



Red Hat  
**Summit**

**Connect**

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ARO - Azure Red Hat  
OpenShift  
Discovery Session

# Who?

Managed OpenShift Black Belts (MOBB) Mission

*To remove customers' organizational, competitive, and technical blockers to enterprise-wide adoption of Managed OpenShift (ROSA, ARO, OSD)*



**Andrea Bozzoni**

Senior Cloud Services Black Belt



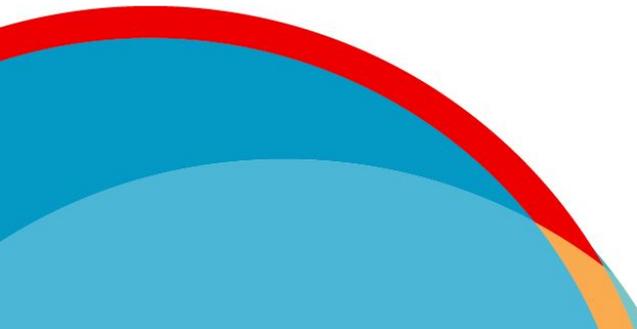
**Roberto Carratalá**

Senior Cloud Services Black Belt

# Agenda

- Today's business goals and blockers
- Benefits of OpenShift Cloud Services
- Value of an Turnkey Application Platform
- Overview of Azure Red Hat OpenShift (ARO)
- Operational Efficiency

# Today's business goals and blockers



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# Today's business goals and blockers

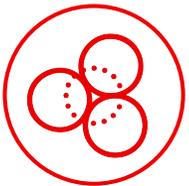
## What are you trying to achieve?



Innovation at speed



Positive customer experiences that lead to growth and the ability to scale



Flexibility to adapt, business agility



What else are you trying to achieve?

## What's blocking you?



Limited time, resources & budget?



Complex implementations & integrations?



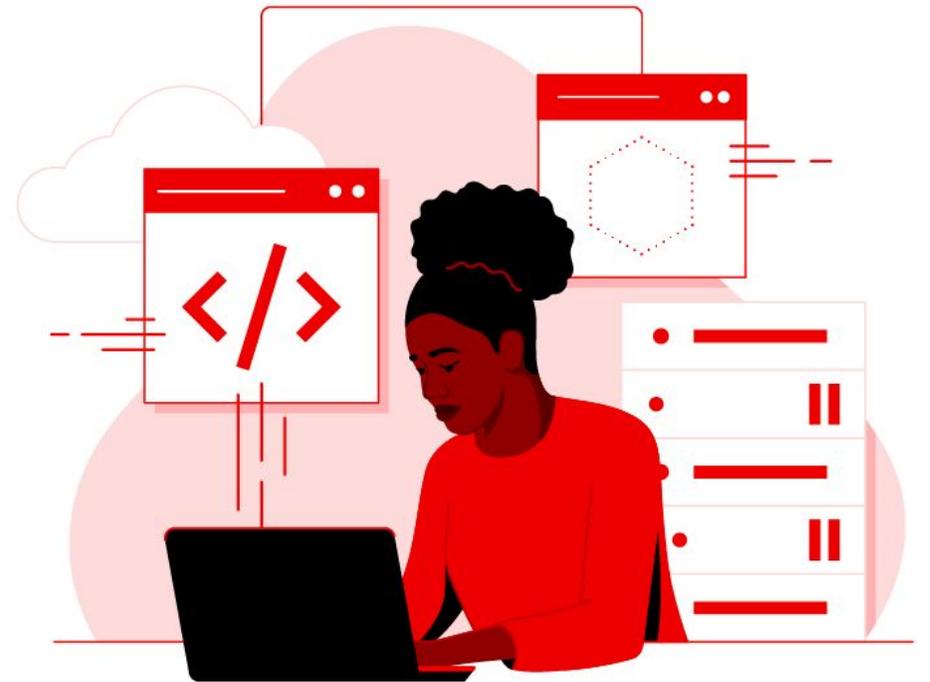
Legacy systems, or other hurdles to modernization?



What else might be a blocker for you?

# Where do you want to spend your time?

**“73.5%** of technology leaders are outsourcing the implementation, maintenance and optimization of their cloud platforms...”



We can help.



**Empower developers to innovate**

Get applications, both new and modernized, to production sooner with a wide range of technologies and streamlined workflows.

**Provide a cloud-like experience, everywhere**

Have full-stack and automated operations on a consistent foundation for on-premises or hybrid cloud infrastructures.

**Transform your people, process, culture**

Continuous security, world-class support and professional services, and deep expertise from Red Hat..

