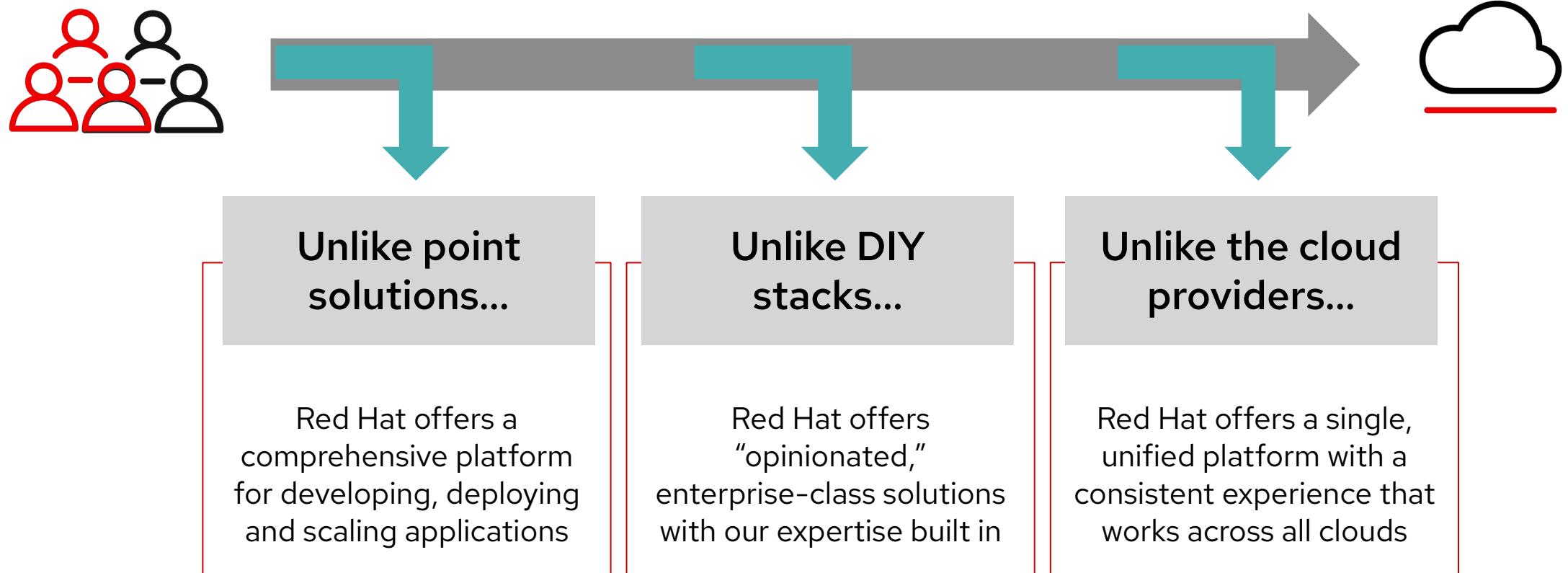
OpenShift platform code is 100% open source, developed and collaborated in the upstream community.



## Open Hybrid Cloud

OpenShift provides a consistent operator and developer experience on-prem and in public cloud

# Red Hat's unique approach to cloud services

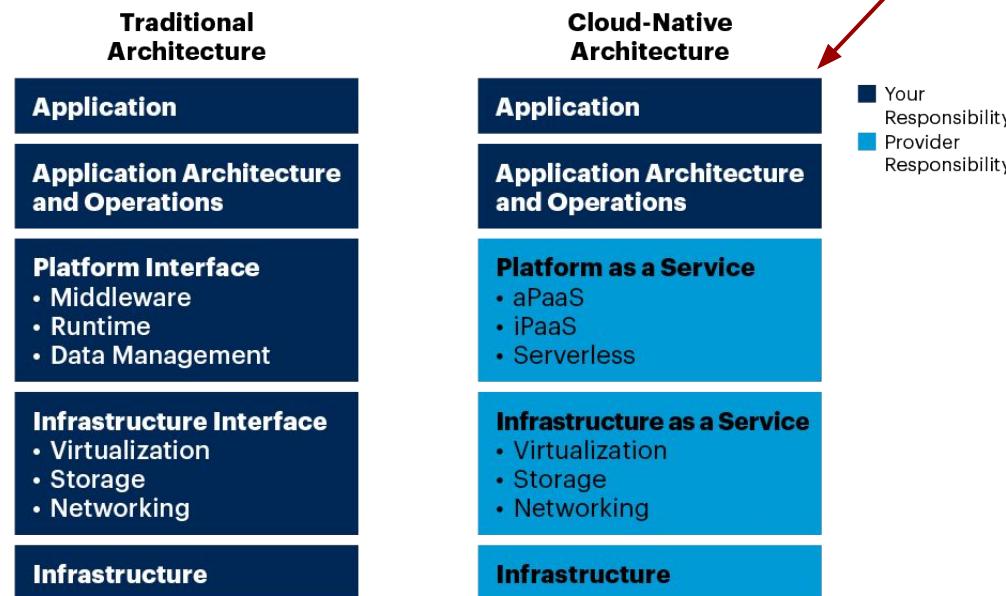


# Gartner recommends that you focus on cloud native application

- In a tight market for technical talent, focus on hiring to build revenue generating applications.
- Red Hat provides a 99.95% uptime SLA and 24x7 support for the application development platform on AWS, Azure, Google or IBM clouds.

Gartner recommends that you focus on cloud native application development.

