



Red Hat OpenShift Service on AWS

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Agenda

AWS Cloud Introduction

Red Hat OpenShift Service on AWS (ROSA)

Integrating ROSA with AWS



AWS Cloud Introduction



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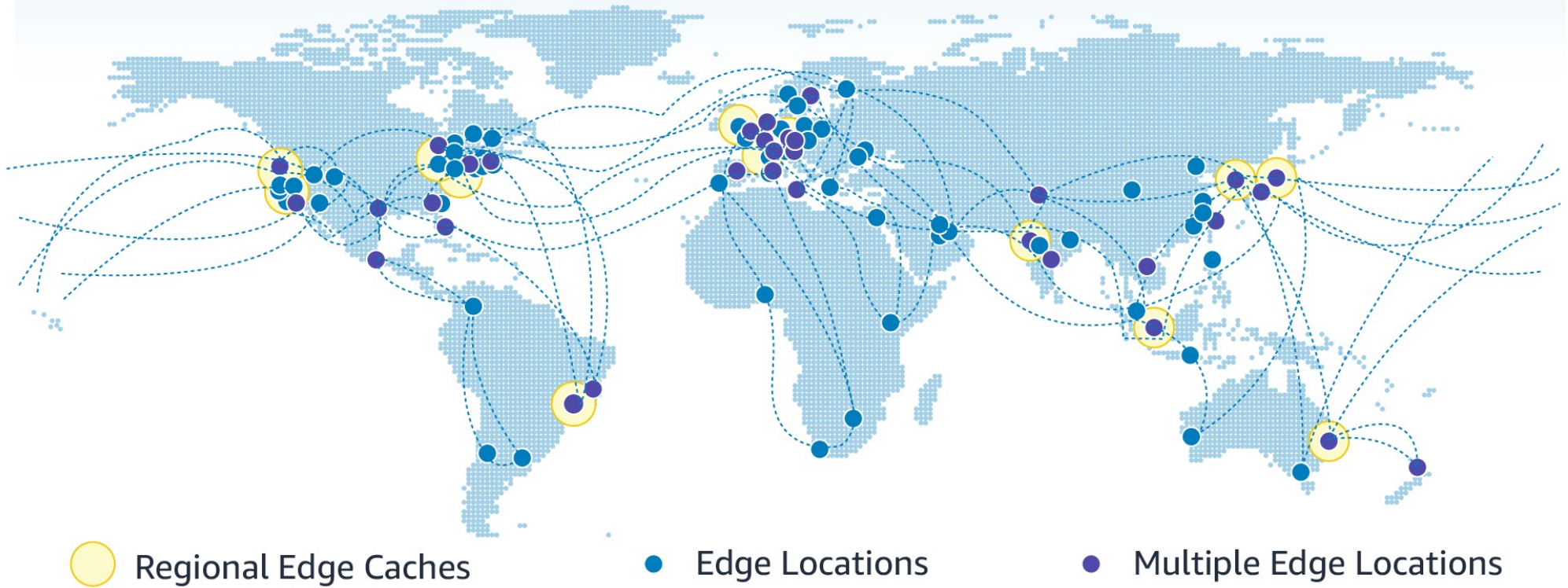
How do customers benefit from the cloud?

Agility	Teams can experiment and innovate quickly and frequently
Cost Savings	Only pay for what you use, leveraging economies of scale
Elasticity	Easily scale up or down with the needs of the business
Innovation	Focus on business differentiators, not infrastructure
Global Footprint	Extensive, reliable, and secure global cloud infrastructure