**64%** of the top 25 companies on the Fortune Global 500 list use Red Hat OpenShift.

# A consistent platform no matter how or where you run

Red Hat OpenShift cloud services—Fully managed, start quickly



Red Hat OpenShift Service  
on AWS



Azure Red Hat  
OpenShift



IBM **Cloud**

Red Hat OpenShift  
on IBM Cloud



Google Cloud

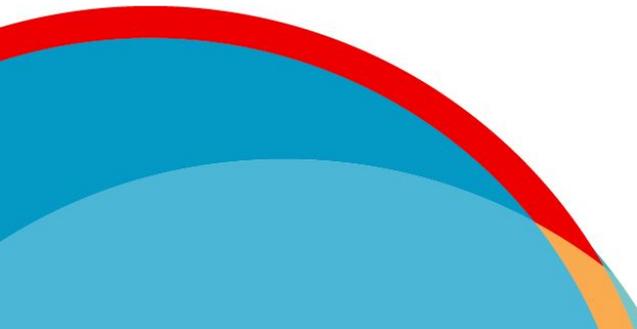
Red Hat OpenShift  
Dedicated

Self-Managed Red Hat OpenShift—Customer managed, for control and flexibility



On **public cloud**, on-premises on **physical** or **virtual** infrastructure, and at the **edge**

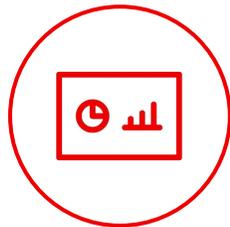
# Benefits of OpenShift Cloud Services



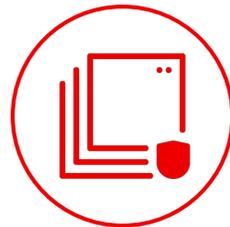
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# How are Red Hat OpenShift cloud services different?



1st party, joint solutions with  
leading cloud providers



Turnkey application  
platform



Consistent hybrid cloud  
experience

# Red Hat OpenShift cloud services

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



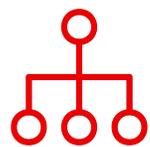
## Accelerate time to value

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

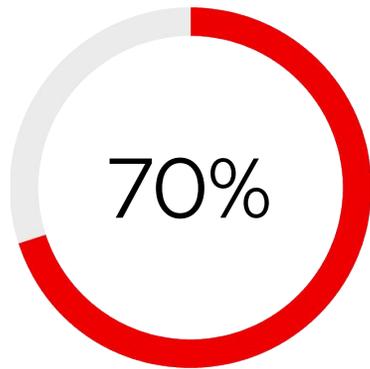
Simplify operations so your teams can refocus on innovation, not managing infrastructure.



## Hybrid cloud flexibility

Deliver a consistent experience on premises and in the cloud.

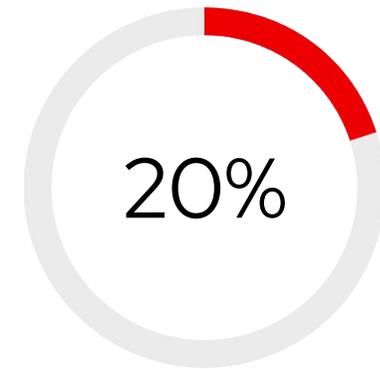
# Improve **efficiency** and **productivity**



Shortened development cycle by 70%<sup>1</sup>



50% improvement in operational efficiency<sup>1</sup>



20% of developer time is recaptured<sup>1</sup>

<sup>1</sup>[The Total Economic Impact™ of Red Hat OpenShift Cloud Services by Forrester, "Jan. 2022.](#)

# Value of an Turnkey Application Platform

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*“Do you want Kubernetes, or do you want a better way to build, deploy, and run apps at scale?”*

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# Build and run a platform **VS** using a turnkey cloud service

## “Batteries Included”

... but swappable

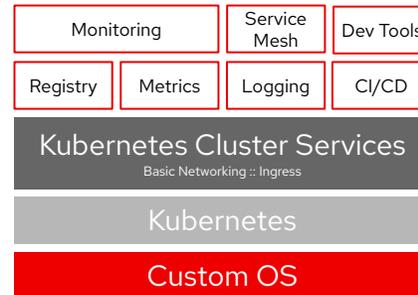
Individual components can be swapped out

Eg.

- Using Azure Log Analytics for logging on Azure
- Use specific cloud services or ISV offerings