## Cloud-Native Architecture Versus Traditional Architecture



Source: Gartner

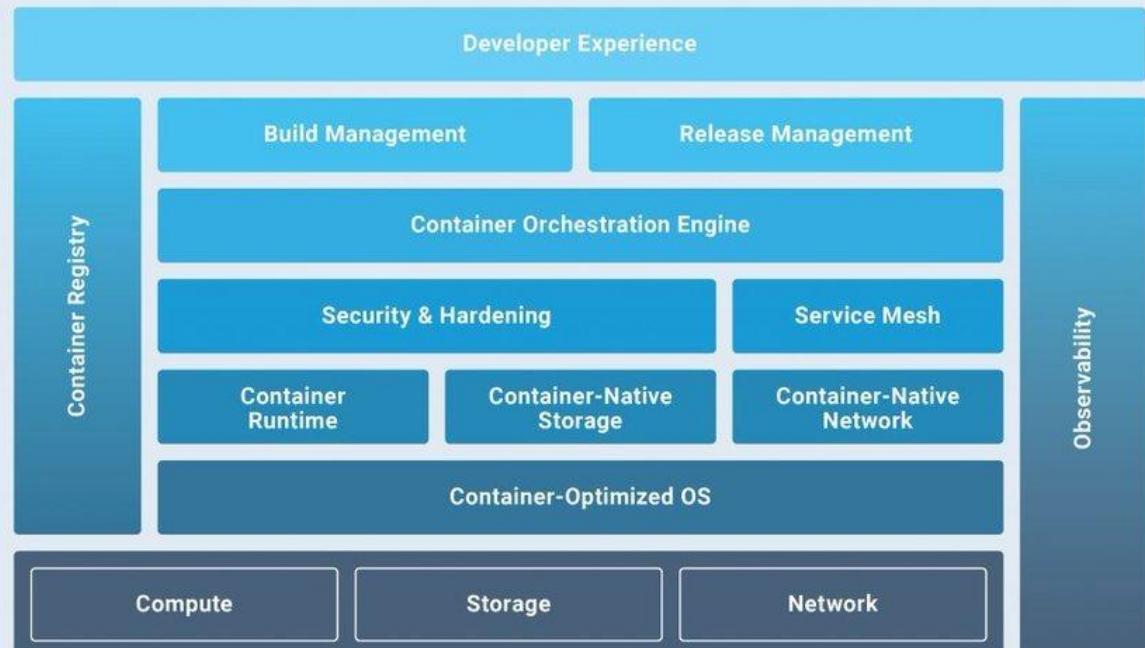
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# Or use OpenShift, a modern cloud native stack

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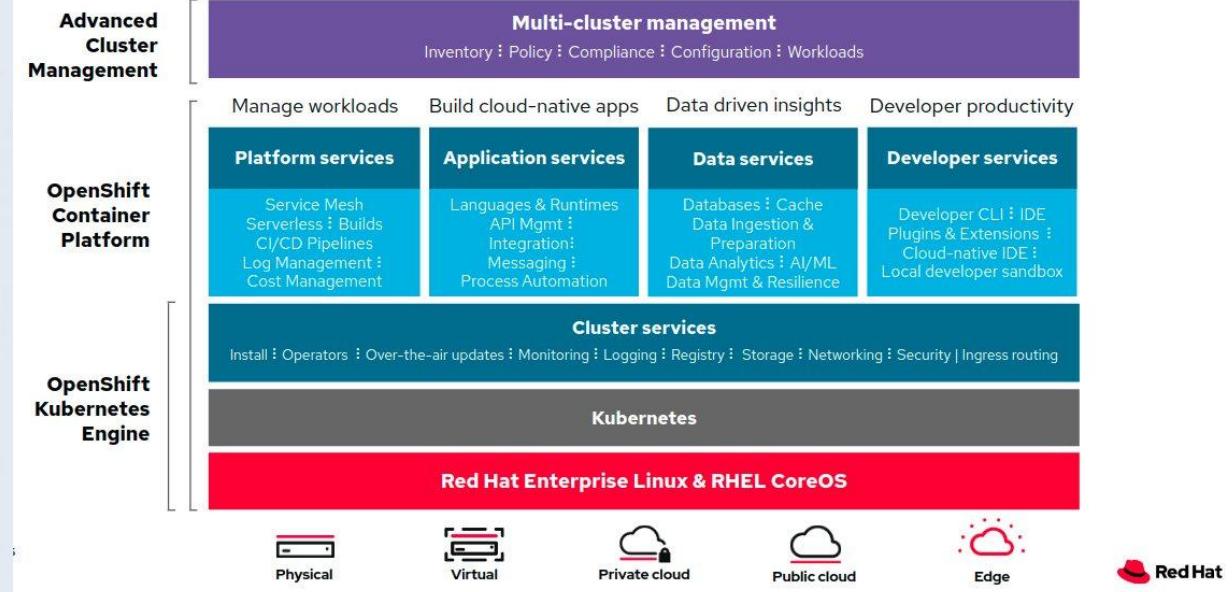
## The Cloud Native Stack