38 Launched Regions

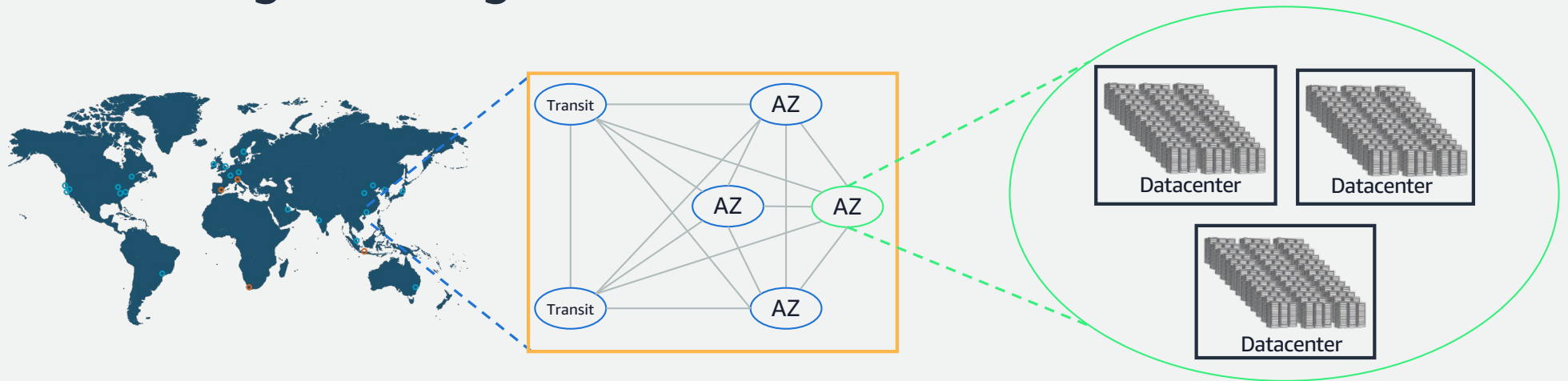
120 Availability Zones

700+ Points of Presence



Planned expansion
10 more Availability Zones
3 more AWS Regions

AWS Region design



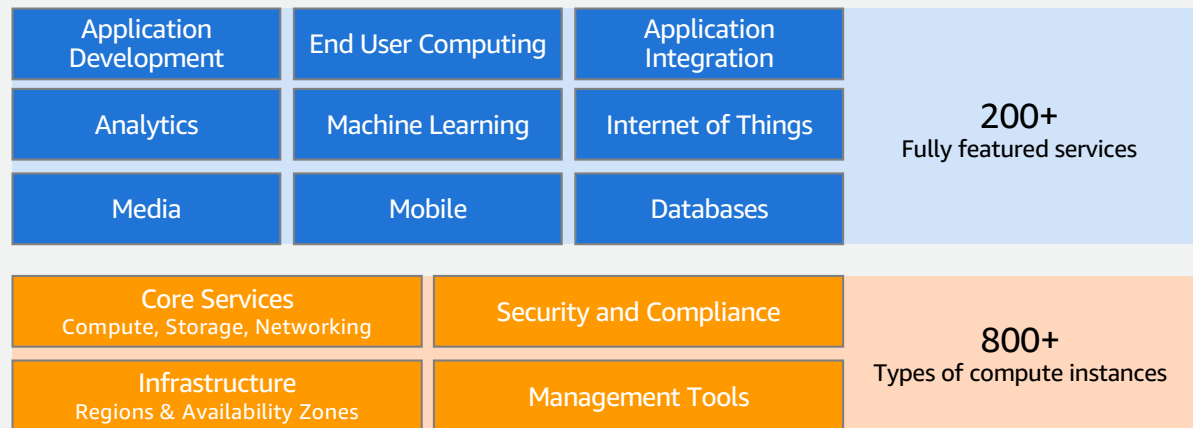
AWS Region

A Region is a physical location around the world where we cluster data centers. We call each group of logical data centers an **Availability Zone**.

AWS Availability Zone (AZ)

Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities.

Support virtually any workload



Customer benefits with AWS + Red Hat

Nucleus studied enterprise organizations' journey from on-premises to the **AWS Cloud**

Observations include:

69%

reduction in unplanned downtime

64%

reduction in mean time to resolution

40%

reduction of overall IT costs

43%

reduction in security events



Forrester conducted a Total Economic Impact (TEI) study on **ROSA**

Observations include:

60-70%

reduction in development time

50%

improvement in operational efficiency

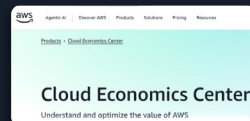
486%

return on investment (ROI)

20%

of developer time recaptured

Visit [AWS Cloud Economics Center](#) to further understand value of AWS



[Red Hat OpenShift Service on AWS enables innovation and agility for modern business](#)



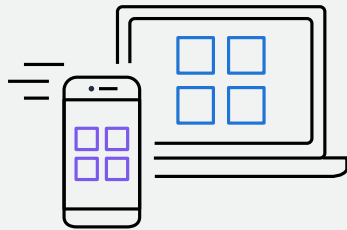
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Red Hat OpenShift Service on AWS (ROSA)

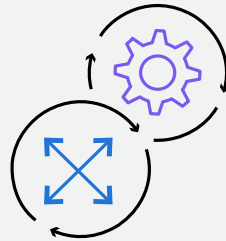


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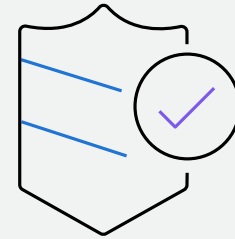
What our customers ask for



Build applications,
not infrastructure



Scale quickly
and seamlessly



Security and
isolation by design

Container orchestration: ECS, EKS, and ROSA



ECS

Powerful simplicity

AWS-opinionated way to run containers at scale

Reduce decisions without sacrificing scale or features

Reduce time to build, deploy, and migrate applications



EKS

Open flexibility

AWS-optimized managed upstream Kubernetes with four supported versions

Build your custom platform for compliance and security, with AWS services and community solutions

Accelerate your containerization and modernization with canonical patterns using AWS Blueprints



ROSA

Turn-key Platform

Integrated Kubernetes based application platform with built-in CI/CD, monitoring, and developer tools.

Continue with existing OpenShift skills and processes from on-prem environments to the cloud

Accelerate application migration and modernization by re-hosting, re-platforming, or re-factoring workloads



Red Hat OpenShift Service on AWS differentiation

Ease of use

Create OpenShift clusters from console or CLI in minutes

Reuse existing skills

Unified bill

Leverage your existing AWS commitment to use OpenShift

Get single unified bill from AWS for both OpenShift and AWS consumption

Pay-as-you-Go pricing

24/7 joint support

Integrated support systems

Contact AWS or RedHat for support

Built on AWS and RedHat's decades of enterprise IT knowledge and experience

AWS integrations

Consume AWS services through OpenShift



Platform: build or buy?