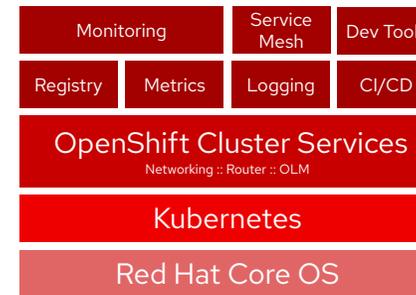
The Parts



xKS + 'native' services



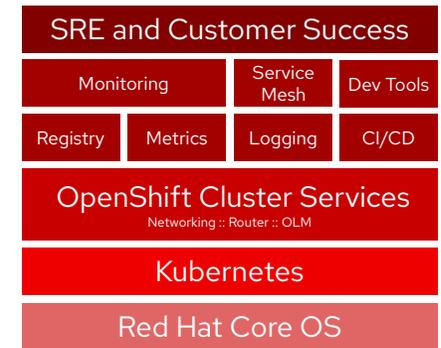
The Assembled Car



- Application Platform - Self-managed Red Hat OpenShift



The Car & Pit Crew

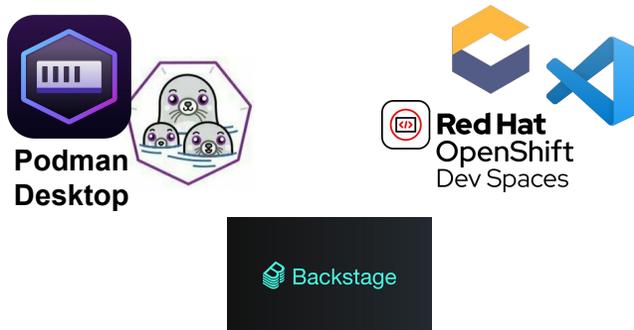


- Turnkey Application Platform - Red Hat OpenShift cloud services

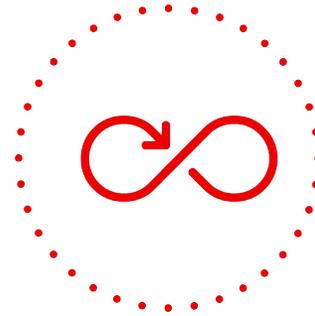
# Cloud Native Apps Need More than Kubernetes



## Developer Experience



**Drive Developer Productivity**



## GitOps/DevOps App Modernization



**Accelerate Application Delivery**



## Management & Security



**Scale & Reduce Risk**



# OpenShift Pipelines



## Built for Kubernetes

Cloud-native pipelines taking advantage of Kubernetes execution and, operational model and concepts.



## Secure pipeline execution

Kubernetes RBAC and security model ensures security consistently across pipelines and workloads.



## Scale on-demand

Pipelines run and scale on-demand in isolated containers, with repeatable and predictable outcomes.



## Reduced complexity

Granular control over pipeline execution details on Kubernetes, to support your exact requirements.

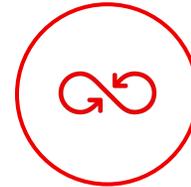
Powered by  **TEKTON**

# OpenShift GitOps



## Multi-cluster config management

Declaratively manage cluster and application configurations across multi-cluster OpenShift and Kubernetes infrastructure with Argo CD.



## Opinionated GitOps bootstrapping

Bootstrap end-to-end GitOps workflows for application delivery using Argo CD and Tekton with GitOps Application Manager CLI.



## Automated Argo CD install & upgrade

Automated install, configurations and upgrade of Argo CD through OperatorHub.



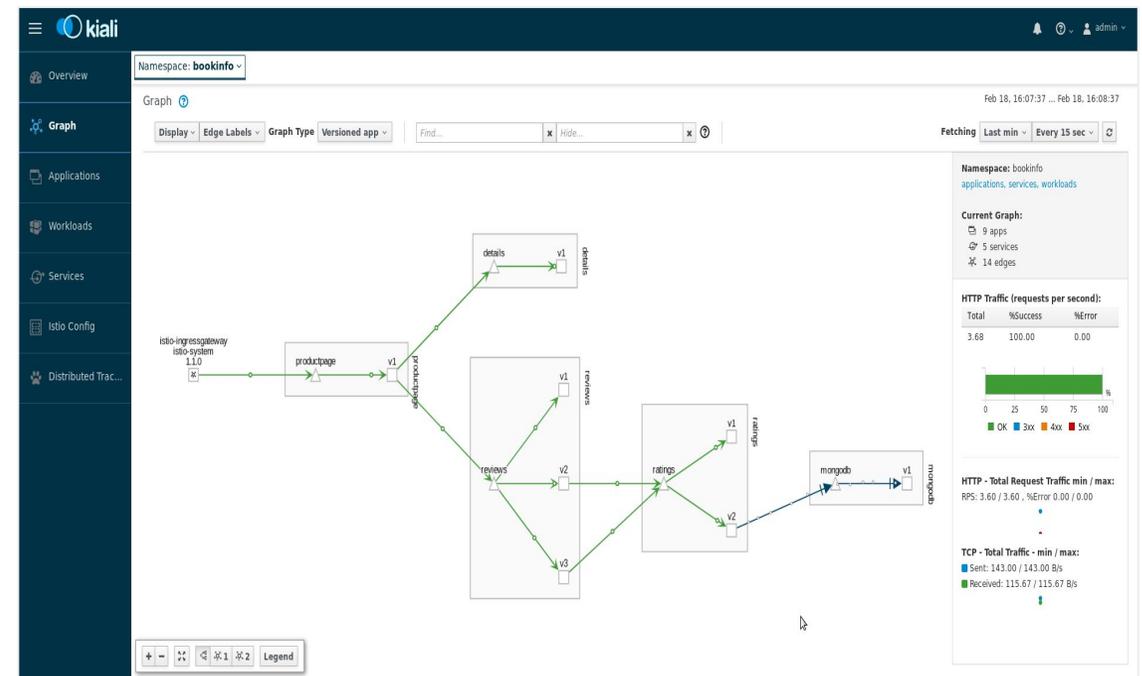
## Deployments & environments insights

Visibility into application deployments across environments and the history of deployments in the OpenShift Console.