Source: Janakiram MSV

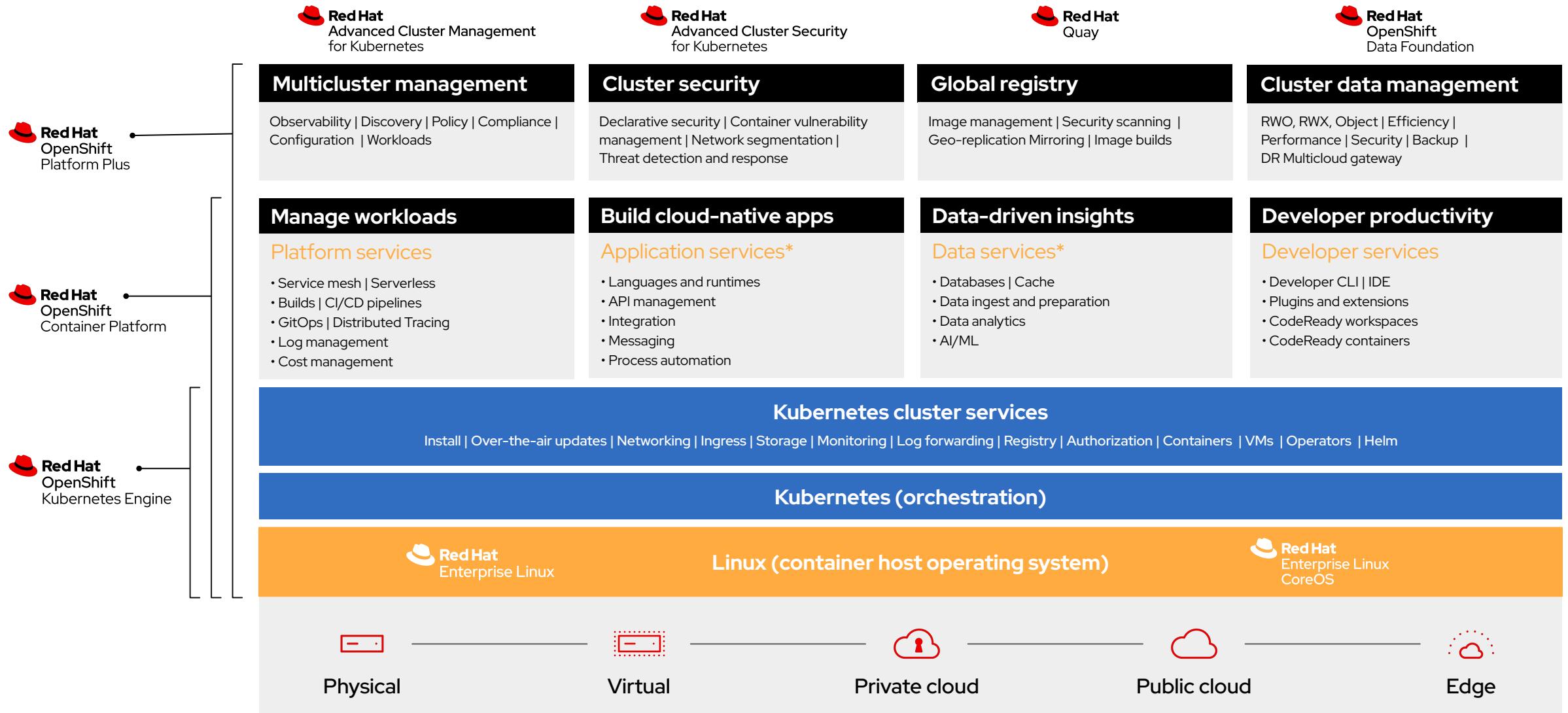
© 2020 THE NEW STACK

## OpenShift Container Platform



From a newstack article defining a cloud native stack, OpenShift container platform neatly fits the definition. [What Is the Modern Cloud Native Stack? – The New Stack](#)

# Red Hat open hybrid cloud platform



# Open Hybrid Cloud

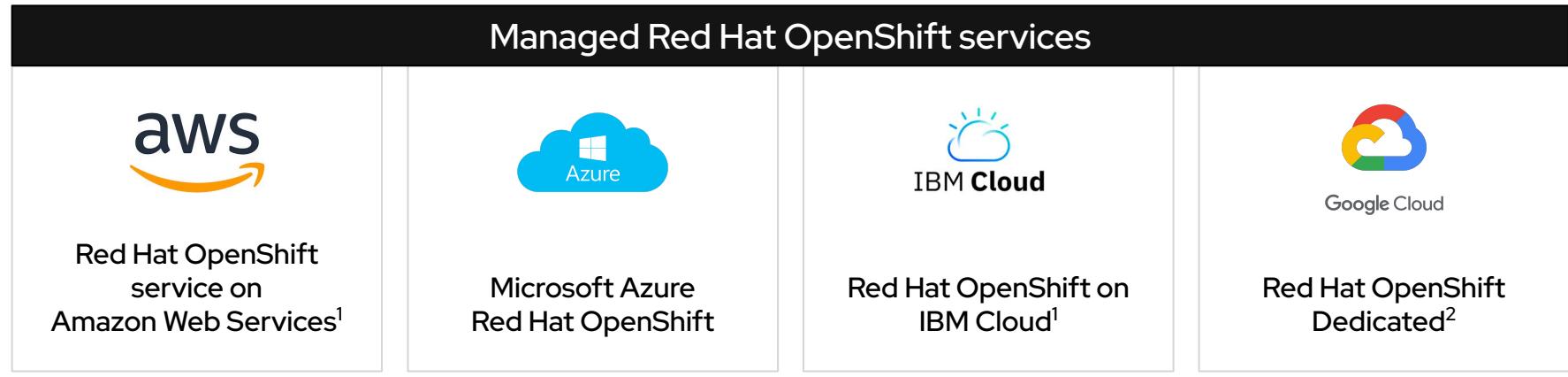
# Red Hat OpenShift

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Available as self-managed platform or fully managed cloud service

