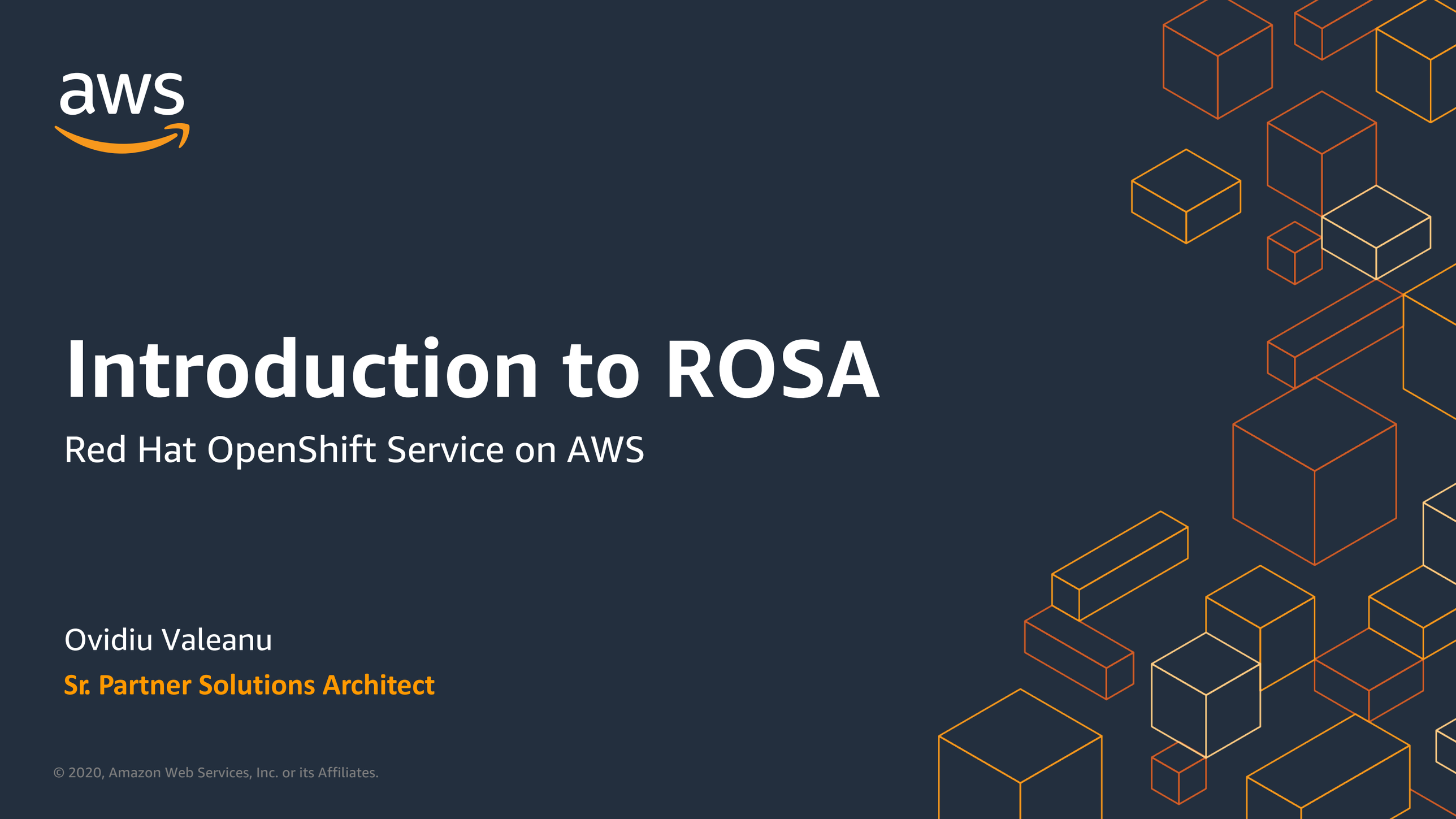

Introduction to ROSA

Red Hat OpenShift Service on AWS

Ovidiu Valeanu

Sr. Partner Solutions Architect

AWS has the richest container services portfolio

Build your Own Application Platform

Turnkey Application Platform

Application Platform
Accelerate and standardize application Management

- AWS Proton
- EKS Blueprints
- AWS X-Ray
- AWS App Runner
- Cloud Watch
- Amazon Managed Prometheus

Containers Orchestration
Deployment, scheduling, and scaling, containerized applications

- Amazon Elastic Container Service (Amazon ECS)
- Amazon Elastic Kubernetes Service (Amazon EKS)
- Red Hat OpenShift Service on AWS

Containers Infrastructure
Registry, Networking, CI/CD

- Amazon Elastic Container Registry (Amazon ECR)
- AWS App Mesh
- AWS Cloud Map
- AWS CodePipeline

Compute

- Elastic Compute Cloud (Amazon EC2)
- Fargate
- Elastic Compute Cloud (Amazon EC2)

Container Orchestration Services: EKS, ECS, 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.

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

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What is Red Hat OpenShift? – Opinionated Kubernetes based Platform

Manage Workloads

Build Cloud-native apps

Developer Productivity

OpenShift Container Platform

Platform Services

Service Mesh | Serverless
Builds | CI/CD Pipelines
Full Stack logging
Chargeback

Application Services

Databases | Languages
Runtimes | Integration
Business automation
100+ ISV services

Developer Services

Developer CLI | VS Code
Extensions | IDE Plugins
CodeReady Workspaces
CodeReady Containers

OpenShift Kubernetes engine

Cluster Services

Automated Ops | Over-the-air updates | Monitoring | Registry | Networking | Router | Virtualization | OLM | Helm

Kubernetes

Red Hat Enterprise Linux & Red Hat Enterprise Linux CoreOS


Physical


Virtual


Private Cloud


Managed Cloud


Edge

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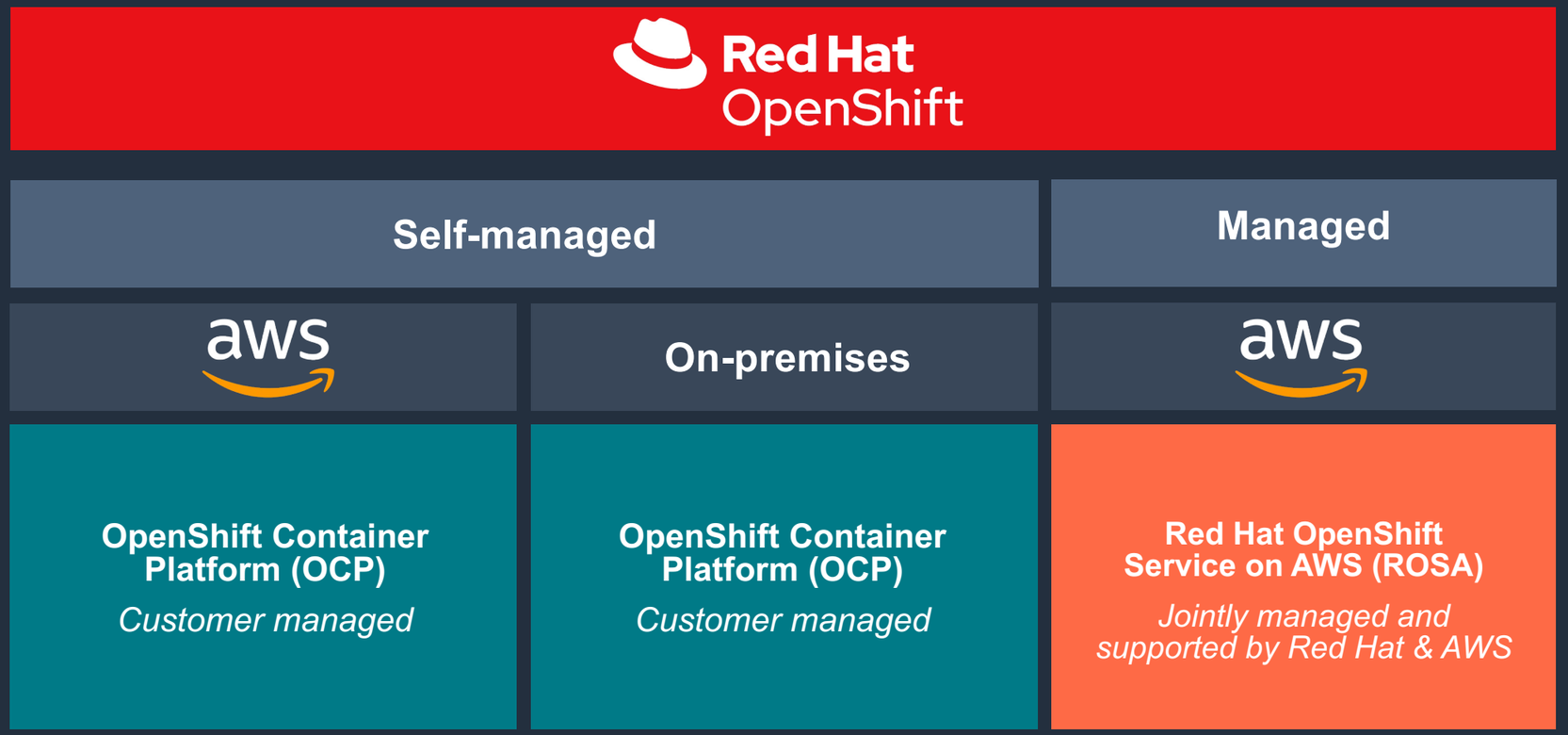
OpenShift & AWS offer the broadest set of hybrid cloud services



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Benefits of ROSA – Turn-Key Application Platform

Developers

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

Collaborate across teams via shared projects.