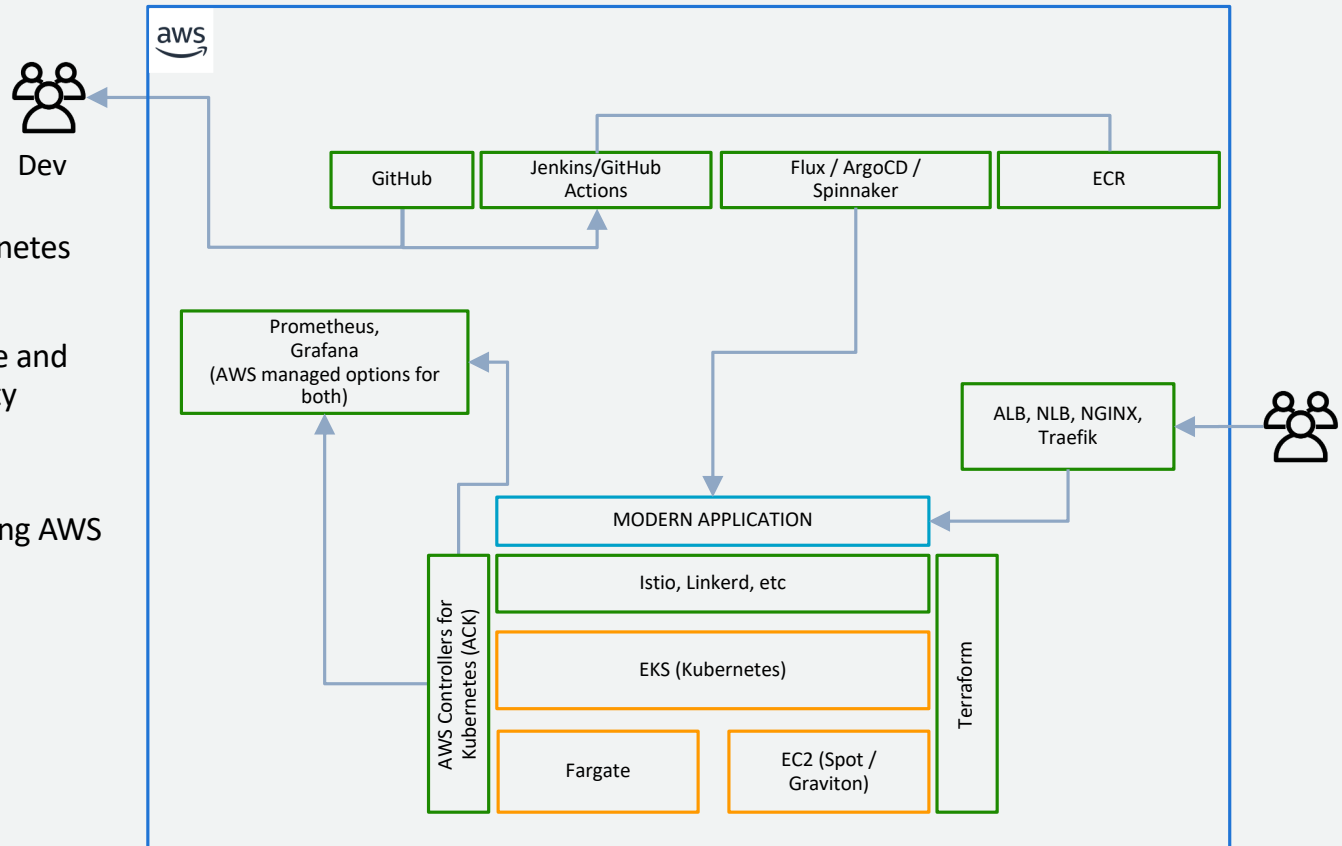
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Build vs. buy

Amazon EKS

Open source flexibility

- AWS-optimized managed upstream Kubernetes with four supported versions
- Build your custom platform for compliance and security, with AWS services and community solutions
- Accelerate your containerization and modernization with canonical patterns using AWS Blueprints