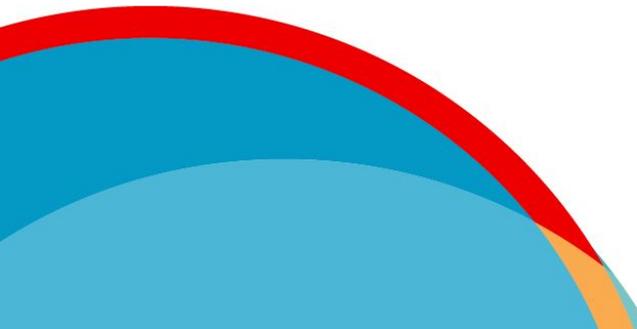
Powered by  argo

# OpenShift Service Mesh

- ▶ Complete service mesh, including tracing and visualization capabilities, packaged for ease of use
- ▶ Policy-driven security with a dedicated network for service-to-service communications
- ▶ Available via OperatorHub



# Azure Red Hat OpenShift (ARO)



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OpenShift cloud services are 1st party, cloud native solutions.



Red Hat OpenShift  
Service on AWS



Azure Red Hat  
OpenShift



Red Hat OpenShift on  
IBM Cloud



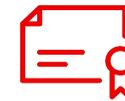
Integrated  
Dev tools and cloud  
native services



Joint  
Support & Engineering



Automation and Day 2  
Operations



Security and  
compliance



Single invoicing,  
utilize cloud  
committed spend

# Azure Red Hat OpenShift

A jointly supported, turnkey application platform native to Azure.



## Focus on innovation

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

## Accelerate time to value

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

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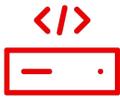
# ARO integrates Azure Developer and Management Tools



OpenShift developer console



Code Ready Workspaces



OpenShift Operators



OpenShift Pipelines



Red Hat Runtimes



OpenShift API Management



OpenShift Serverless



OpenShift Service Mesh



OpenShift GitOps



Log analytics workspace



Azure Arc-enabled OpenShift cluster



Azure Resource Manager



Azure AD



Azure Monitor



Azure Firewall



Azure Arc



Azure Visual Studio

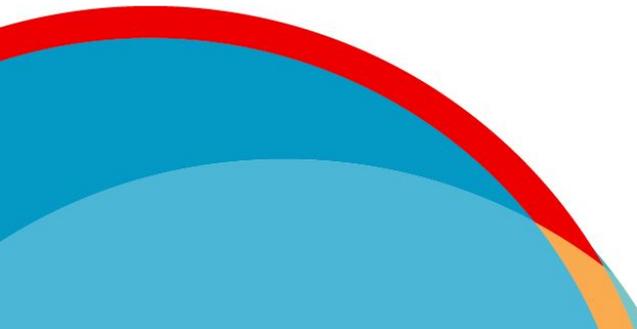


Azure Load Testing



Azure Log Analytics

# Operational Efficiency



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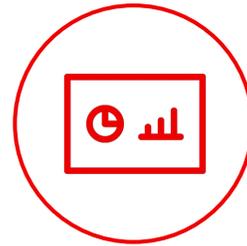


# Containers come with their own challenges



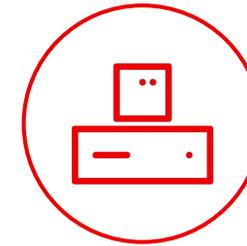
## Container security

Image scanning, patching, and compliance.



