

# Red Hat OpenShift Service on AWS

Andreas Lindh

Specialist Solutions Architect, Containers Amazon Web Services

## 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



## **Container services landscape**

### **Application platform**

Accelerate and standardize application management

### Build your own application platform



AWS App Runner



AWS Proton

AWS X-Ray



Amazon CloudWatch



Amazon Managed Service for Prometheus

### Application platform

### **Containers orchestration**

Deployment, scheduling, and scaling, containerized applications



Amazon Elastic Container Service (Amazon ECS)

**EKS Blueprints** 



Amazon Elastic Kubernetes Service (Amazon EKS)

### **ROSA**



### **Containers infrastructure**

Registry, networking, CI/CD



Amazon Elastic Container Registry (Amazon ECR)



**AWS Cloud Map** 



AWS App Mesh



### AWS CodePipeline

### **Compute**



Amazon Elastic Compute Cloud (Amazon EC2)



**AWS Fargate** 



Elastic Compute Cloud (Amazon EC2)



Platform: build or buy?



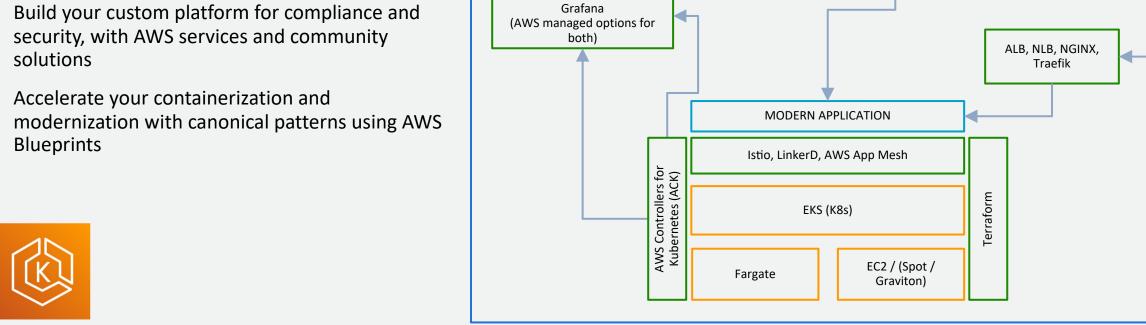
## Build vs. buy

#### **Amazon EKS**

#### **Open source flexibility**

- AWS-optimized managed upstream Kubernetes with four supported versions
- security, with AWS services and community solutions
- Blueprints





Prometheus,

aws

Dev



DockerHub / ECR

Public

Flux / ArgoCD / Spinnaker

Jenkins

GitHub

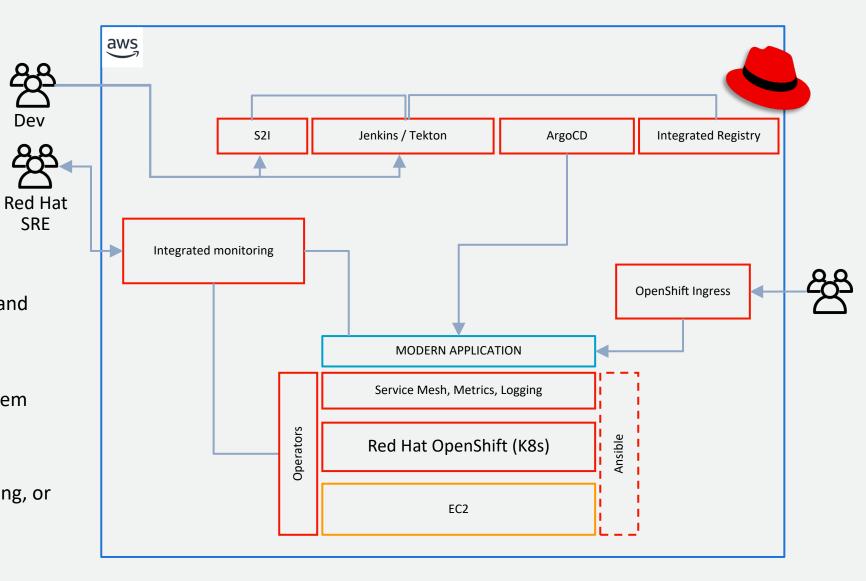
## Build vs. buy



### **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-prementing
  environments to the cloud
- Accelerate application migration and modernization by re-hosting, re-platforming, or re-factoring workloads





6

# 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



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



### **Red Hat OpenShift Service on AWS differentiation**

Ease of use

**Unified bill** 

24/7 joint support

**AWS** integrations

Create OpenShift clusters from console or CLI in minutes

Reuse existing skills

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

Integrated support systems

Contact AWS or RedHat for support

Built on AWS and RedHat's decades of enterprise IT knowledge and experience Consume AWS services through OpenShift



# 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, enterprisegrade 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



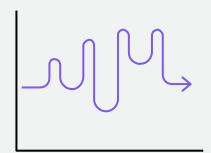
Pricing for Red Hat OpenShift Service on AWS is the same for all AWS supported regions.