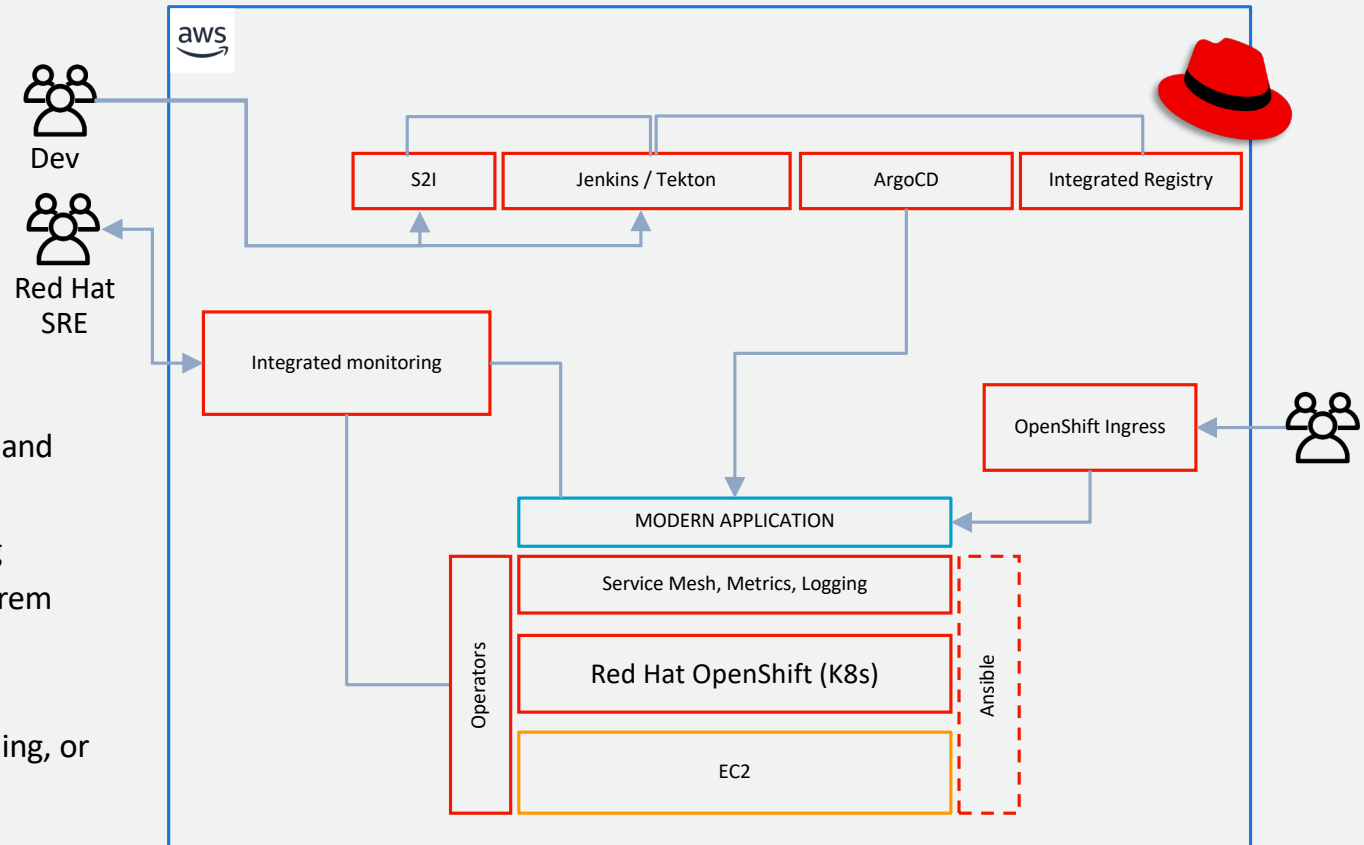
Build vs. buy



Red Hat OpenShift on AWS

Turn-key application platform

- Integrated Kubernetes based application platform with built-in CI/CD, monitoring, and developer tools.
- Activate ROSA and continue with existing OpenShift skills and processes from on-prem environments to the cloud
- Accelerate application migration and modernization by re-hosting, re-platforming, or re-factoring workloads



ROSA: Batteries included but swappable



OpenShift Service Mesh with Istio to connect, secure, and observe services



OpenShift Serverless with Knative to enable hybrid serverless, FaaS, and event-driven architectures



OpenShift builds with Shipwright to build images from code using S2I + others and integrate with GitHub Actions



OpenShift Pipelines with Tekton to provide Kubernetes-native CI/CD pipelines



OpenShift GitOps with ArgoCD to enable declarative GitOps-based continuous delivery



Application-level observability for developers to build and manage their apps



Log management of infrastructure, application, and audit logs + forwarding capabilities



Cost management visibility, mapping, and modeling across hybrid infrastructure in order to stay on budget

Kubernetes Cluster Services

Install | Over-the-air updates | Networking | Ingress | Storage | Monitoring | Log forwarding | Registry | Authorization | Containers | Operators | Helm

Kubernetes

Linux



Amazon EC2



Benefits of ROSA turnkey application platform



Developers

Fully managed clusters in minutes to build, deploy, and run applications using built-in developer UI that abstracts the complexity of Kubernetes