Start quickly, we  
manage it for you

Cloud managed



You manage it, for  
control and flexibility

Customer managed



# Manage OpenShift Anywhere

- OCP Cluster Lifecycle Management:
  - Provision new OCP 4.9.x - 4.11.x
  - Manage existing OCP 3.11, 4.9.x - 4.11.x
- Public cloud managed kubernetes: EKS, AKS, GKE, IKS, ROKS
  - Search, find and modify kubernetes resources.
  - Deploy applications, across clusters
  - Define security policy, compliance and violations
- Provision OCP to **Bare Metal** and **vSphere**
  - More opportunity to mix clouds (public / private)

```
apiVersion: hive.openshift.io/v1
kind: ClusterDeployment
metadata:
  name: 
  namespace: 
  labels:
    cloud: ''
    vendor: 'OpenShift'
spec:
  baseDomain:
  clusterName:
  controlPlaneConfig:
    servingCertificates: {}
  installed: false
  platform:
    provisioning:
      installConfigSecretRef:
        name: -install-config
      sshPrivateKeySecretRef:
        name: -ssh-private-key
      pullSecretRef:
        name: -pull-secret
  ...
  apiVersion: cluster.open-cluster-management.io/v1
  kind: ManagedCluster
  metadata:
    labels:
      name: 
      vendor: OpenShift
    name: 
  spec:
    hubAcceptsClient: true
  ...
  apiVersion: v1
  kind: Secret
  metadata:
    name: -install-config
    namespace: 
  type: Opaque
```

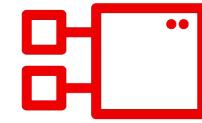
# Open hybrid cloud: The platform for big ideas