Administrators

Standardized and streamlined operations across on-prem and cloud environments.

Built-in monitoring, logging, and networking

Choose platform version upgrades as required for the business.*

Business Leaders

Consolidated billing and cost management across the business.

Consumption based pricing for surge and R&D usage.

24x7 full-stack management and support

Financially backed 99.95% SLA

*Security patches are applied automatically – major and minor version upgrades are customer controlled

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ROSA – Joint Offering from AWS & Red Hat

Who's responsible for what?

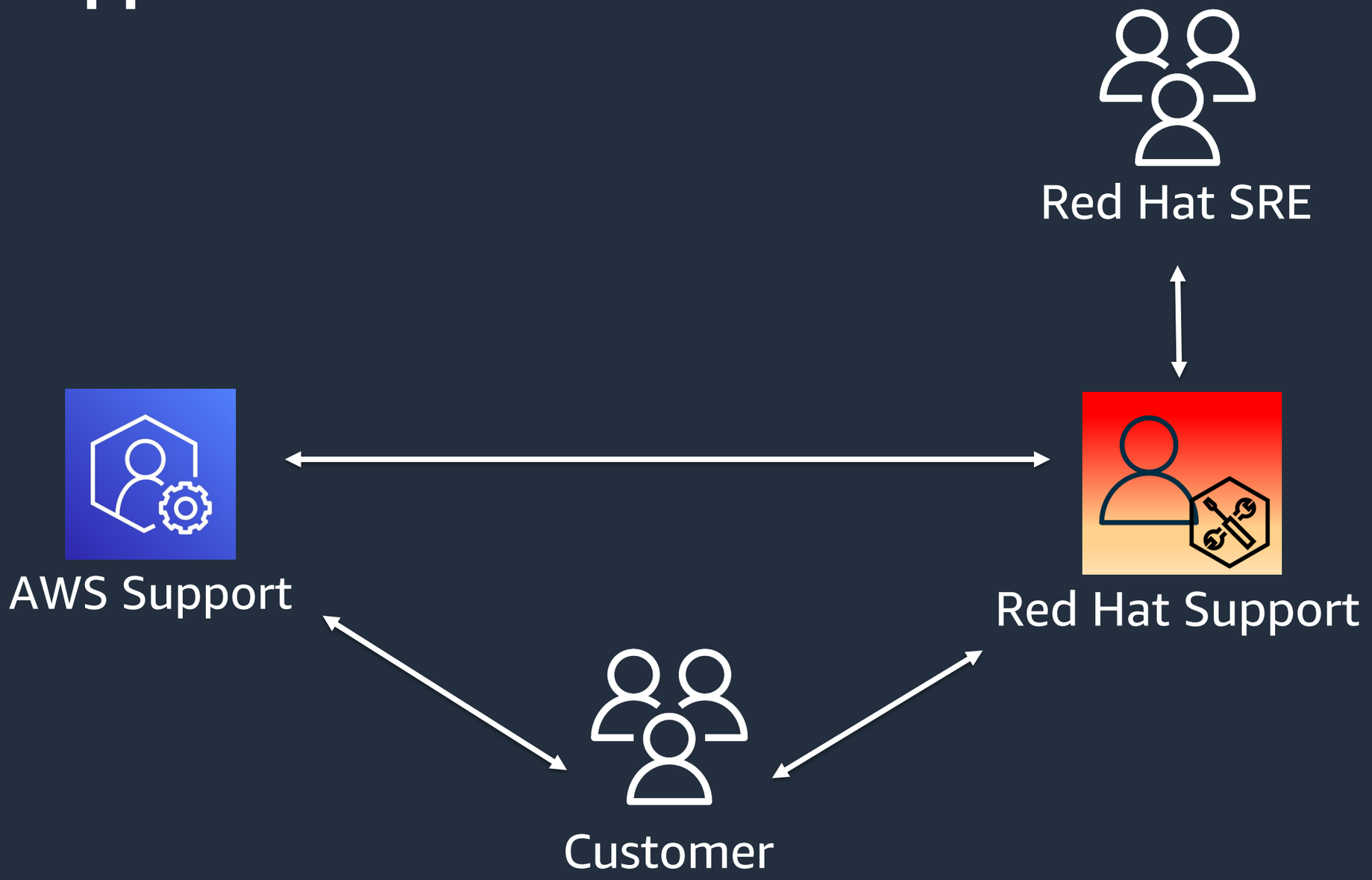
	On-premises	Cloud	
	OpenShift Container Platform (OCP)	OpenShift Container Platform (OCP) on AWS	Red Hat OpenShift Service on AWS (ROSA)*
Control Plane	Customer	Customer	Red Hat
Compute	Customer	Customer	Red Hat
Data Plane	Customer	Customer	Red Hat
Support	Red Hat	Red Hat	Red Hat aws*
Billing	Red Hat	Red Hat	aws

Fully Managed

* AWS Business Support Plan required

Detailed Responsibility Matrix: https://docs.openshift.com/rosa/rosa_policy/rosa-policy-responsibility-matrix.html

ROSA Support Flow



ROSA – Consumption based Pricing

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

ROSA Service Fees

AWS Infrastructure Fees

Pay As you Go and Private Offers

- Accrue on demand per 4vCPU/hour for Worker Nodes
- Plus per cluster per hour

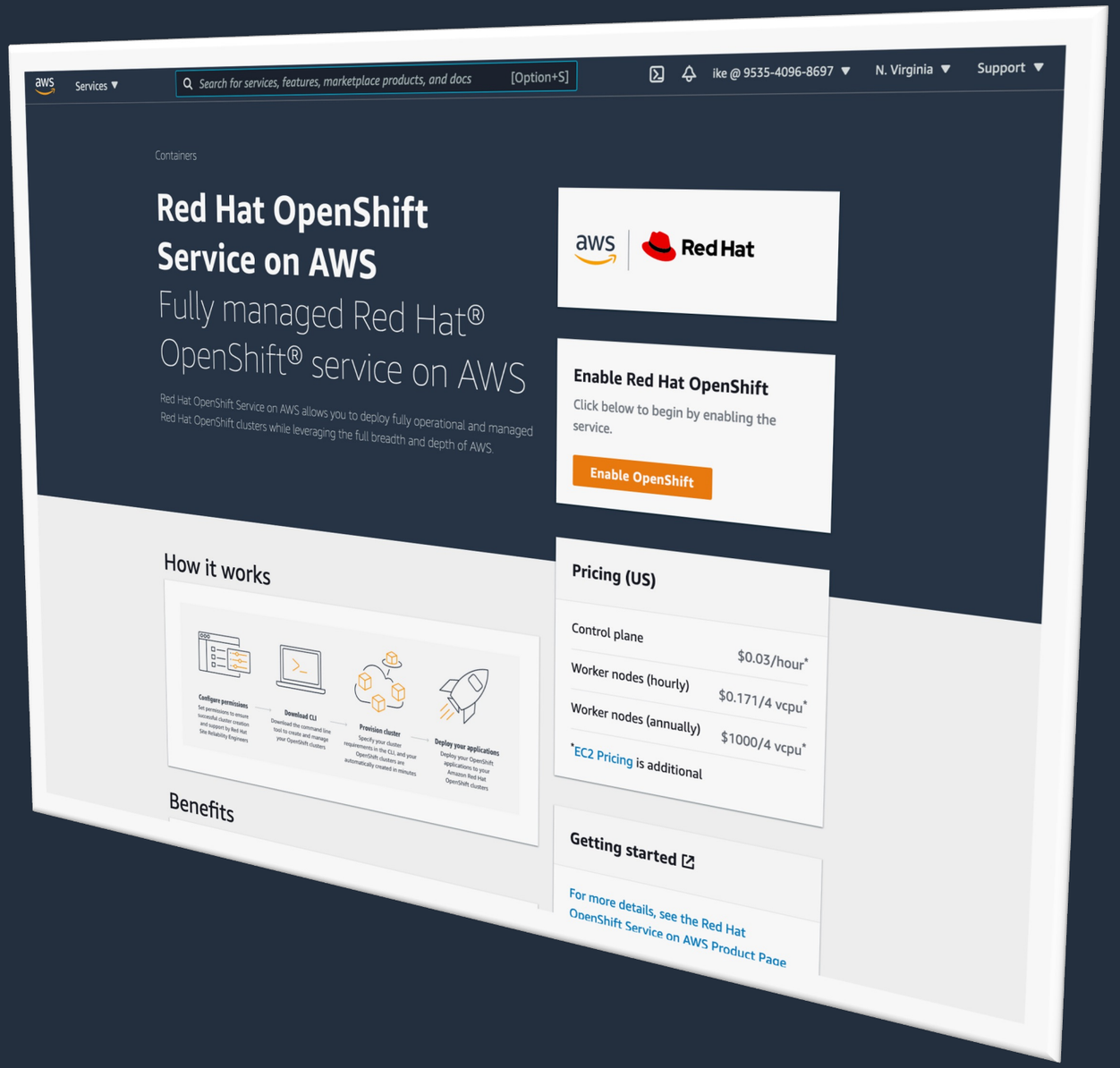
- Infra, Worker, and Control plane EC2 nodes and EBS volumes by region
- Data transfer costs for multi-AZ deployments