## Day 2 management

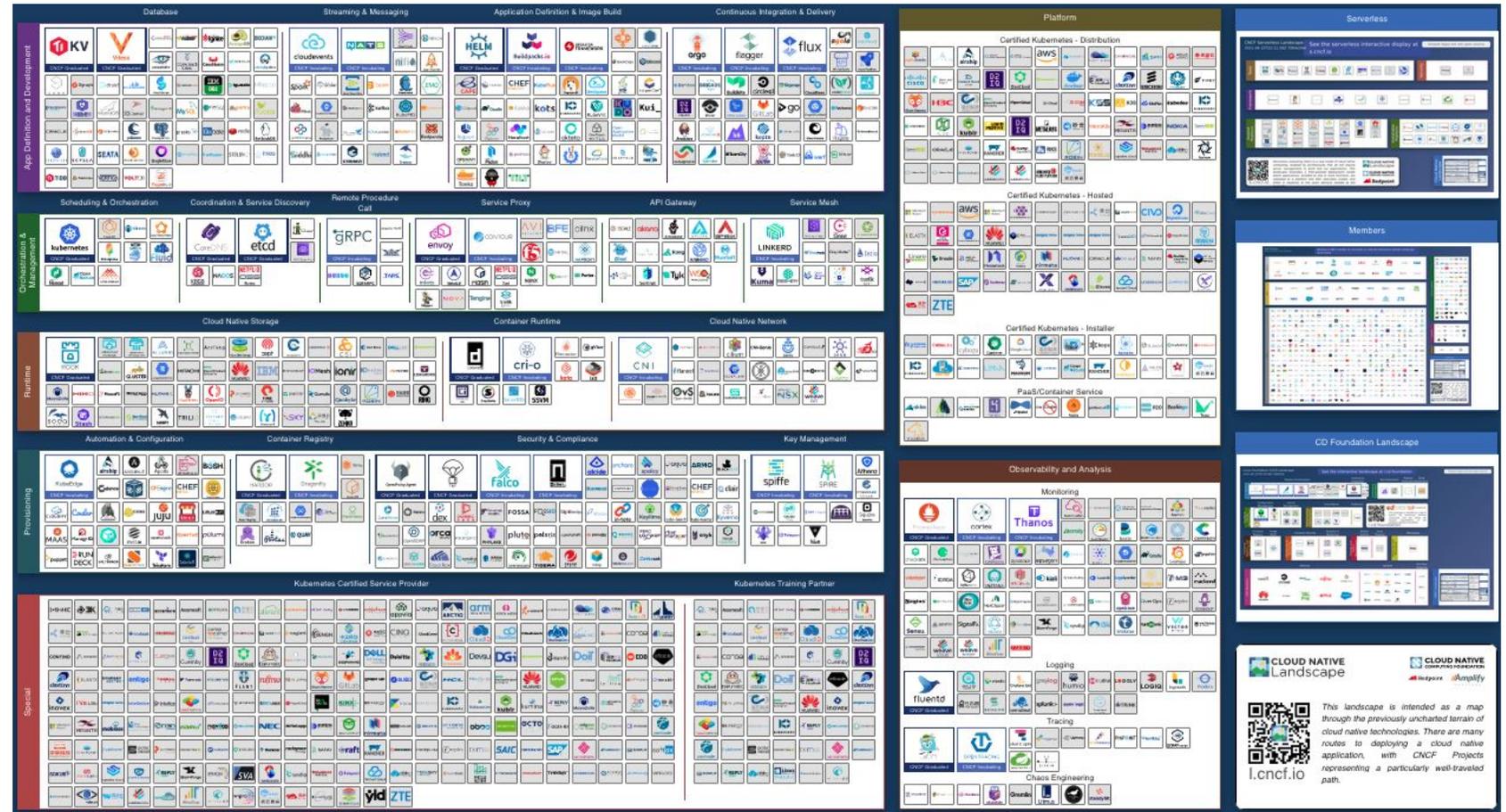
Install, upgrade, and maintain.  
Integrate existing enterprise technology.



## Application delivery

Monitoring, metering, and management. Integrate existing developer tools.

# The complexity of cloud native app dev



# An opinionated platform for building, deploying and running applications

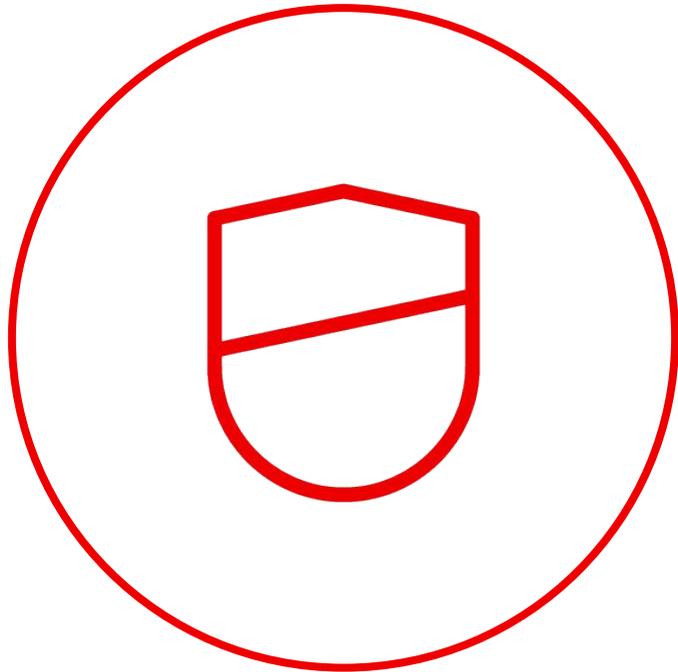


Service Mesh	App-Services	DB-Services
CI/CD	DNS	Authentication
Monitoring	<b>Kubernetes</b>	Automation
Logging	Registry	Security
Compute	Storage	Network