The same developer experience



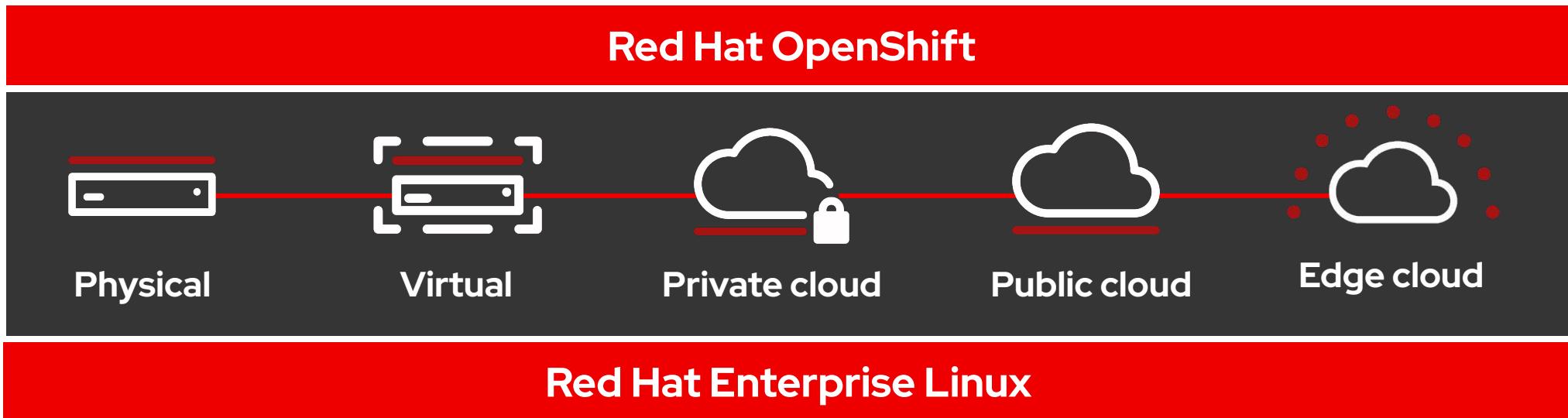
Modernize apps



App migration

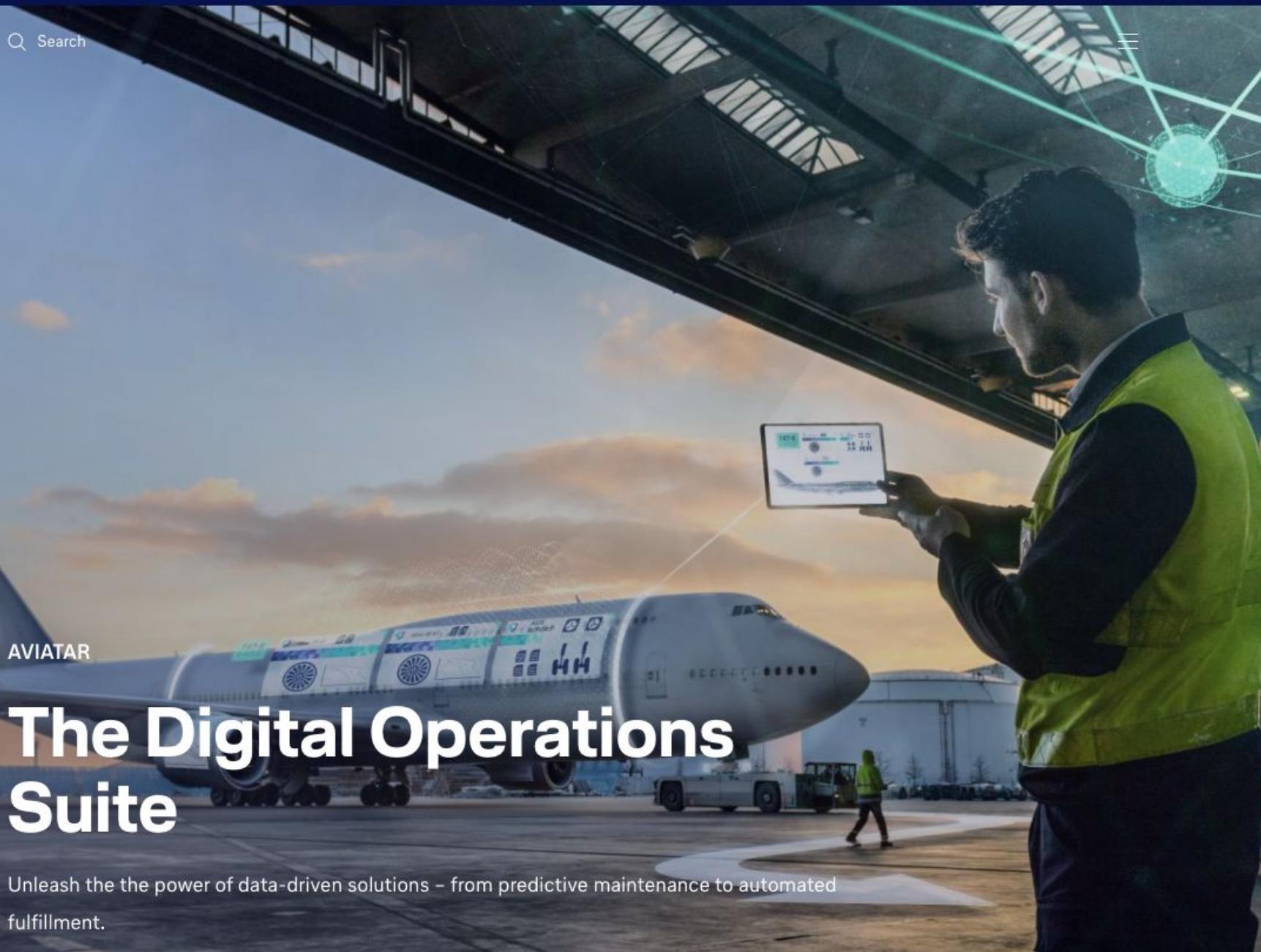


Secure



# Some Stories ....

Search



# Customers seeing value of Managed Services, Lufthansa

- Lufthansa Technik set up a hybrid cloud environment using both **Azure and on-premise infrastructure** to run AVIATAR's application services.
- Enables the company to more quickly deploy new components and provide a public cloud option for AVIATAR users.
- Red Hat **OpenShift Container Platform**, running on Azure, designed to support the AVIATAR's agile, **DevOps** approach of continuous improvement.
- Red Hat OpenShift Container Platform also helps Lufthansa Technik to build, deploy, run and integrate the components of the new infrastructure, including cloud-native applications and microservices.

*Johannes Hansen, senior director application development & user experience, Digital Fleet Solutions, Lufthansa Technik AG*

*"With Red Hat OpenShift Container Platform on Microsoft Azure, for example, we can start implementing a new application immediately, without waiting for any infrastructure, allowing us to produce results in just a few days and have a minimum viable product after just several weeks."*

# Customers seeing value of Managed Services, Vodafone, N.Z.

- Vodafone New Zealand navigated transformation and migrating from a legacy integration platform to a container-based, open source, integration solution using Red Hat Integration and Red Hat OpenShift Container Platform.
- Red Hat Fuse, Red Hat AMQ, and 3scale by Red Hat were employed to provide an integration platform to complement their new cloud-native OSS/BSS stack.
- Multicloud Red Hat OpenShift platform comprising of **Microsoft Azure Red Hat OpenShift**, on-premise **OpenShift on AzureStack**, and in the future, managed OpenShift on another public cloud.
- Quay will be providing an enterprise-grade registry for all of the OpenShift platforms.



Our network

Our commitment

For families

Go super-fast on NZ's largest 5G network

5G is live in parts of select NZ cities (see below for more detail). Requires a 5G device and 5G plan. Achievable speeds are affected by coverage and device capabilities. \*Mobile network results in the Bay of Plenty and Manawatū are based on independent 3rd party audit reports by umlaut in November 2021 and August 2021 respectively.

The best mobile network in the Bay of Plenty and Manawatū\*

Managed Services on Microsoft Azure  
Hybrid on Azure Stack on-prem



# Customers seeing value of Managed Services, Audi, Germany

- At Audi, we have a highly-skilled Kubernetes team who has worked since 2017 with a proprietary Kubernetes control plane, called Kubika 1.0. This single-tenant solution was state of the art, but only suitable for the DevOps team. We wanted to know how we could enable teams **without the necessary staff** to own a stack end to end?
- Introduced a multi tenant solution like **Red Hat OpenShift Dedicated**, which is operated by Red Hat
- With OpenShift Dedicated, we created a cross-brand collaborative ecosystem that, in the future, goes far beyond.

Chose Managed Services to alleviate staffing concerns



# Customers seeing value of Managed Services, Snam, Italy

- Snam oversees one of the world's largest natural gas transportation networks, 2 LNG terminals and the largest European natural gas storage capacity.
- Red Hat OpenShift, to run and scale applications across its current on-premises data centers extending out to the edge and OpenShift Data Foundation, which provides software-defined storage for containerized applications.
- Snam can now deploy applications, automated, in as little as 30 minutes, improving by more than 10x the time to delivery of its new software products.
- Red Hat OpenShift has been deployed **on-premises** and on the **edge** of the network, with Snam also taking advantage of the public cloud, using **Microsoft Azure Red Hat OpenShift**





# Red Hat OpenShift Managed Services Portfolio

# console.redhat.com

Create a Red Hat OpenShift cluster

Create clusters in the cloud using a managed service like Red Hat OpenShift® Service on AWS, Red Hat OpenShift on IBM Cloud, or Microsoft Azure Red Hat OpenShift.

The screenshot shows the Red Hat Hybrid Cloud Console interface. On the left is a sidebar with the following navigation items:

- OpenShift (selected)
- Clusters
- Overview
- Releases
- Developer Sandbox
- Downloads
- Red Hat Insights
- Advisor
- Subscriptions
- Cost Management
- Support Cases
- Cluster Manager Feedback
- Red Hat Marketplace
- Documentation

The main content area is titled "Create an OpenShift cluster". It has tabs for "Cloud" (selected), "Datacenter", and "Local". Below the tabs is a section titled "Active subscriptions".