- 1 and 3 year subscriptions
- Reserved Instance Savings and EDP

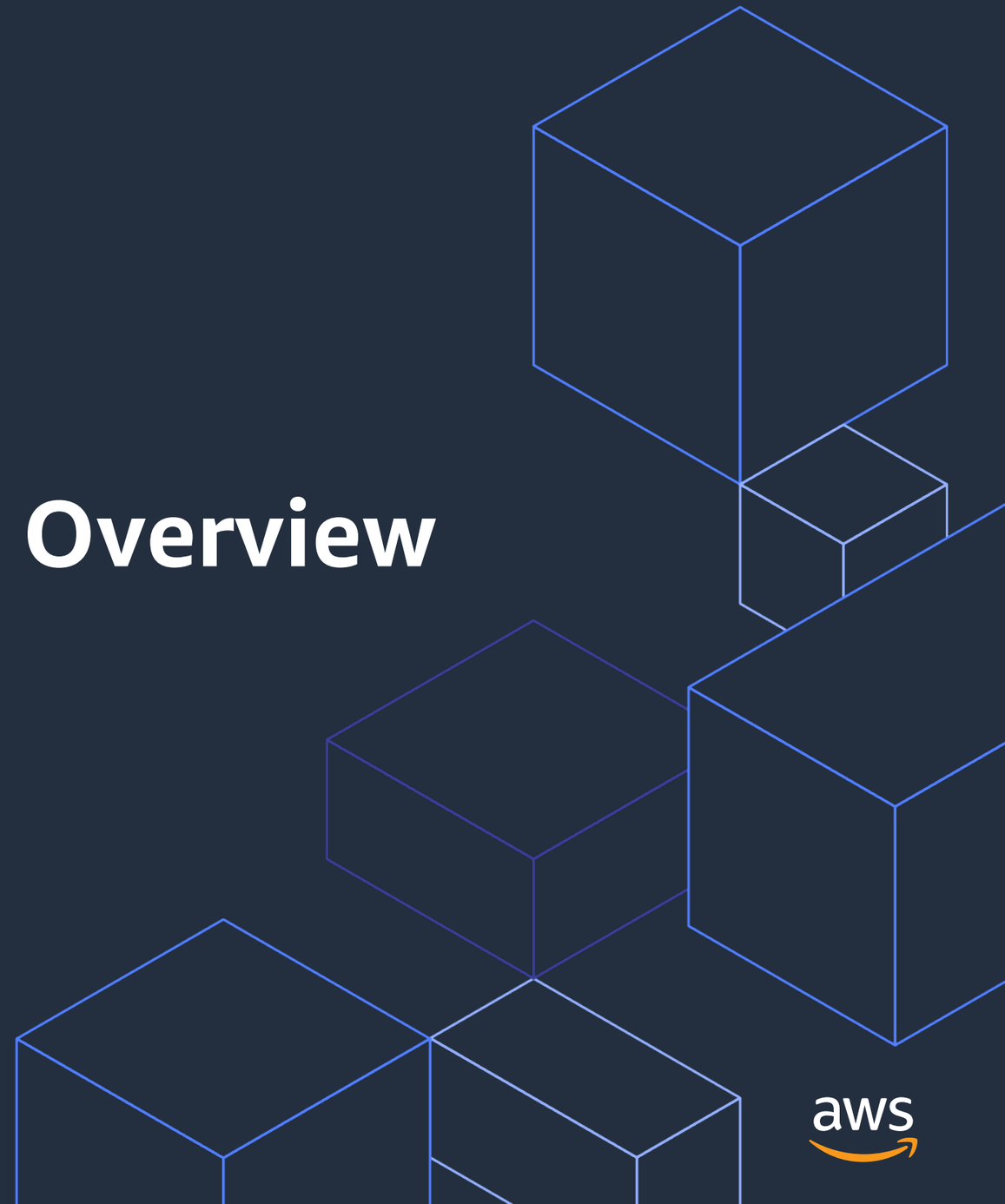
Pricing for Red Hat OpenShift Service on AWS is the same for all AWS supported regions.