- ▶ Fully integrated and supported components
- ▶ Expert SRE and Customer Success support
- ▶ Abstracts away technical details
- ▶ Consistent experience across clouds

# Move from 24x7 operations to 9-5 innovation

End-to-End support for your entire application platform



- ▶ OpenShift cloud services includes **full support for worker nodes**
  - Zero downtime upgrades
  - Proactive monitoring
  - Automated patching
  - **Compliance and certifications** extend to worker nodes
- ▶ **99.95%** financially backed SLA
- ▶ **24x7 joint support** from Red Hat and cloud provider
- ▶ Automation and **Day 2 Operations** by global SREs

# Full Stack management from a global Site Reliability Engineering (SRE) team



## Who are our SREs?

- ▶ Developers and systems engineers who know how to handle volume and a diversity of clusters.
- ▶ Uniquely offer both an engineering and development mindset.

## SRE responsibilities

- ▶ Build solutions and features.
- ▶ Automate at scale.
- ▶ Day 2 operations: monitor, patch, and upgrade the platform.
- ▶ Work hand in hand with cloud providers and open source community.

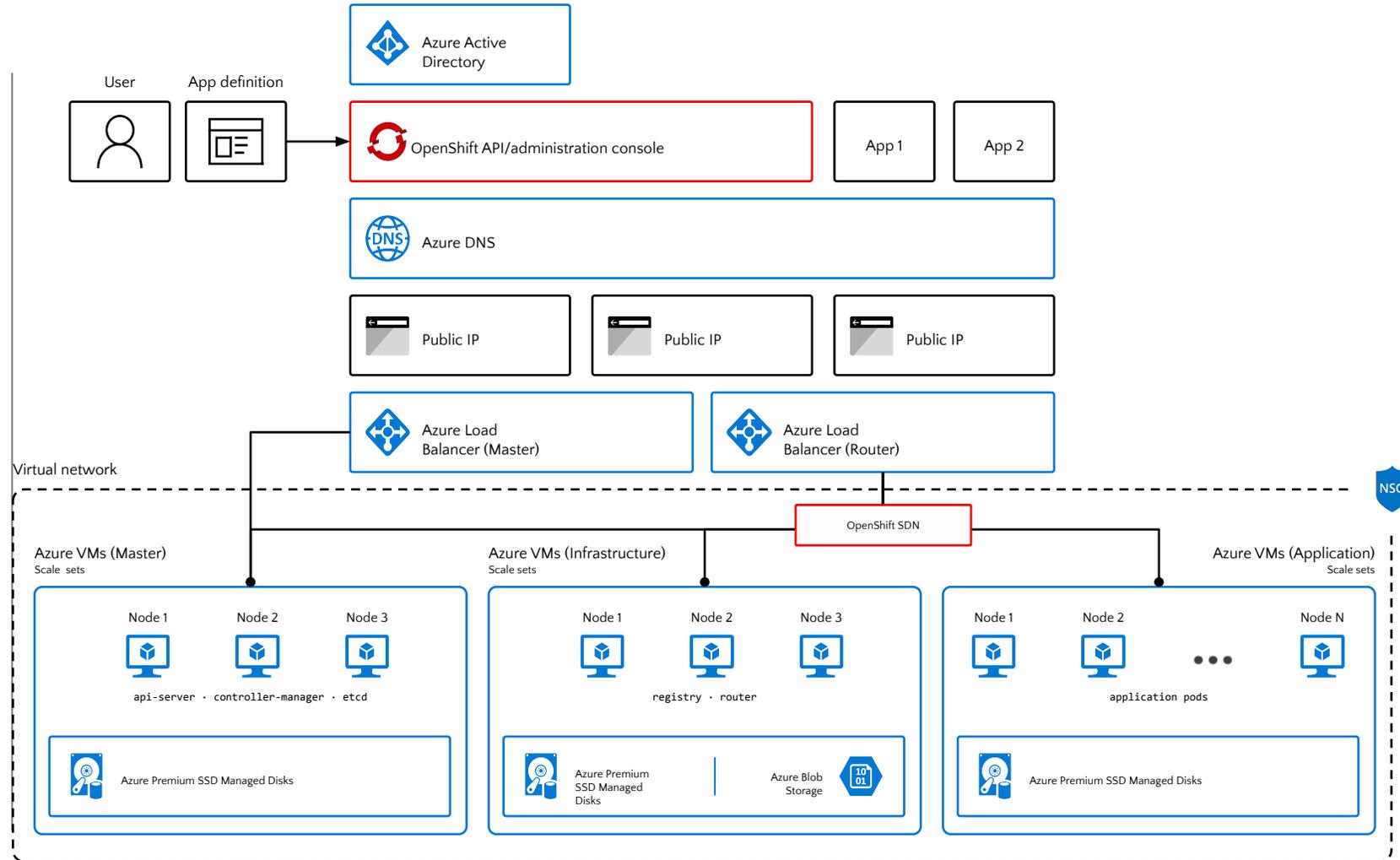
## Customer benefits

- ▶ Accelerate application development and delivery through automation.
- ▶ Improve operational efficiency, security and resiliency.
- ▶ Refocus on innovation and core competencies.