Offerings	Purchased through	Get started
Red Hat OpenShift Dedicated Trial	Red Hat	Available on AWS and GCP <a href="#">Create trial cluster</a>
Red Hat OpenShift Dedicated	Red Hat	Available on AWS and GCP <a href="#">Create cluster</a>

Below this is a section titled "Managed services".

Offerings	Purchased through	Get started
Azure Red Hat OpenShift	Microsoft Azure	Flexible hourly billing <a href="#">Try it on Azure</a>
Red Hat OpenShift on IBM Cloud	IBM	Flexible hourly billing <a href="#">Try it on IBM</a>
Red Hat OpenShift Service on AWS (ROSA)	Amazon Web Services	Flexible hourly billing <a href="#">Create cluster</a>

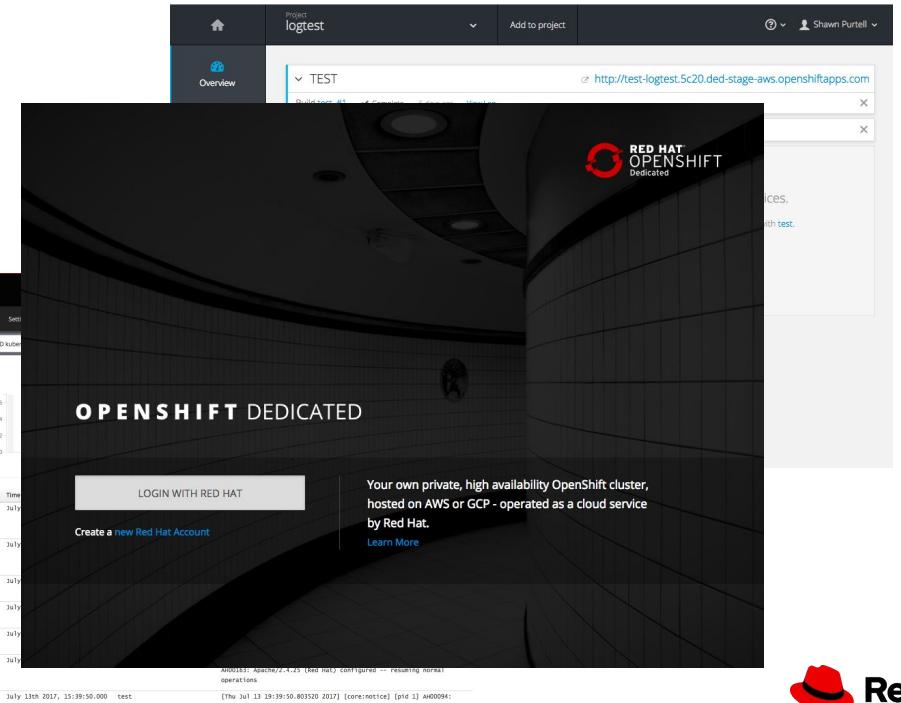
A vertical feedback button is located on the far right edge of the screen.

# Red Hat OpenShift Dedicated

## A fully managed OpenShift service

Red Hat OpenShift Dedicated offers one or more standardized OpenShift clusters, hosted in AWS or GCP and operated as a cloud service by Red Hat

- Installed and maintained by Red Hat
- Option of Red Hat or customer owned AWS or GCP account
- Choice of region, node size, AZ distribution
- Integrated logging, metrics and authentication
- OpenShift Cluster Manager for creating, viewing clusters
- Managed upgrades and patching
- VPN and VPC peering
- Premium Red Hat support with a 99.95% uptime SLA
- OpenShift API management - up to 100k calls/day



# Deploying a new OpenShift Dedicated (OSD) Cluster using OpenShift Cluster Manager

CONFIDENTIAL Customer facing

The screenshot shows the Red Hat OpenShift Cluster Manager web interface. The left sidebar has a dark theme with the Red Hat logo at the top. The 'Clusters' option is selected, highlighted in blue. The main content area is titled 'Create a Cluster to Get Started'. It contains two large cards: one for 'Red Hat OpenShift Container Platform' and one for 'Red Hat OpenShift Dedicated'. Both cards feature the Red Hat logo and a brief description of how to create a cluster.