aws

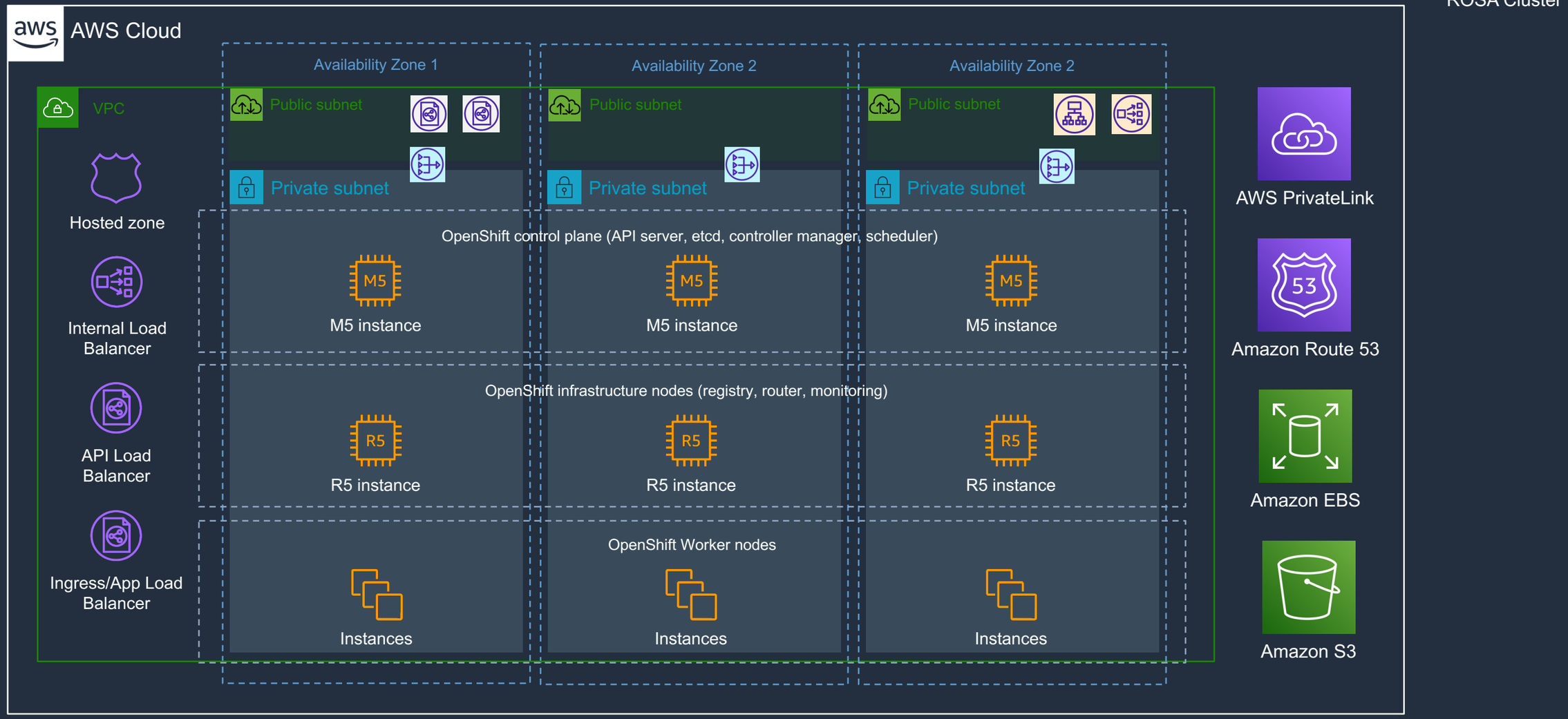
Console page for ROSA



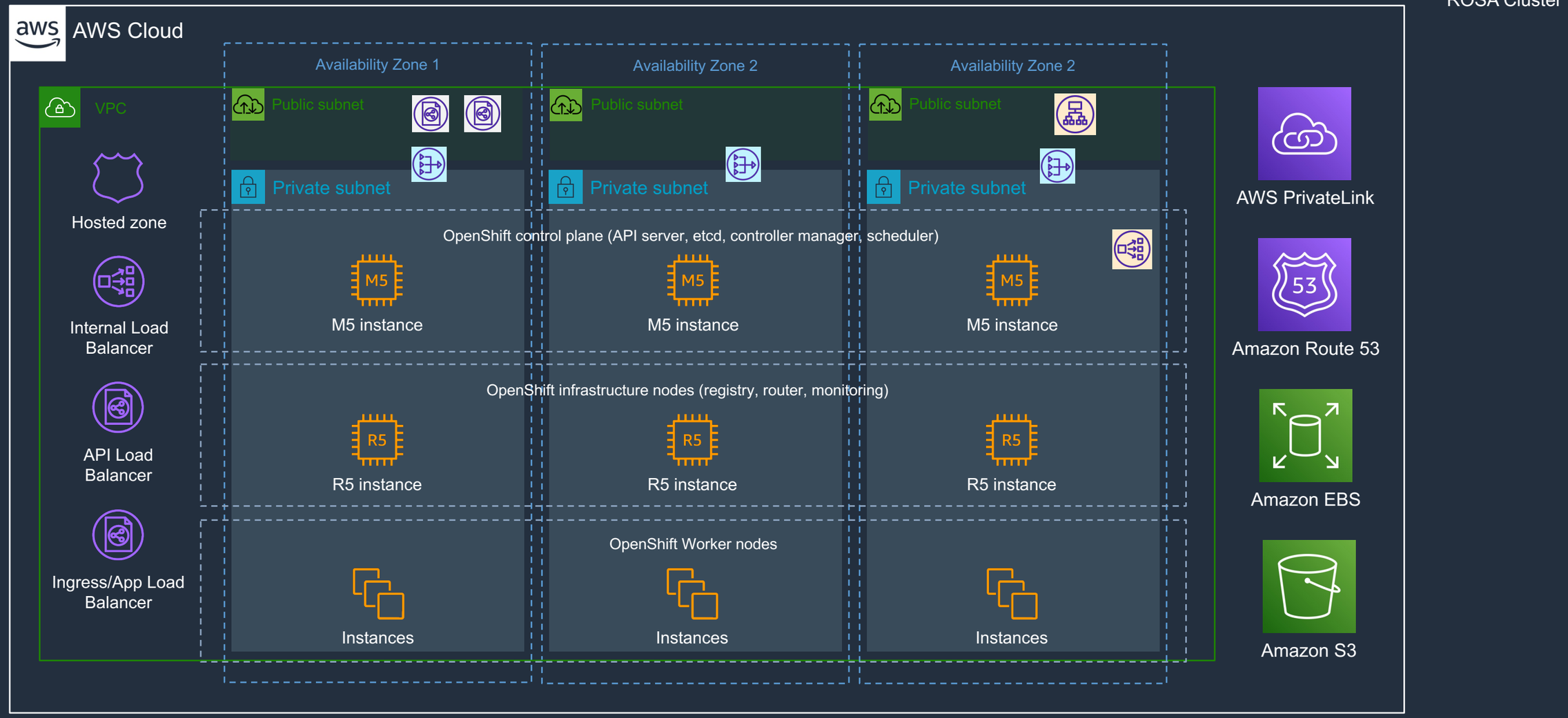
Architecture and Network Overview



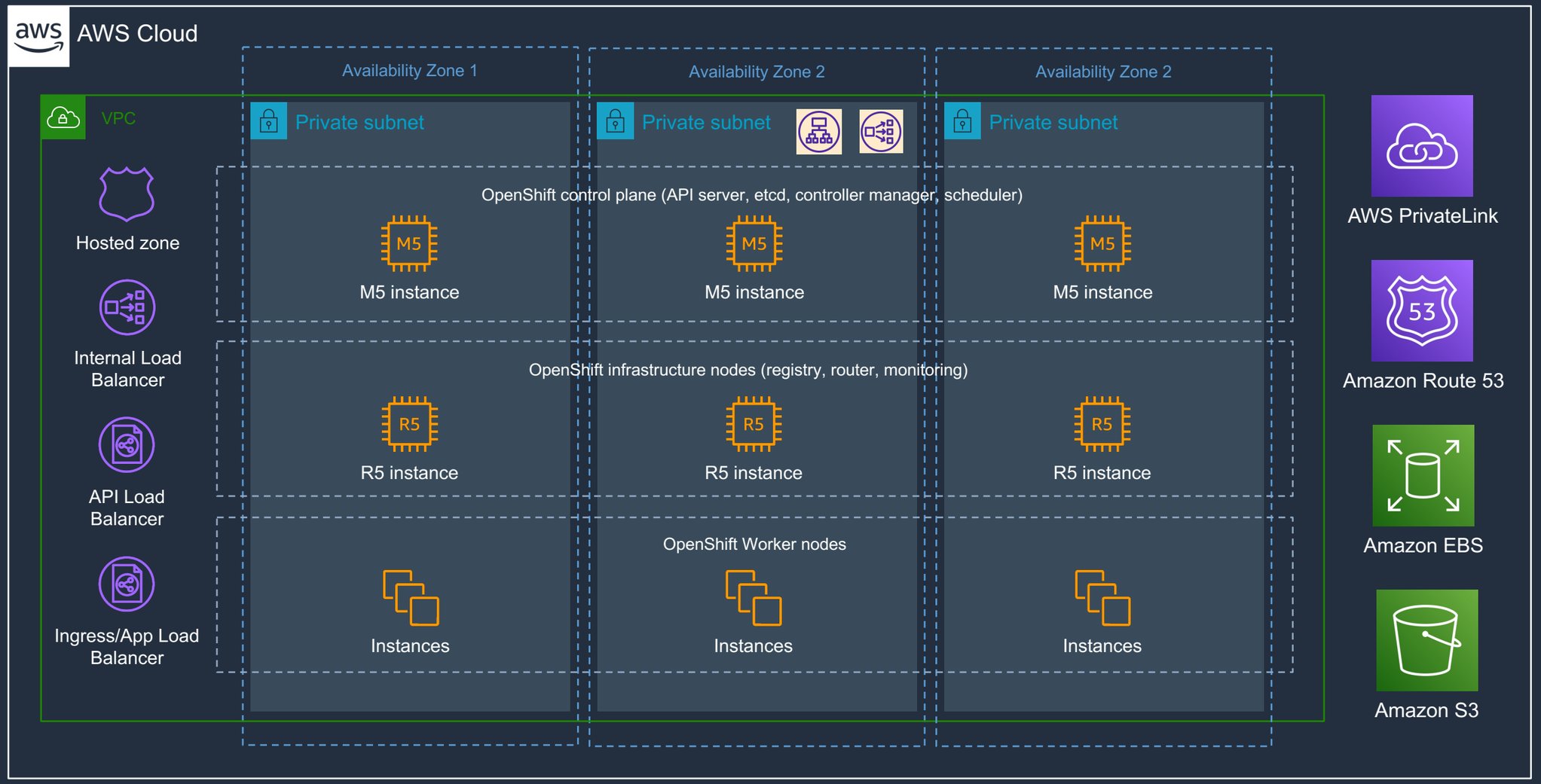
ROSA Public Cluster Architecture



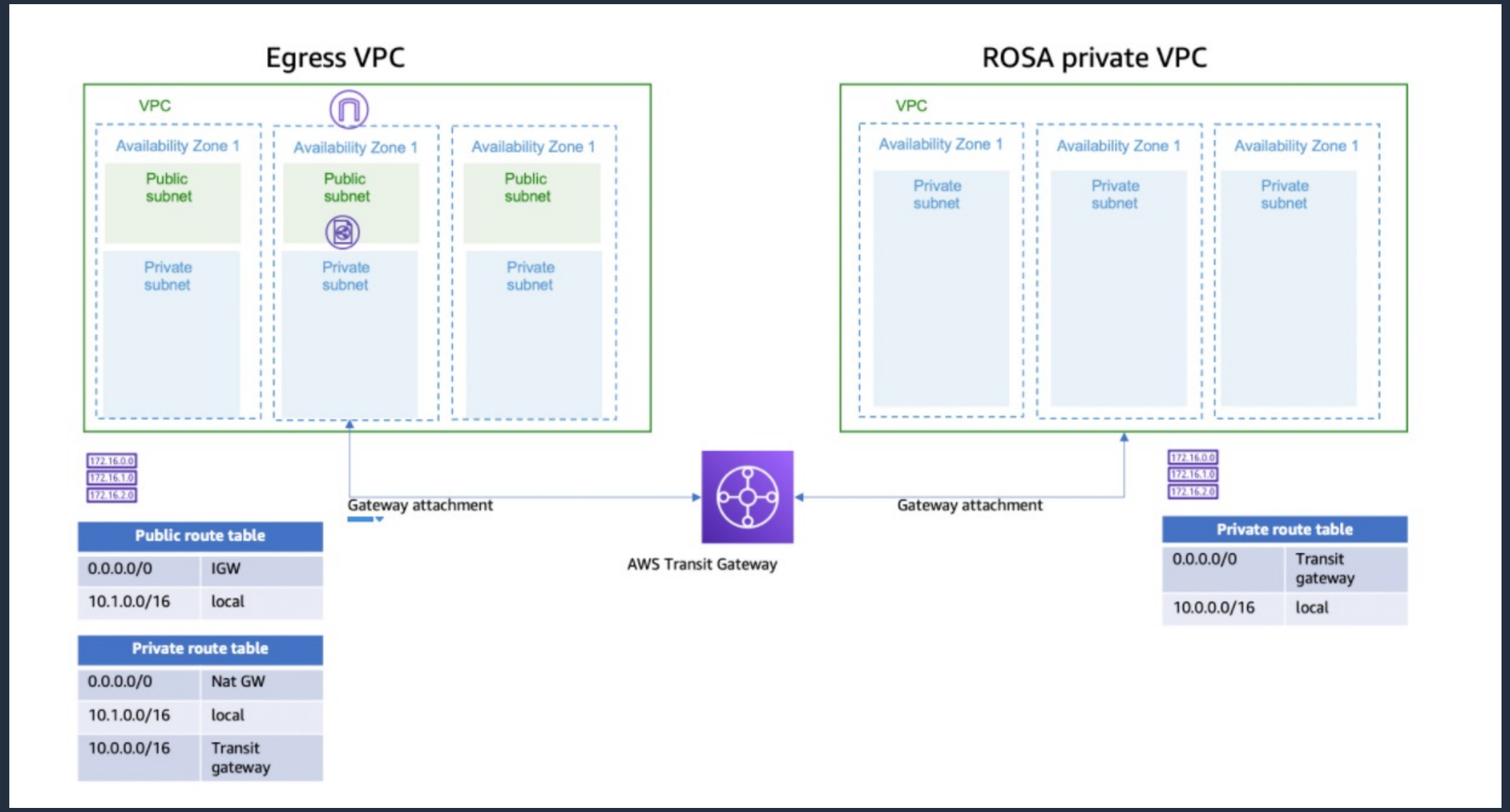
ROSA Private Cluster Architecture



ROSA PrivateLink Cluster



Most Common Network Arch Pattern



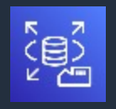
ROSA Cluster

Accelerate Migration to Cloud with Integrated AWS Services

ROSA

Application Development and Monitoring

AWS **DynamoDB**



AWS **RDS**

Amazon Aurora

Amazon API Gateway

AWS CodeCommit

AWS EventBridge

Cloud Watch

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

Infrastructure and Operations

Amazon **EC2**

Amazon **EBS**

Amazon **EFS**

Amazon **FSx**

Amazon **ELB**

Amazon **VPC**

Route 53

AWS Private Link

Amazon Elastic Container Registry (ECR)