# Intricacy of running your own Kubernetes Cluster

Responsibilities	
User management	Customer
Project and quota management	Customer
Application lifecycle	Customer
Cluster creation	Customer
Cluster management	Customer
Monitoring and logging	Customer
Network configuration	Customer
Software and security updates	Customer
Platform support	Microsoft and Red Hat

Customer
  Microsoft and Red Hat



# Simplify with fully managed ARO clusters

Red Hat OpenShift cloud services

Responsibilities	
User management	Customer
Project and quota management	Customer
Application lifecycle	Customer
Cluster creation	Microsoft and Red Hat
Cluster management	Microsoft and Red Hat
Monitoring and logging	Microsoft and Red Hat
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Software and security updates	Microsoft and Red Hat
Platform support	Microsoft and Red Hat

Customer Microsoft and Red Hat



Let Microsoft and Red Hat...

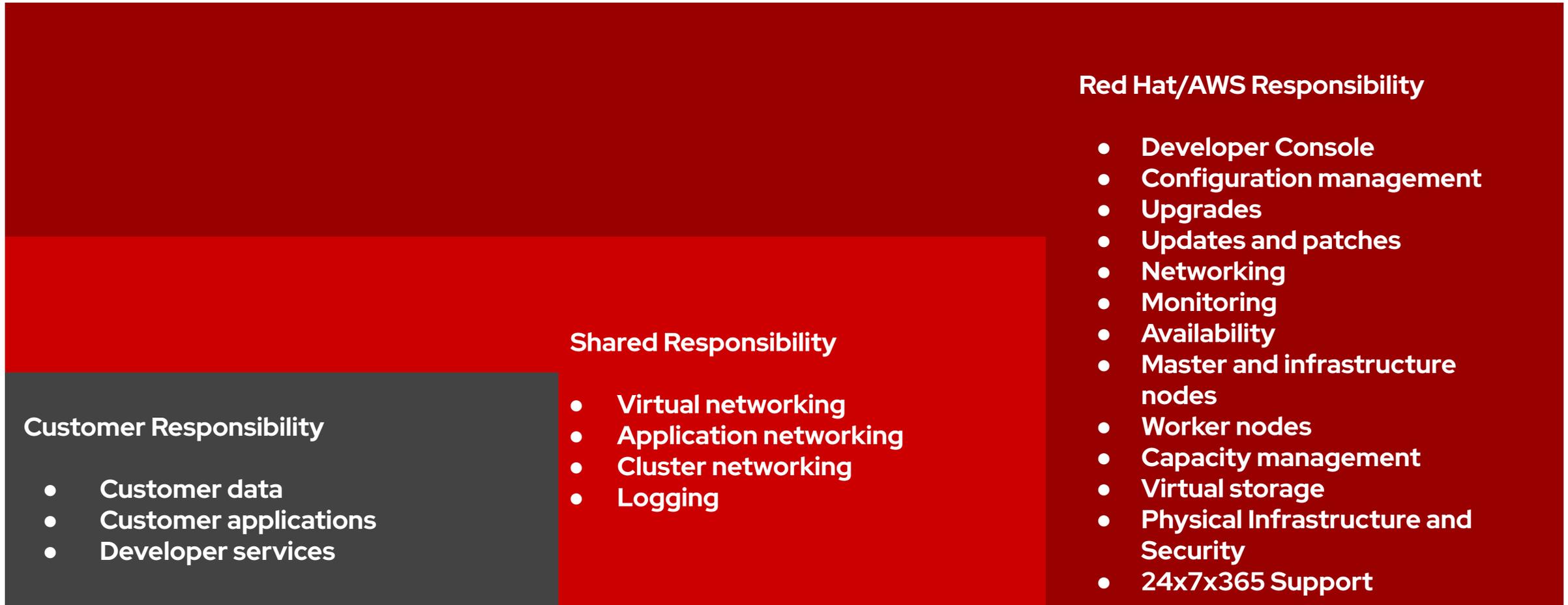
Manage all your clusters

Monitor and operate your VMs

Secure your nodes

Manage environment patches

# Red Hat OpenShift cloud services Simplified Responsibility Model



[Detailed OpenShift Dedicated Responsibility Assignment Matrix](#)