Collaborate across teams via shared projects



Administrators

Standardized and streamlined operations across on-premises and AWS environments

Built-in monitoring, logging, and networking

Choose platform version upgrade as required for the business



Business leaders

Consolidated billing and cost management across the business

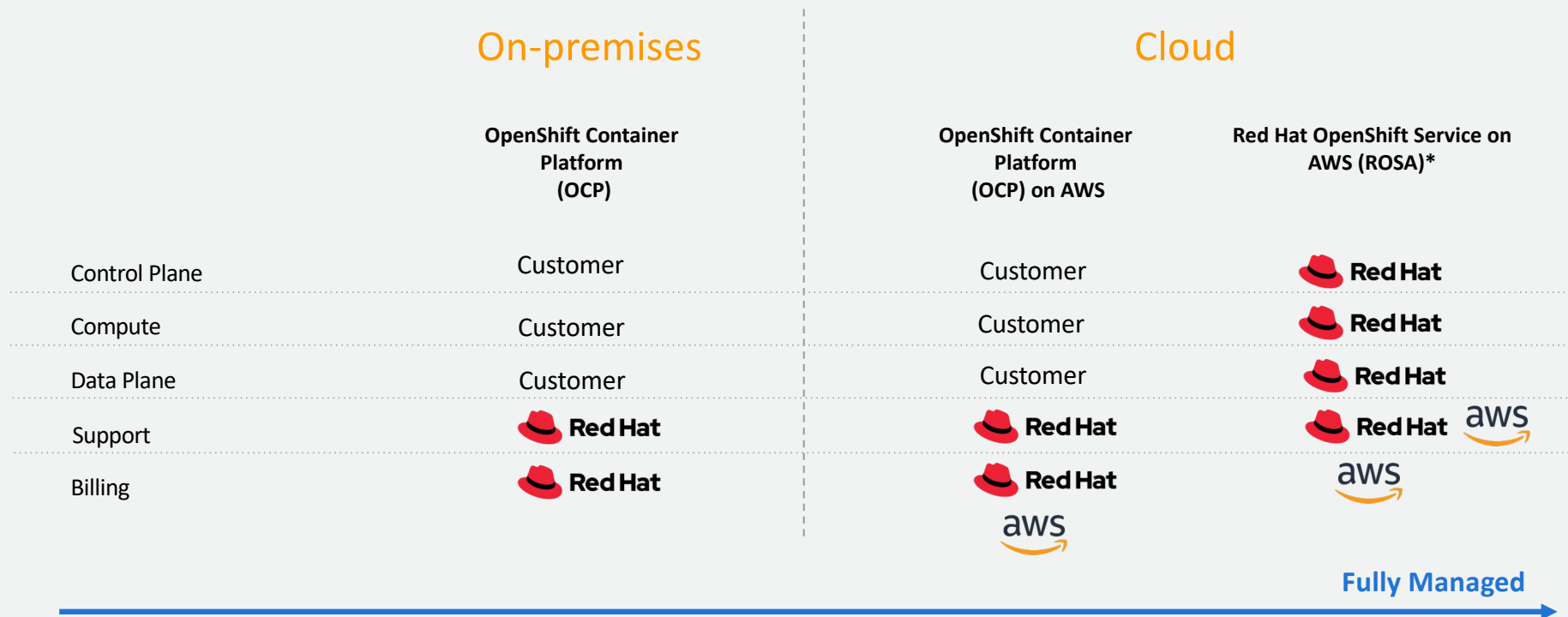
Consumption-based pricing for surge and R&D usage

24/7 full-stack management and support

Financially backed 99.95% SLA



OpenShift deployment options



AWS and Red Hat Partnership Helps Customers Meet Digital Needs

Red Hat and AWS are industry leaders with extensive experience in **IT infrastructure, hybrid cloud, digital transformation, and open source innovation.**

Through **collaborative engineering** activities, they offer integrated, certified solutions to meet modern, digital business needs.

Consistent, enterprise-grade platforms with advanced security and management features help organizations build IT infrastructure that supports their business efficiently and cost-effectively and adapts on their schedule.

"Given that Red Hat is the world's leading provider of open-source solutions, our enterprise customers have been passionate about seamlessly running Red Hat Enterprise Linux and various other Red Hat solutions on AWS."

Andy Jassy | CEO, Amazon

Red Hat and AWS by the numbers

Partners since
2008

>60,000
of AWS customers consume Red Hat products and solutions



ROSA – Consumption based pricing

<https://aws.amazon.com/rosa/pricing/>

ROSA Service Fees

\$0.171/4vCPU/hour for
Worker Nodes
(\$1500/year)

Plus \$0.03/hour/cluster
(\$263/year)



AWS Infrastructure Fees

Infra, Worker, and Control plane
EC2 instances and EBS volumes by
region

Data transfer costs for multi-AZ
deployments



Private Offers

1 and 3 year
subscriptions for 33%
and 55% discount

Reserved Instances,
Savings Plans

Pricing for Red Hat OpenShift Service on AWS is the same for all AWS supported regions.