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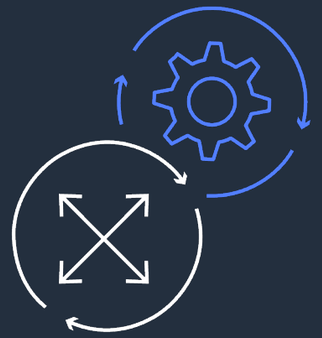
AWS Controllers for Kubernetes (ACK)

Harness AWS

Create and use AWS resources directly within your cluster; improve reliability and uptime at any scale



Cloud-native control

With Kubernetes custom resources and controllers, you can define the AWS resources your applications need directly within the cluster

Always up to date

ACK generates automatically using the AWS SDKs; this ensures controllers are up to date with the latest features and functionality

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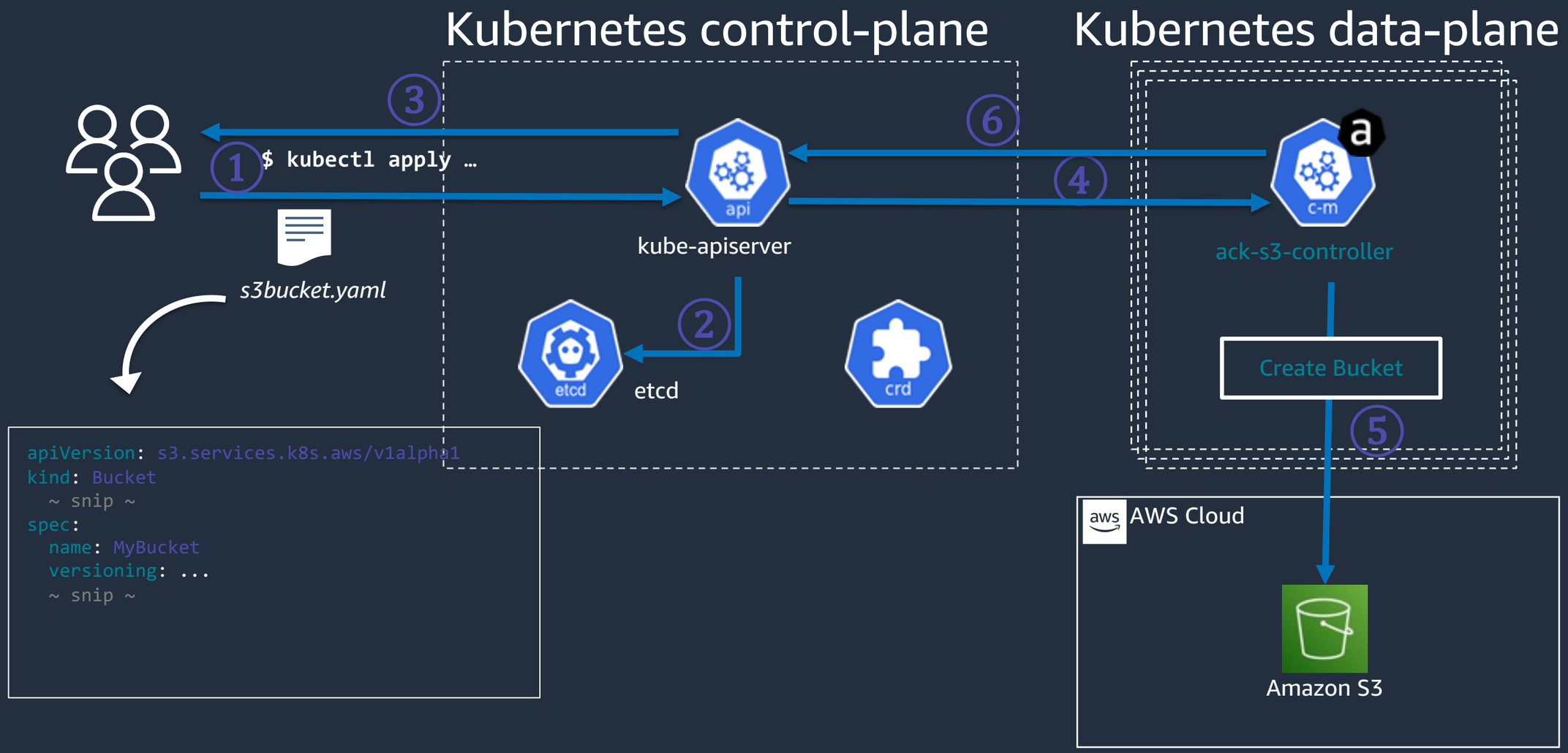
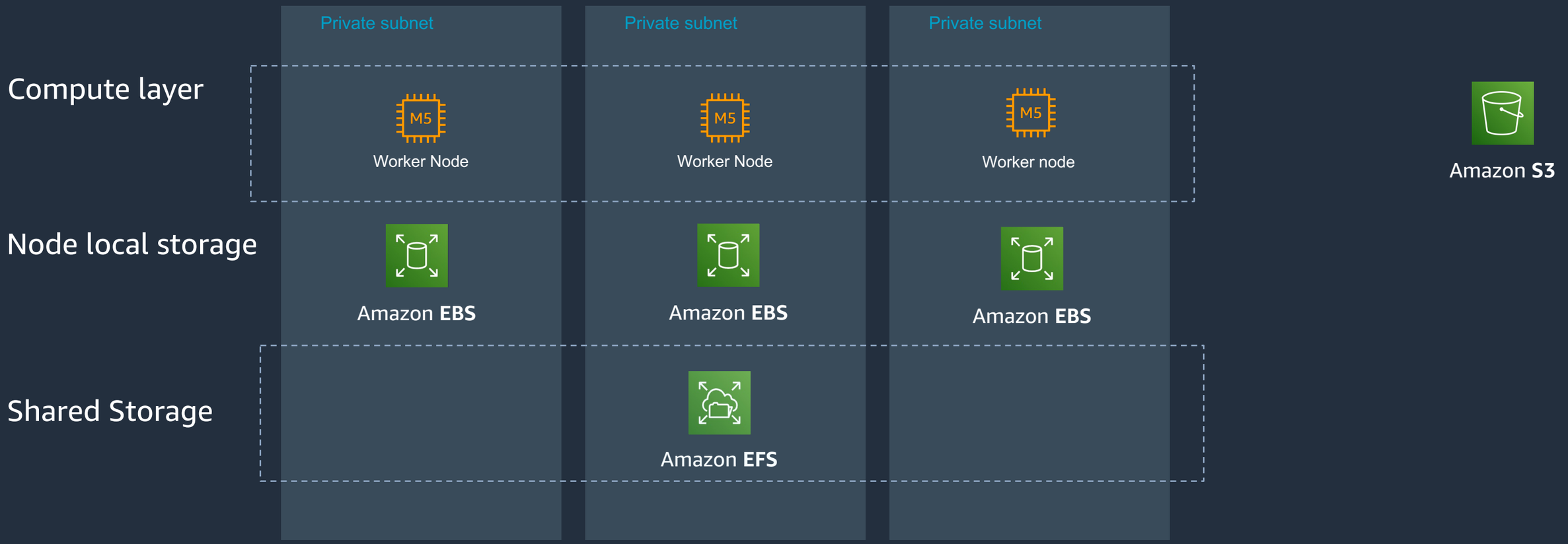
ACK Deployment Workflow