# Red Hat OpenShift cloud services

## Compliance and Certifications

### Azure Red Hat OpenShift (ARO)

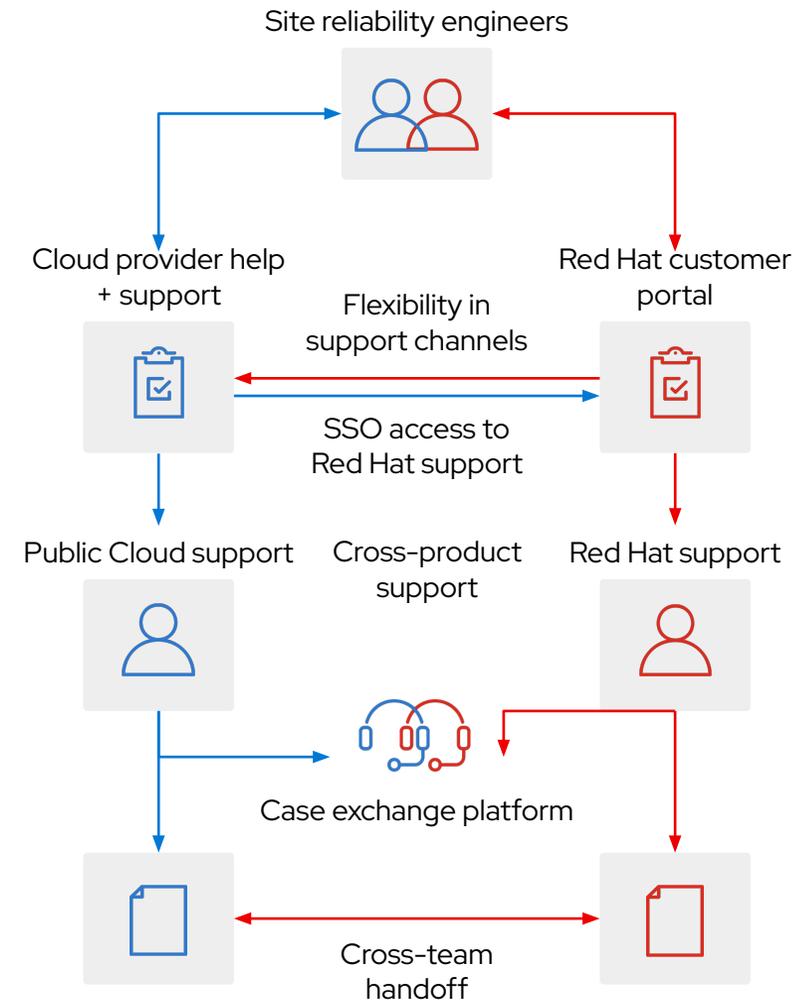
- CSA STAR Certification
- CSA STAR Attestation
- ISO 20000-1:2018, ISO 22301:2019, ISO 27001:2013, ISO 27017:2015, ISO 27018:2019, ISO 27701:2019, ISO 9001:2015
- SOC1, SOC2, SOC3
- GSMA SAS-SM
- HIPAA
- FedRamp High
- BAA
- HITRUST
- PCI DSS
- Germany C5
- Singapore MTCS Level 3 and Singapore OSPAR

[ARO Compliance Source](#)

# Integrated support

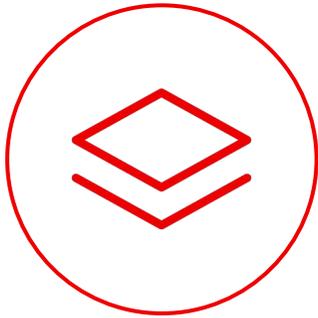
Jointly engineered, operated, and supported by Red Hat and our cloud partners

- ▶ 24x7 in-portal integrated support experience
- ▶ Colocated support with Red Hat onsite team
- ▶ Integrated case systems
- ▶ Red Hat and cloud provider security response team collaboration



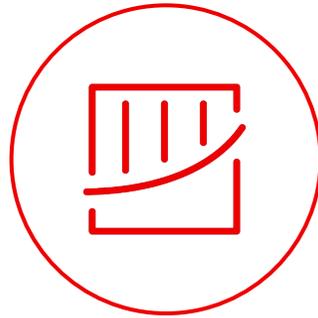
# Azure Red Hat OpenShift

Build and scale applications with confidence. We do the rest.



## Turnkey application platform

Platform is fully integrated with tools and technologies you need for cloud-native application development, deployment, and management.



## Accelerate time to value

Get started quickly and enable your teams to focus on building apps rather than building and maintaining application platforms.



## Expert management and support

Focus on your core business, leaving management, support, and operations of the platform to Red Hat and Microsoft

[Learn more.](#)

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**Thank you**