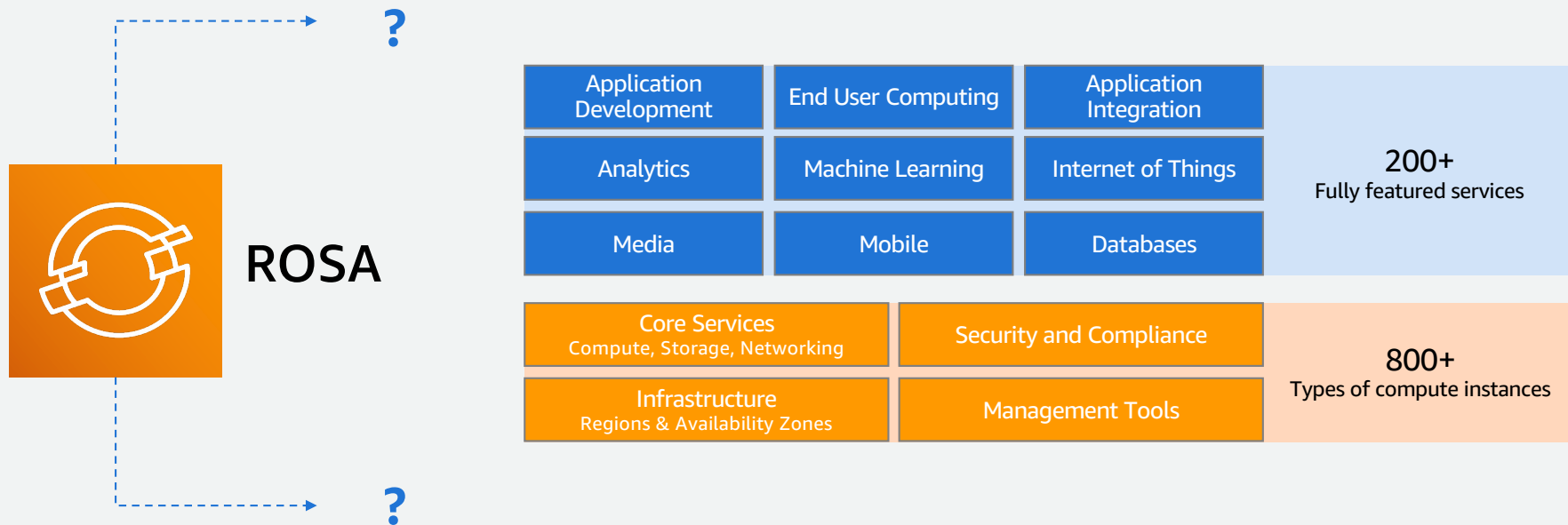
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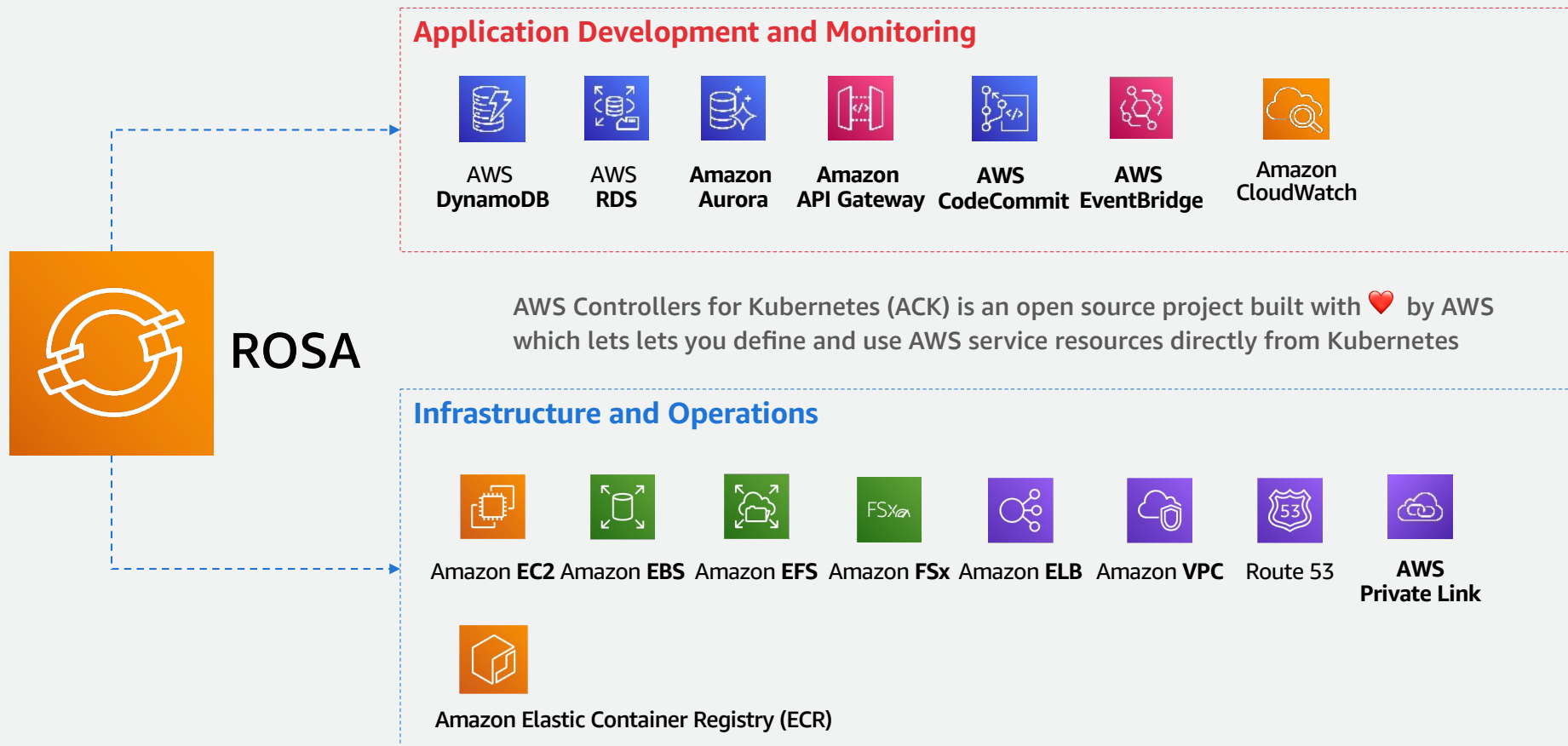
AWS Integrations