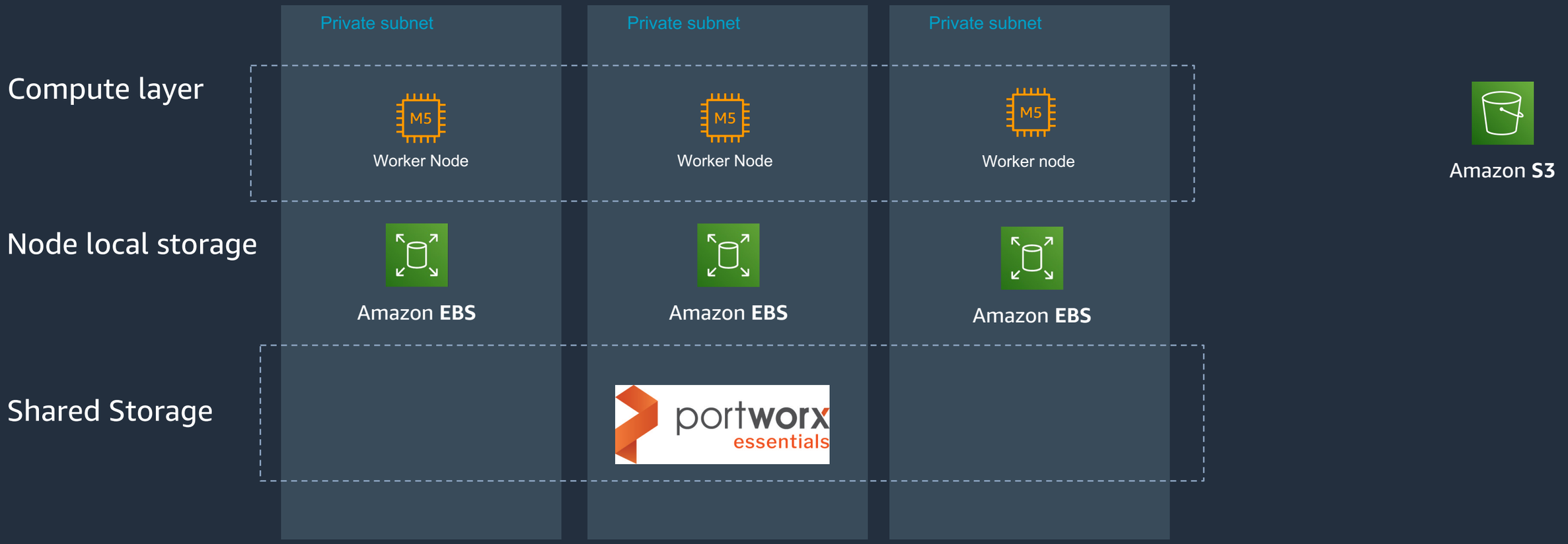


AWS Storage Options

AWS Native Storage Options



3rd Party Storage Options



Note: Red Hat OCS / ODF is not supported on ROSA

aws

Persistent Storage for Workloads

Amazon **EBS**

Amazon **EFS**

Amazon **S3**

Provision option:	Workload binding
OpenShift Tree EBS CSI	PV
EFS CSI*	PV
AWS Controllers for Kubernetes	Direct connection Secrets, services, config mappings

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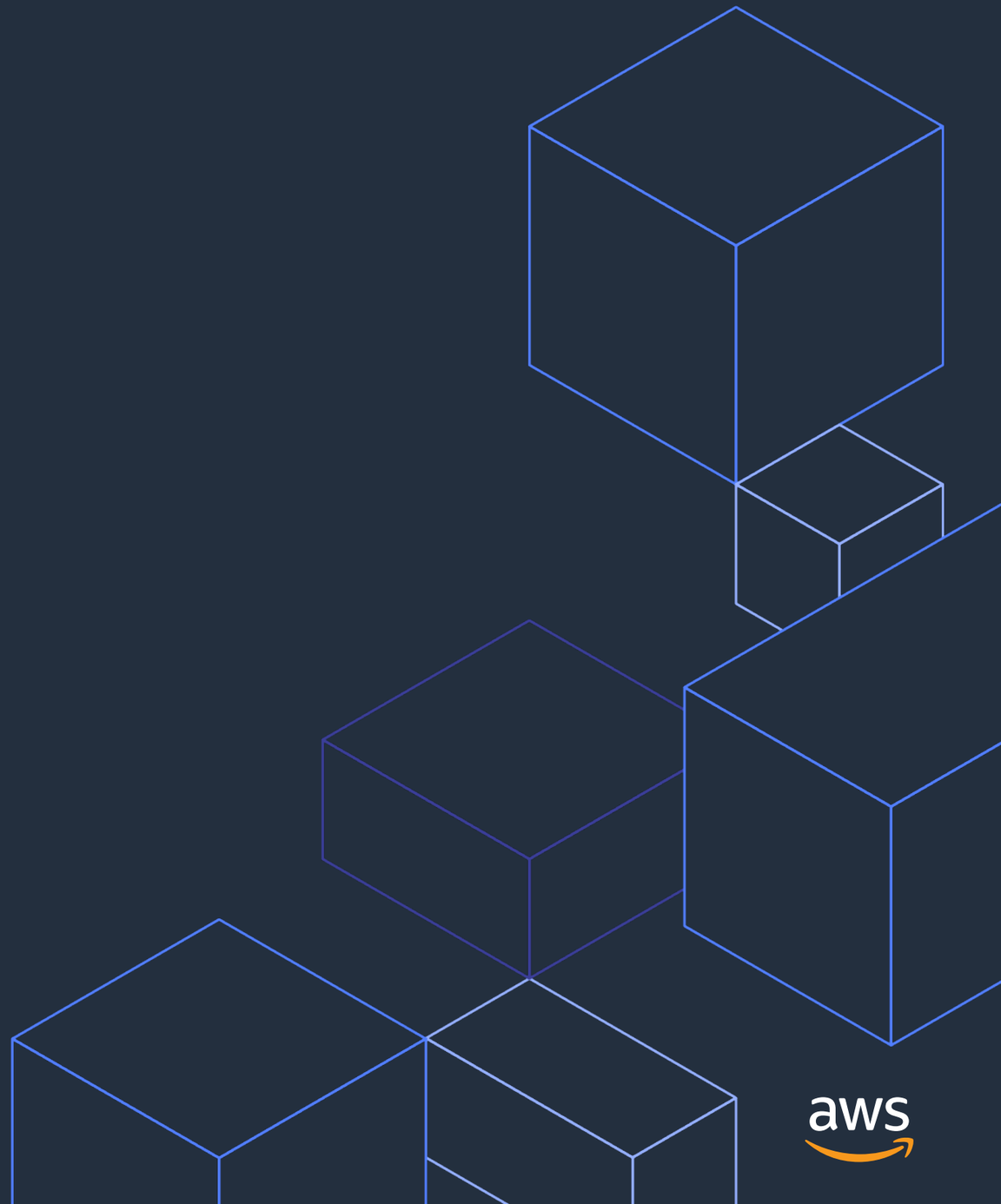
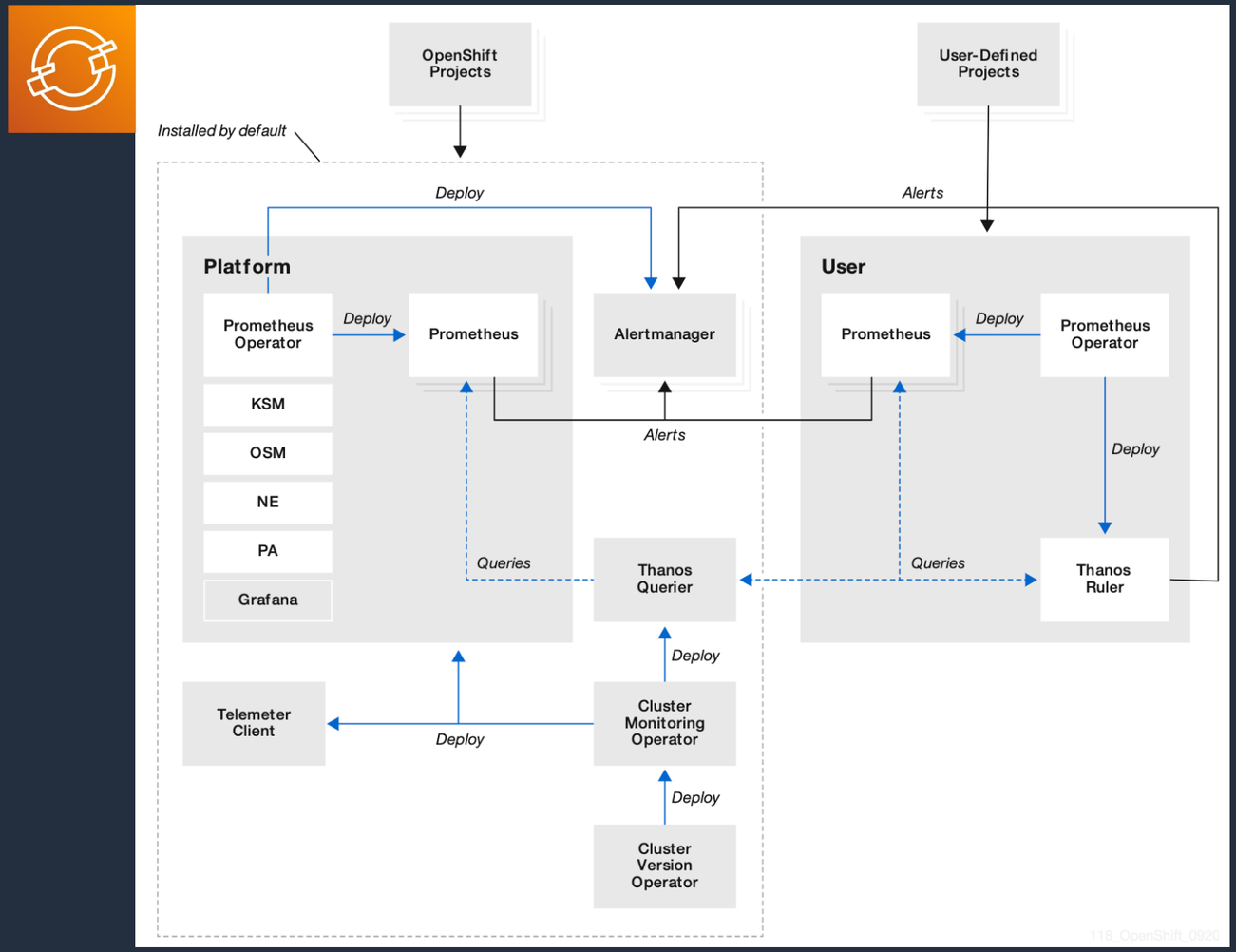
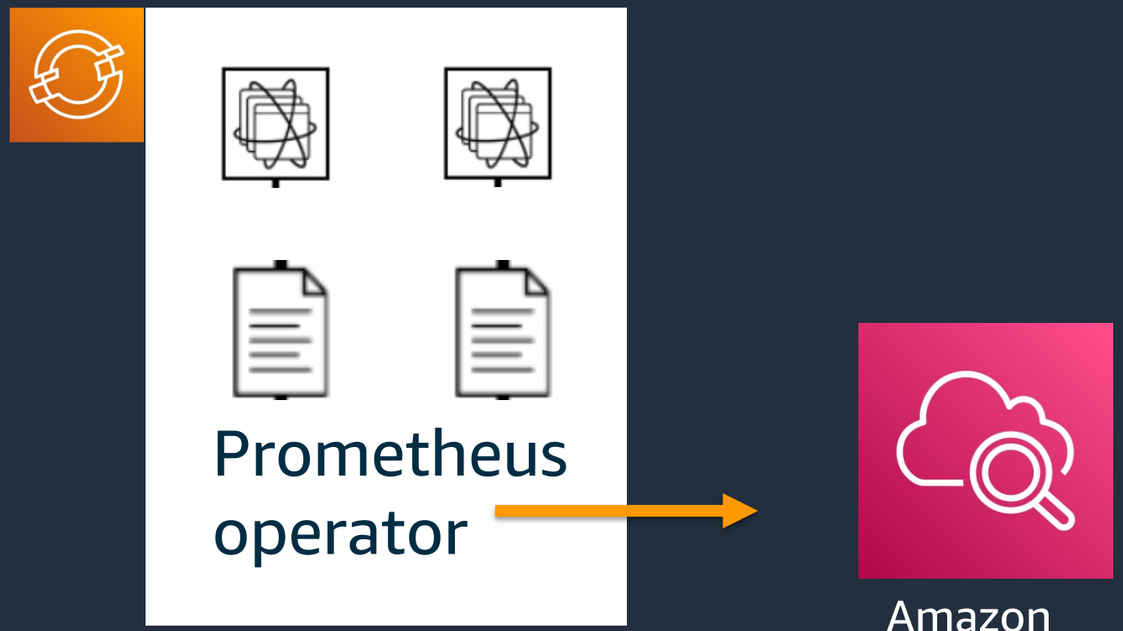
Monitoring and Logging