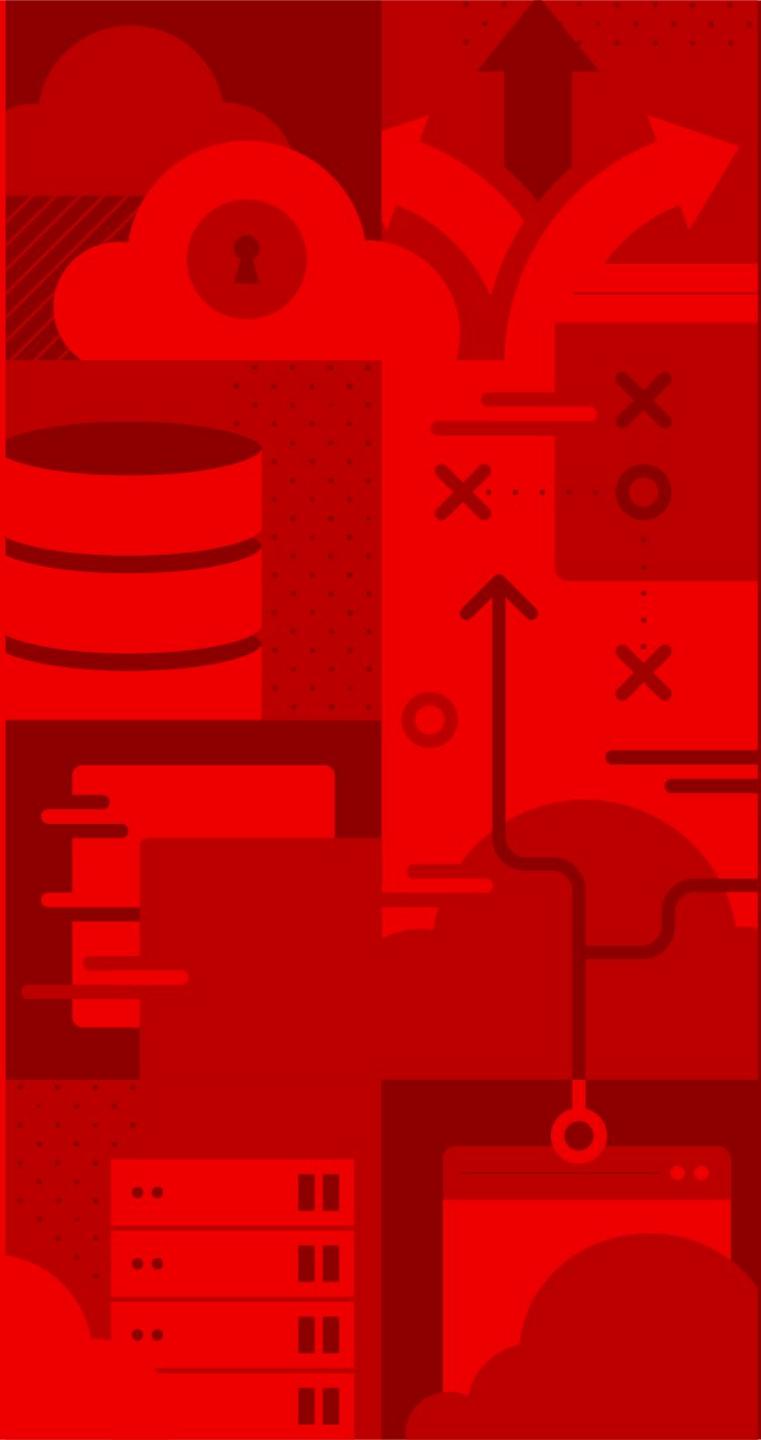
**Red Hat OpenShift Container Platform**

Create an OCP cluster using the command-line installer. Your cluster will automatically register to the Cluster Manager after installation completes.

**Red Hat OpenShift Dedicated**

Create a Red Hat-managed cluster (OSD), provisioned on Amazon Web Services.





# Azure Red Hat OpenShift

# Azure Red Hat OpenShift



Jointly engineered,  
operated, and  
supported by  
Microsoft and Red Hat  
with an integrated  
support experience



## **Empower developers to innovate**

Support for traditional, cloud native & serverless tools  
Easily connect to hundreds of Azure services



## **Scale on-demand. Pay as you go**

Scale as your application demand changes  
Leverage your Azure monetary commits



## **Enterprise-grade operations, security, and compliance**

SLA: 99.95%, 24\*7 premium support  
Compliant with PCI DSS, HITRUST, FedRAMP, SOC2 Type 2, ISO 27001, and HIPAA

# Highlights - Azure Red Hat OpenShift on OpenShift 4

## Enhanced Features, Availability and Control

- **Full cluster admin** - Full cluster admin support for advanced customization
- **Private clusters / Express Route support** - Create fully managed clusters in a custom VNet with no public endpoints
- **Bring your own VNet** - Deploy OpenShift 4 based clusters into your own VNet
- **Cluster Autoscaling** - Automatically adjust the size of your cluster
- **Multi-AZ clusters** - Clusters automatically deploy across three availability zones

## Operator Support

- **Operator/CRD support** - Support for Operators and Custom Resource Definitions

## Improved Developer Productivity

- **Developer Productivity tools** - Service Mesh, CodeReady Workspaces, serverless etc.
- **Azure Portal Integration** - Easily view OpenShift clusters in the Azure web portal

## Regulatory Compliance

- **Compliance Certifications:** PCI DSS, HiTrust, FedRAMP High, SOC 2, ISO 27001 (HIPAA coming soon)



# Red Hat OpenShift Service on AWS

# Red Hat OpenShift Service on AWS



Fully-managed Red Hat OpenShift service on AWS, jointly supported by both Red Hat and AWS



## **Clear path to hybrid cloud deployments**

Delivers the production-ready Kubernetes that many enterprises already use on-premises today, simplifying the ability to shift workloads to the AWS public cloud as business needs dictate.



## **Empower developers to innovate**

Give your team the focus and tools to accelerate the development process with familiar APIs, [API management](#) and existing Red Hat OpenShift tools for deployment in AWS



## **Flexible, consumption-based pricing**

Scale as per your business needs and pay as you go with flexible pricing with an on-demand hourly or annual billing model.

# ROSA Benefits



## Native AWS Service

- Access on-demand from the AWS console
- AWS integrated experience for cluster creation and management
- Foundation based on RHEL, providing a stable and secure platform for hybrid deployments



## Unified Bill

- Leverage your existing AWS commitment to use OpenShift
- Get a single unified bill from AWS for both OpenShift and AWS consumption