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Business value beyond the applications running on ROSA

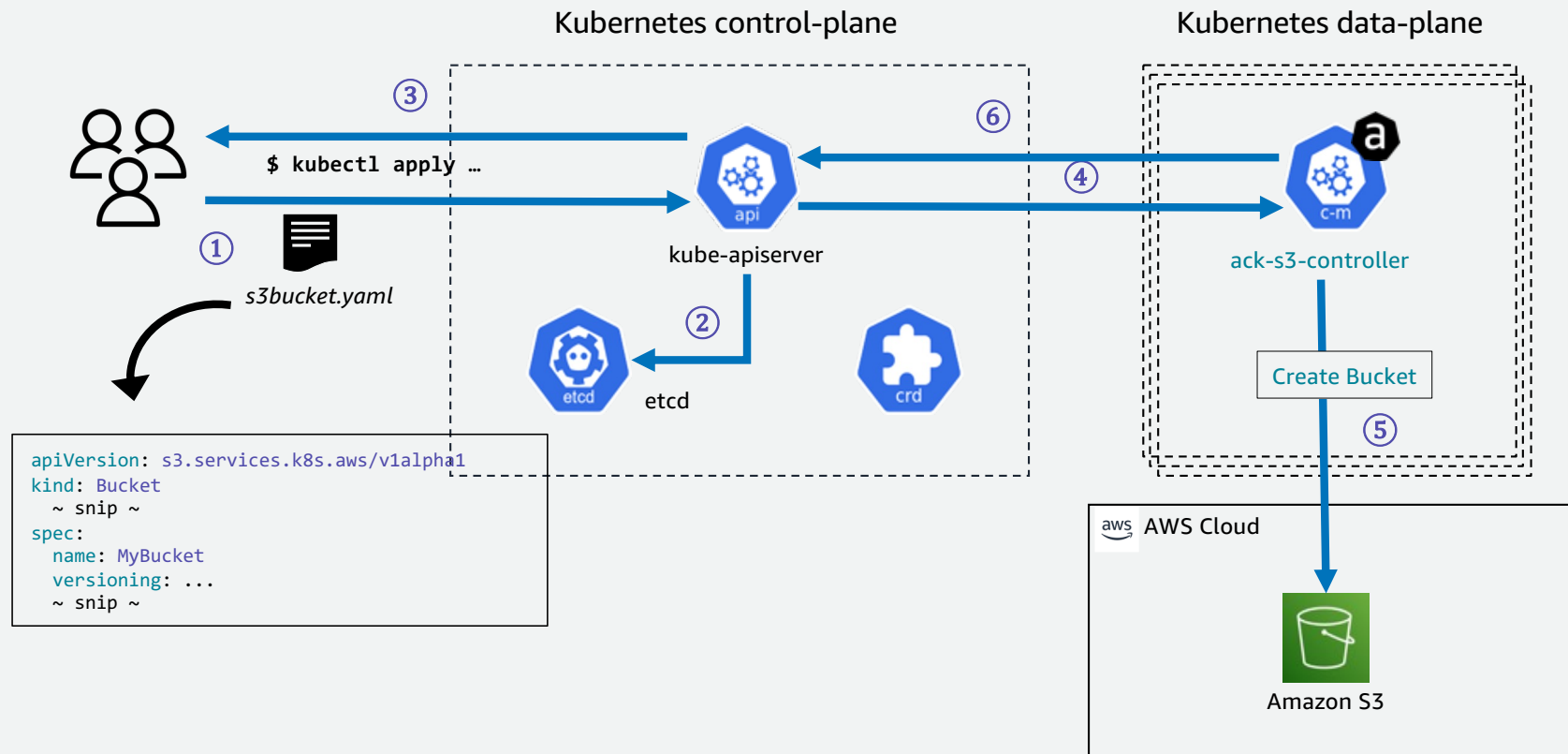




AWS Controllers for Kubernetes (ACK) is an open source project built with ❤️ by AWS which lets lets you define and use AWS service resources directly from Kubernetes

Ongoing updates to integrations available via AWS Controllers for Kubernetes on [Operator Hub](#)

ACK Workflow



Available in OperatorHub

Home

Operators

OperatorHub

Installed Operators

Workloads

Networking

Storage

Builds

Observe

Compute

User Management

Administration

OperatorHub

Discover Operators from the Kubernetes community and Red Hat partners, curated by Red Hat. You can purchase commercial software through [Red Hat Marketplace](#). You can install Operators on your clusters to provide optional add-ons and shared services to your developers. After installation, the Operator capabilities appear in the [Developer Catalog](#) providing a self-service experience.