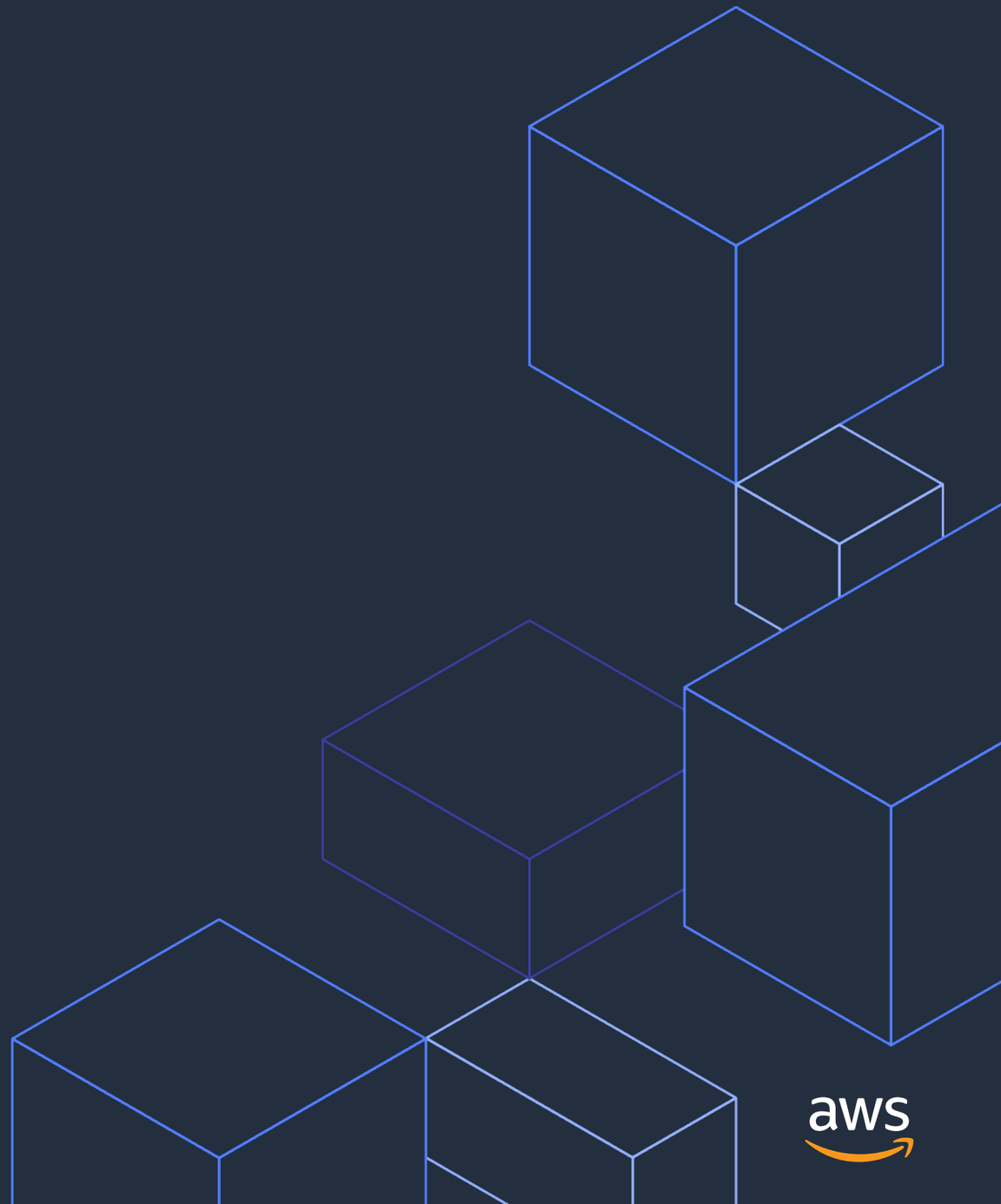
Built in Prometheus and Grafana (Default in ROSA, OCP 4.x)



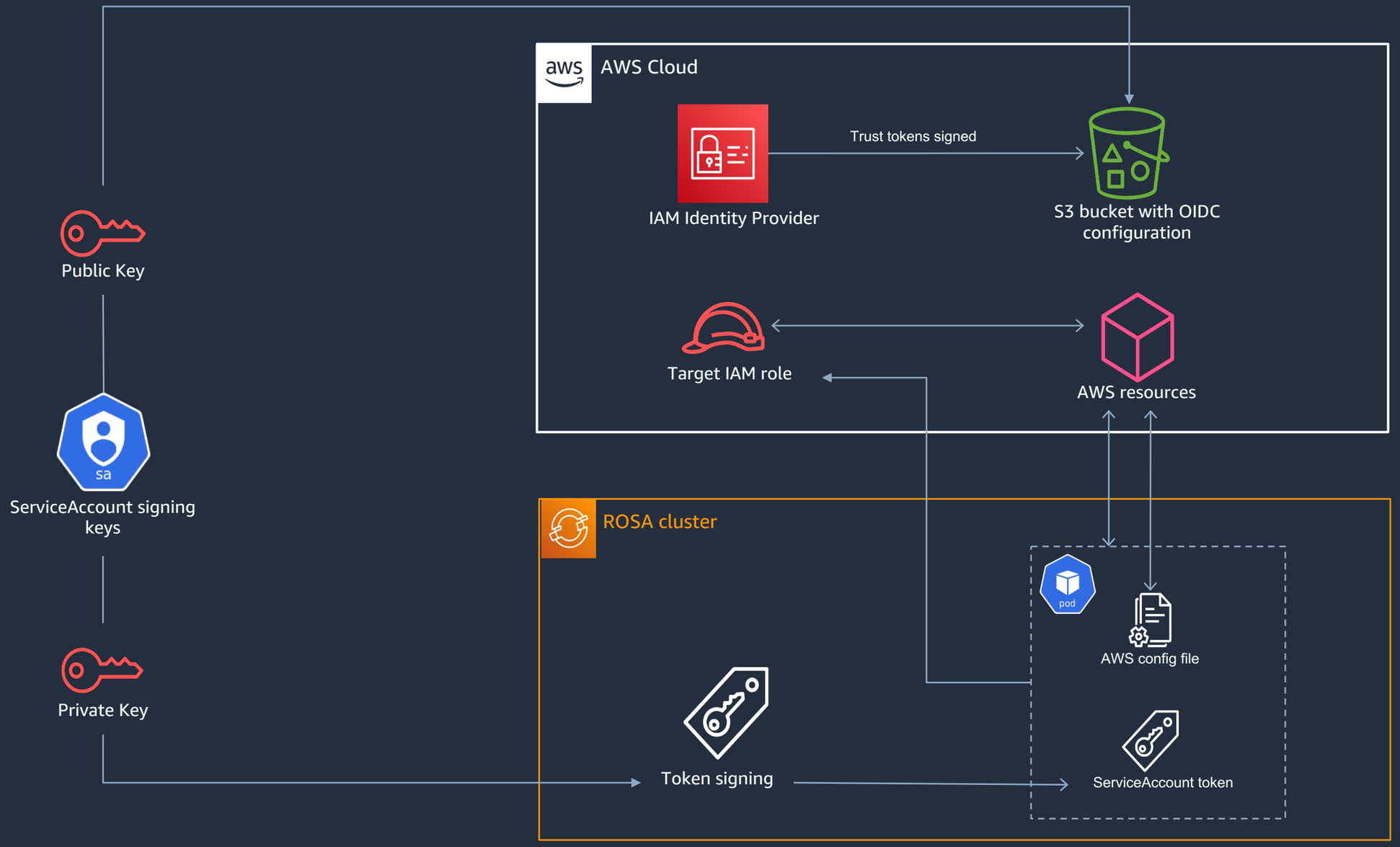
Log Forwarding to AWS Cloudwatch Logs (ROSA)