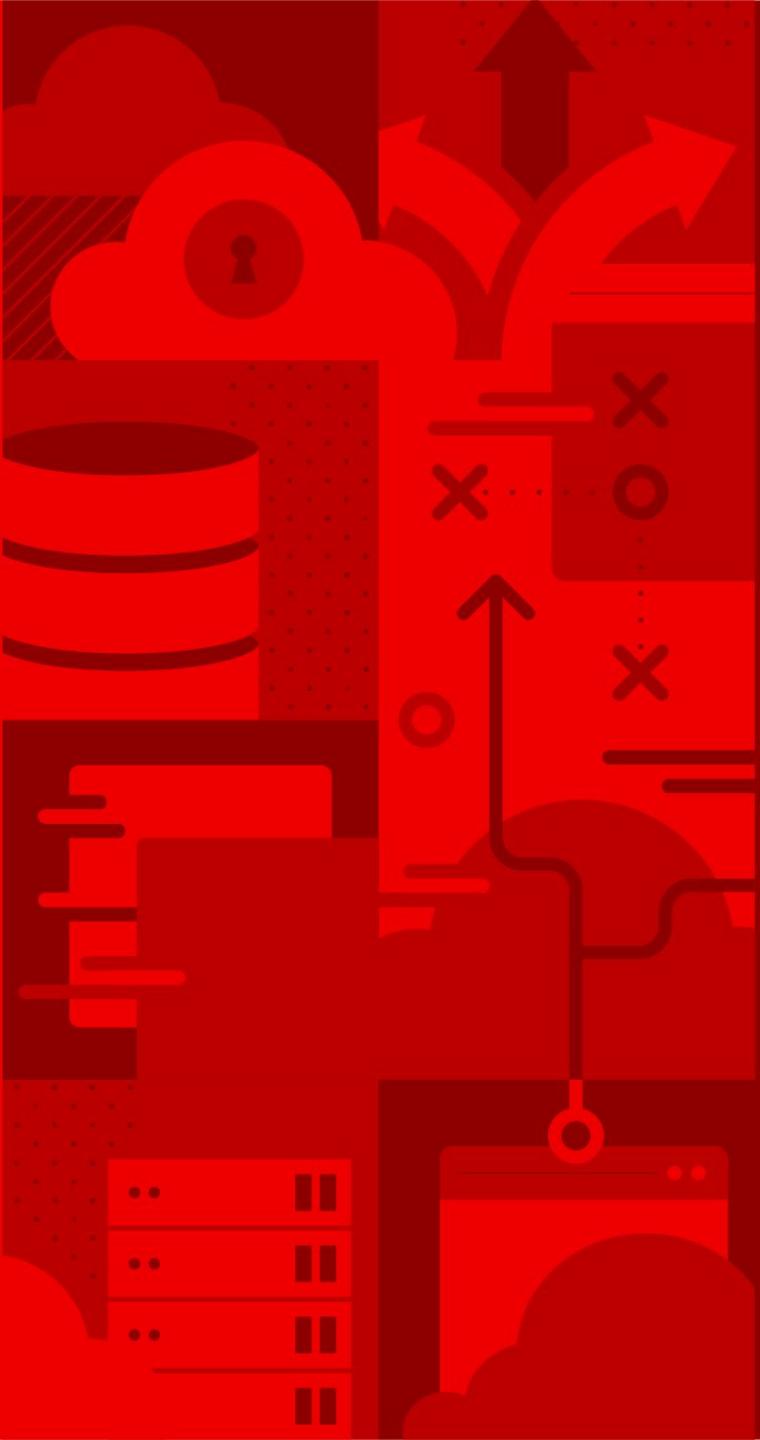
## Joint Support

- Integrated support systems
- Contact Red Hat or AWS support
- Built on Red Hat and AWS' decades of enterprise IT knowledge and experience



## Integration with AWS Services

- Build containerized applications that integrate natively with the more than 170 AWS cloud-native services



# Red Hat OpenShift Kubernetes Service on IBM Cloud

# Red Hat OpenShift on IBM Cloud



Highly available, OpenShift clusters as-a-service on IBM Cloud, that leverage the enterprise security of IBM.

## Fully Managed

Automated provisioning, installation and configuration of infrastructure, including compute, network and storage as well as automatic upgrades of components and 24x7 global SRE support and a 99.99% SLA



## Resilient and Secure

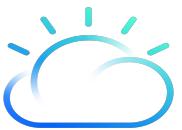
Automatic multi-zone deployments with failure recovery, enterprise isolation including dedicated compute, bare metal servers and private clusters and optimized for compliance



## Complete Platform

Easily integrate AI with Watson APIs to extend the power of your apps. Includes built-in services for monitoring, logging, load-balancing, storage and isolation to enable rapid delivery of apps, while leveraging 190+ IBM Cloud services.





# Highlights - Red Hat OpenShift on IBM Cloud

- **Automated provisioning** and configuration of Infrastructure (compute, network and storage)
- Automated **installation and configuration of OpenShift**, including HA cross zone configuration
- **Automatic upgrades** of all components (operating system, OpenShift components, and in cluster services)
- **Security patch management** for OS and OpenShift
- Automatic **failure recovery** for OpenShift components and worker nodes
- Automatic **scaling** of OpenShift configuration
- **Automatic backups** of core OpenShift ETCD data
- **Built in integration with cloud platform** - monitoring, logging, KeyProtect, IAM, ActivityTracker, Storage, COS, Security Advisor, Service Catalog, Container Registry and Vulnerability Advisor
- **Built-in Security** including image signing, image deployment enforcement, and hardware trust
- **24/7 global Site Reliability Engineering (SRE)** team to maintain the health of the environment and help with OpenShift
- Global SRE has deep experience and skill in IBM Cloud Infrastructure, Kubernetes and OpenShift, resulting in much faster problem resolution
- **Automatic compliance** for your OpenShift environment (HIPAA, PCI, SOC2, ISO)
- Capacity expansion through a single click
- Automatic **multi-zone deployment** in MZRs, including integration with CIS to do cross zone traffic routing
- Automatic Operating System **performance tuning and security hardening**
- Built in Load Balancer, VPN, Proxy, Network edge nodes, Private Clusters and VPC capabilities



# Thank you

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