All Items

AI/Machine Learning

Application Runtime

Big Data

Cloud Provider

Database

Developer Tools

Development Tools

Drivers and plugins

Integration & Delivery

Logging & Tracing

Modernization & Migration

Monitoring

Networking

OpenShift Optional

Security

Storage

Streaming & Messaging

Other

Source

☐ Red Hat (3)

☐ Certified (0)

☐ Community (33)

☐ Marketplace (0)

Provider

☐ Red Hat (4)

☐ APIMatic.io (0)

☐ Accuknox (0)

☐ Aerospix (0)

☐ Alvearie (0)

[Show 163 more](#)

Install state

All Items

aws

Community

AWS Controllers for Kubernetes - Amazon ACM

provided by Amazon, Inc.

AWS ACM controller is a service controller for managing ACM resources in Kubernetes

aws

Community

AWS Controllers for Kubernetes - Amazon API Gateway v2

provided by Amazon, Inc.

AWS API Gateway v2 controller is a service controller for managing API Gateway v2 resources in...

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Community

AWS Controllers for Kubernetes - Amazon Application Auto Scaling

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AWS Application Auto Scaling controller is a service controller for managing Application Auto...

aws

Community

AWS Controllers for Kubernetes - Amazon CloudTrail

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AWS CloudTrail controller is a service controller for managing CloudTrail resources in...

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Community

AWS Controllers for Kubernetes - Amazon DynamoDB

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AWS DynamoDB controller is a service controller for managing DynamoDB resources in...

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Community

AWS Controllers for Kubernetes - Amazon EC2

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AWS EC2 controller is a service controller for managing EC2 resources in Kubernetes

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Community

AWS Controllers for Kubernetes - Amazon ECR

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AWS ECR controller is a service controller for managing ECR resources in Kubernetes

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AWS Controllers for Kubernetes - Amazon EKS

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AWS EKS controller is a service controller for managing EKS resources in Kubernetes

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AWS Controllers for Kubernetes - Amazon ElastiCache

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AWS ElastiCache controller is a service controller for managing ElastiCache resources in...

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AWS Controllers for Kubernetes - Amazon EMR on EKS

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AWS EMR on EKS controller is a service controller for managing EMR on EKS resources in...

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AWS Controllers for Kubernetes - Amazon EventBridge

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AWS EventBridge controller is a service controller for managing EventBridge resources in...

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AWS Controllers for Kubernetes - Amazon IAM

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Community

AWS Controllers for Kubernetes - Amazon Kinesis

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Community

AWS Controllers for Kubernetes - Amazon KMS

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AWS KMS controller is a service controller for managing KMS resources in Kubernetes

aws

Community

AWS Controllers for Kubernetes - Amazon Lambda

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AWS Lambda controller is a service controller for managing Lambda resources in Kubernetes

aws

Community

AWS Controllers for Kubernetes - Amazon MQ

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AWS MQ controller is a service controller for managing MQ resources in Kubernetes

aws

Community

AWS Controllers for Kubernetes - Amazon OpenSearch Service

provided by Amazon, Inc.

AWS OpenSearch Service controller is a service controller for managing OpenSearch...

aws

Community

AWS Controllers for Kubernetes - Amazon Prometheus

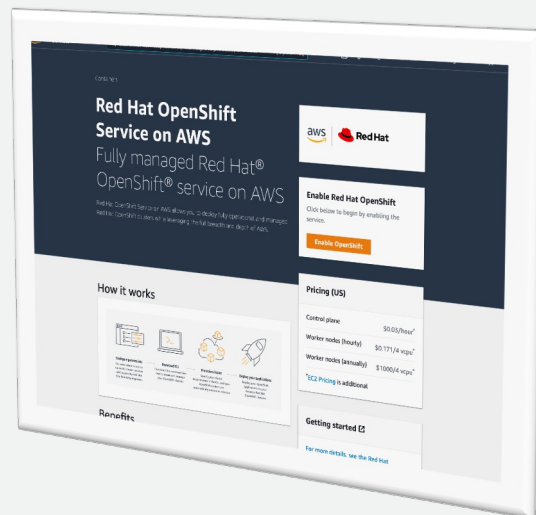
provided by Amazon, Inc.

AWS Prometheus controller is a service controller for managing Prometheus resources in...

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Red Hat OpenShift Service on AWS - Summary



- Focus on **innovation** to add value to your business
- Reduce **operational** overhead
- Increase **scaling** capabilities, increase **resource utilization**
- Helps to **accelerate** your cloud migration journey - no need to **re-architect** existing applications
- ROSA & AWS Service Integrations



ROSA Product Page
<https://aws.amazon.com/rosa/>



ROSA Workshop
<https://catalog.workshops.aws/aws-openshift-workshop/en-US>



Thank you!