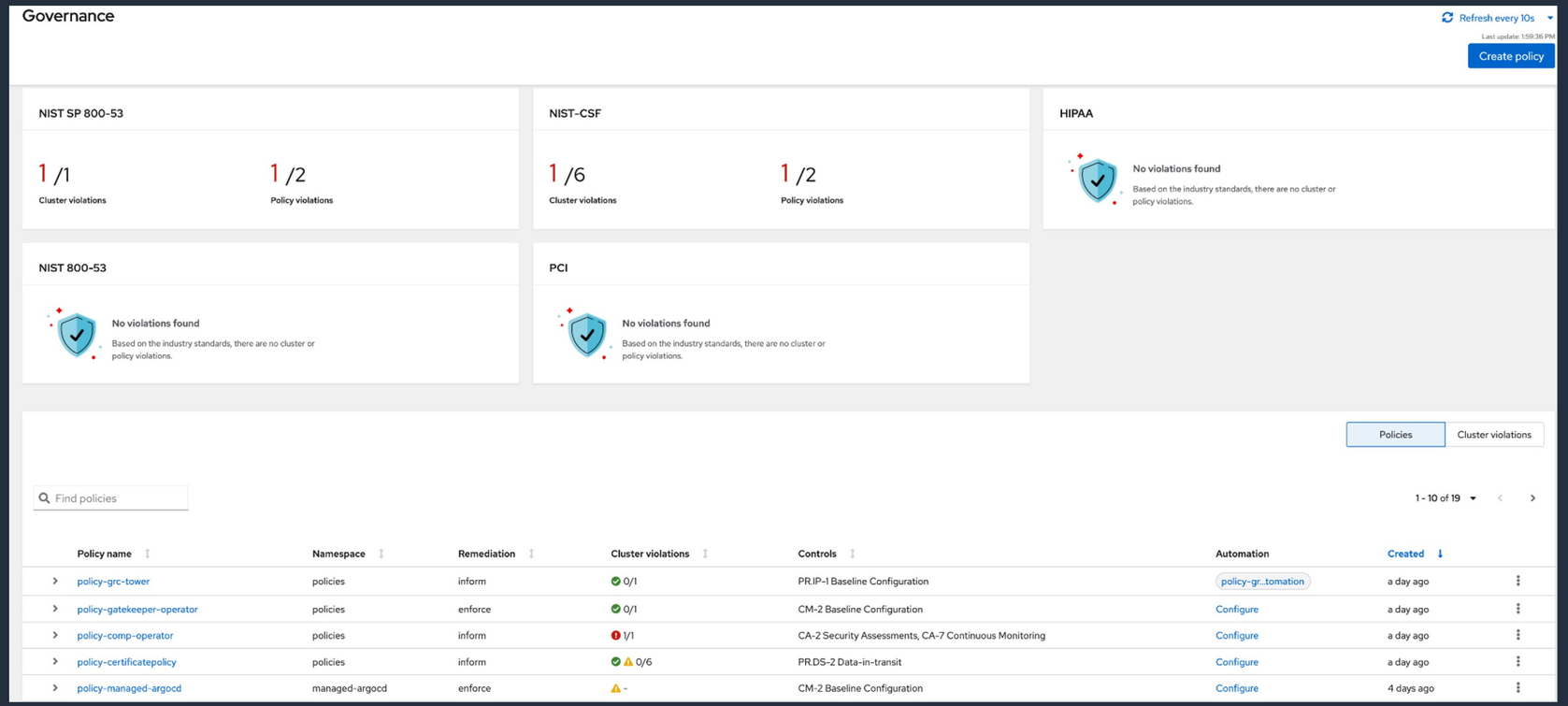
Security Considerations



Security Token Service (STS) with OpenShift



Policy-Based Governance and Risk Assessment with RHACM



- **Centrally** set & enforce policies for security, applications, & infrastructure
- Quickly **visualize** detailed **auditing** on configuration of apps and clusters
- Perform remediation actions by leveraging **Ansible Automation Platform** integration.
- Built-in **compliance policies** and audit checks, including **GitOps** Integration.
- **Immediate** visibility into your compliance posture based on **your** defined standards

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AWS Consulting Partners for ROSA

accenture

cedrus

Cognizant

IBM

PERFICIENT

Persistent

Tech Mahindra

TEKsystems Global Services
Own change

VIZURI

wipro

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Conclusion

Most customers choose to run OpenShift on AWS because they want to keep existing tools and practices while leveraging investments in the vast AWS services portfolio

ROSA is the easiest and most convenient way to pay for and deploy fully supported and managed OpenShift clusters on AWS

Find out more!

- AWS ROSA product page:
  aws.amazon.com/rosa/
- Launch blog:
  aws.amazon.com/blogs/containers/whats-new-red-hat-openshift-service-on-aws/
- Workshop:
  https://openshift4-on-aws.awsworkshop.io/
- ROSA Docs:
  https://docs.openshift.com/rosa/welcome/index.html
- Pricing:
  aws.amazon.com/rosa/pricing/

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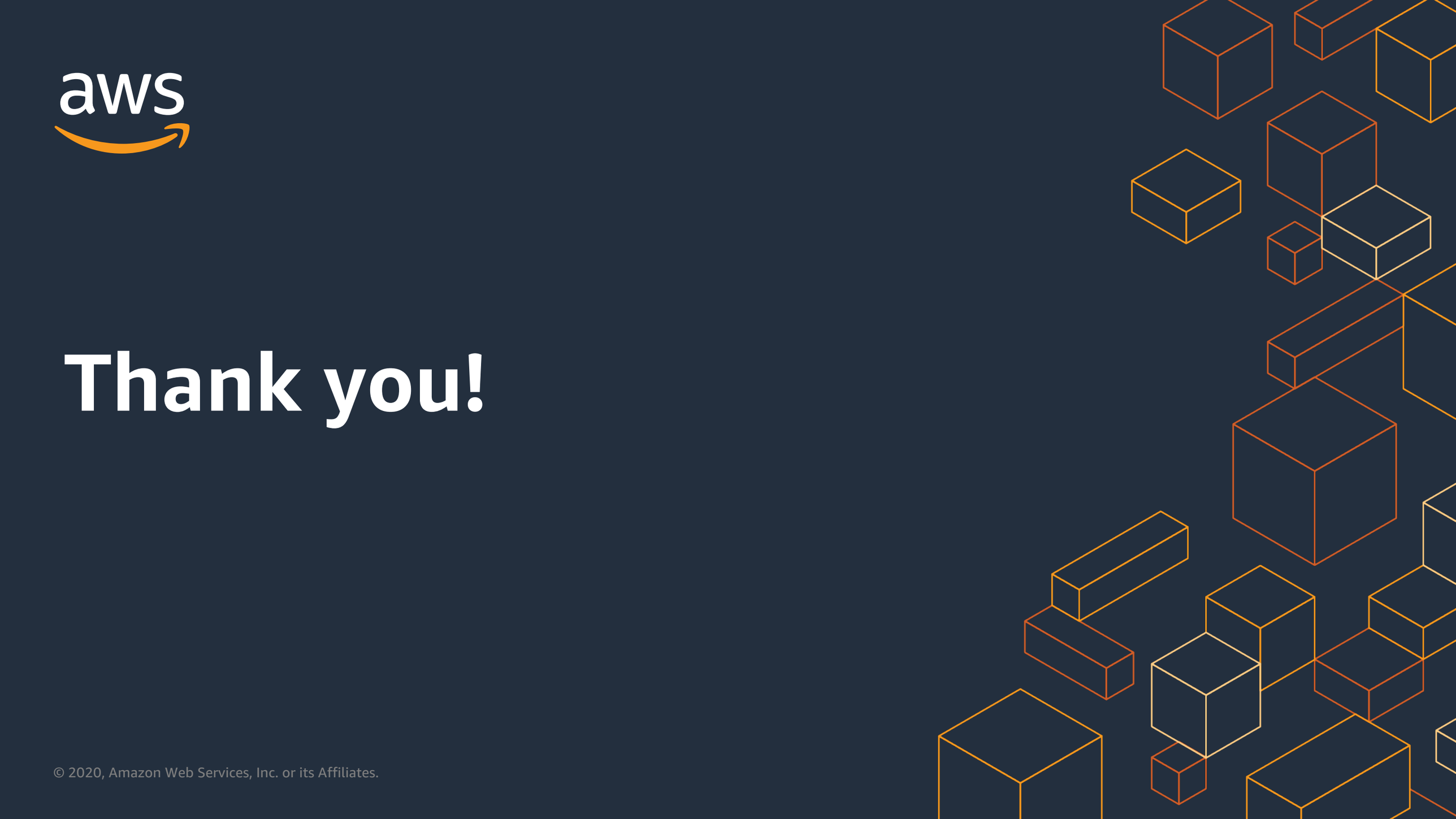

Thank you!