## **Amazon EC2 purchase options**

### **On-Demand**

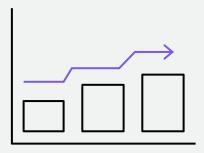
Pay for compute capacity by the second with no long-term commitments



Spiky workloads, to define needs

### **Reserved Instances**

Make a 1 or 3 year commitment and receive a significant discount off On-Demand prices



Committed and steady-state usage

### **Savings Plans**

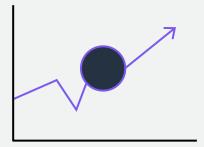
Same great discounts as Amazon EC2 RIs with more flexibility



Committed flexible access to compute

### **Spot Instances**

Spare Amazon EC2 capacity at savings of up to 90% off On-Demand prices



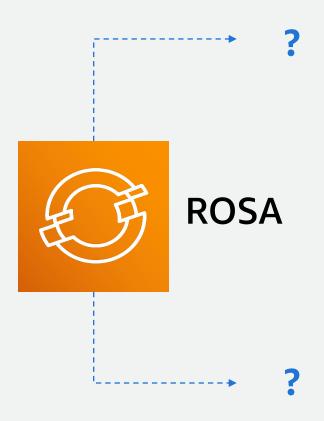
Fault-tolerant, flexible, stateless workloads

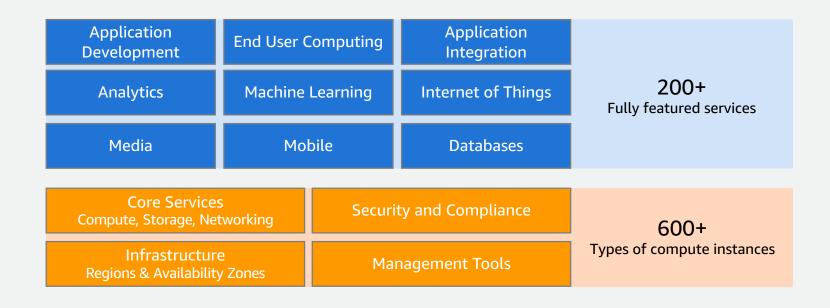


# **AWS Integrations**



### Business value beyond the applications running on ROSA







### **Application Development and Monitoring**















Amazon CloudWatch



AWS **RDS**  Amazon Aurora Amazon

**AWS AWS** API Gateway CodeCommit EventBridge



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

### **Infrastructure and Operations**

















Amazon EC2 Amazon EBS Amazon EFS Amazon FSx Amazon ELB Amazon VPC

**AWS Private Link** 

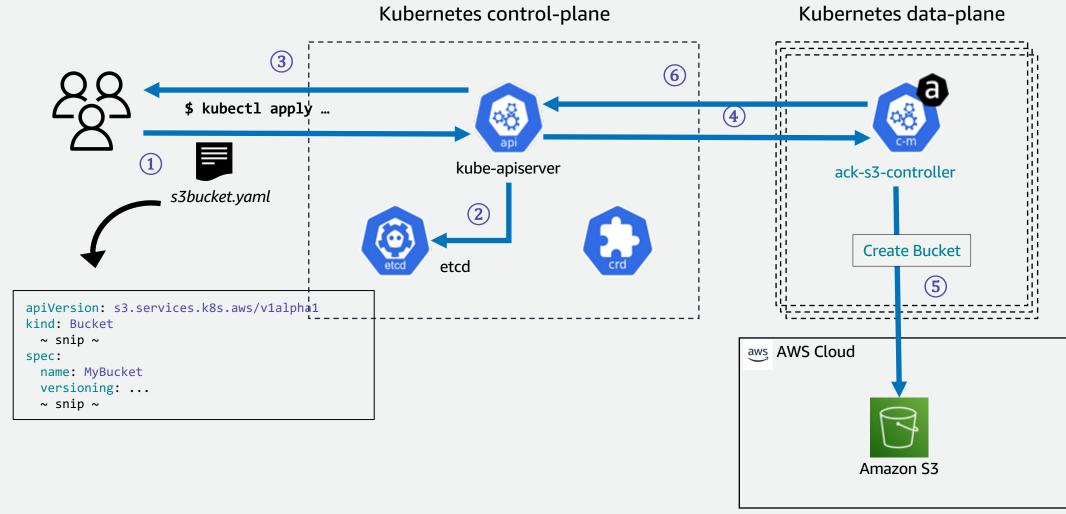


Amazon Elastic Container Registry (ECR)

Ongoing updates to integrations available via AWS Controllers for Kubernetes on Operator Hub

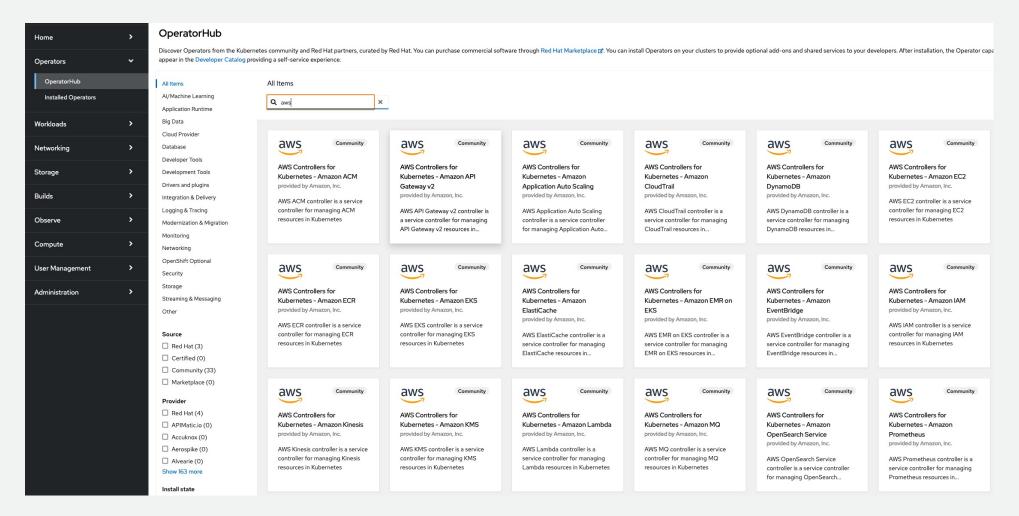


### **ACK Workflow**





## **Available in OperatorHub**





© 2023, Amazon Web Services, Inc. or its affiliates.

16