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# ARO - Azure Red Hat OpenShift Technical Overview

# 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



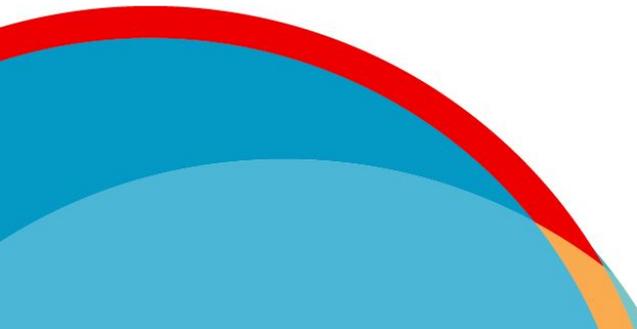
**Roberto Carratalá**

Senior Cloud Services Black Belt

# Agenda

- Review of Azure Red Hat OpenShift (ARO)
- ARO Architecture Models
- ARO integration with Azure services
- Cloud Native Development with ARO

# Review of 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.

## Hybrid cloud flexibility

Deliver a consistent experience on premises and in the cloud.

## Operational efficiency

Enhance operational consistency, efficiency and security by proactive management and support

Home > Create a resource >

# Marketplace

## Get Started

Service Providers

## Management

Private Marketplace

Private Offer Management

## My Marketplace

Favorites

Recently created

Private plans

## Categories

Containers (17)

Compute (16)

azure red hat openshift

Azure benefit eligible only  Azure services only

Showing 1 to 20 of 37 results for 'azure red hat openshift'. [Clear search](#)

 **Red Hat® OpenShift® Container Platform**

Red Hat Inc

Virtual Machine

Red Hat OpenShift is the leading enterprise Kubernetes platform, built for an open hybrid cloud.

Starts at **\$0.111/3 years**

Create 

 **Azure Red Hat OpenShift**

Microsoft

Azure Service

Deploy a managed OpenShift cluster on Azure.

Create 

Home > Create a resource > Marketplace >

# Create Azure Red Hat OpenShift cluster

## Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*  Cloud Services Black Belt Subscription

Resource group \*  (New) mobb-team

[Create new](#)

## Instance details

Region \*  (Europe) France Central

OpenShift cluster name \*  arocluster

Domain name \*  ilo5keryf47b776c3f

 The OpenShift console will be available at <https://console-openshift-console.apps.ilo5keryf47b776c3f.francecentral.aroapp.io>

OpenShift cluster version \*  4.12.25 (latest)

Master VM size \* **3x Standard\_D8s\_v3**  
8 vcpus, 32 GB memory  
[Change size](#)

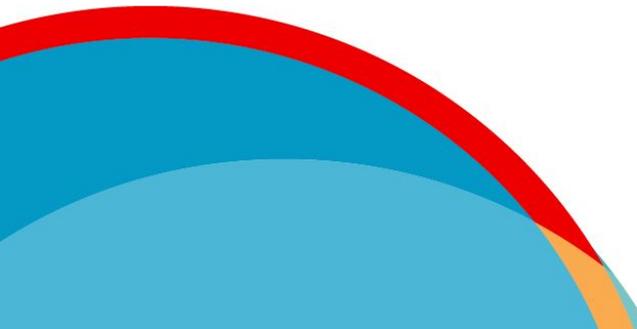
Worker VM size \* **3x Standard\_D4s\_v3**  
4 vcpus, 16 GB memory  
[Change size](#)

Worker node count \* 

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# ARO Architecture Models

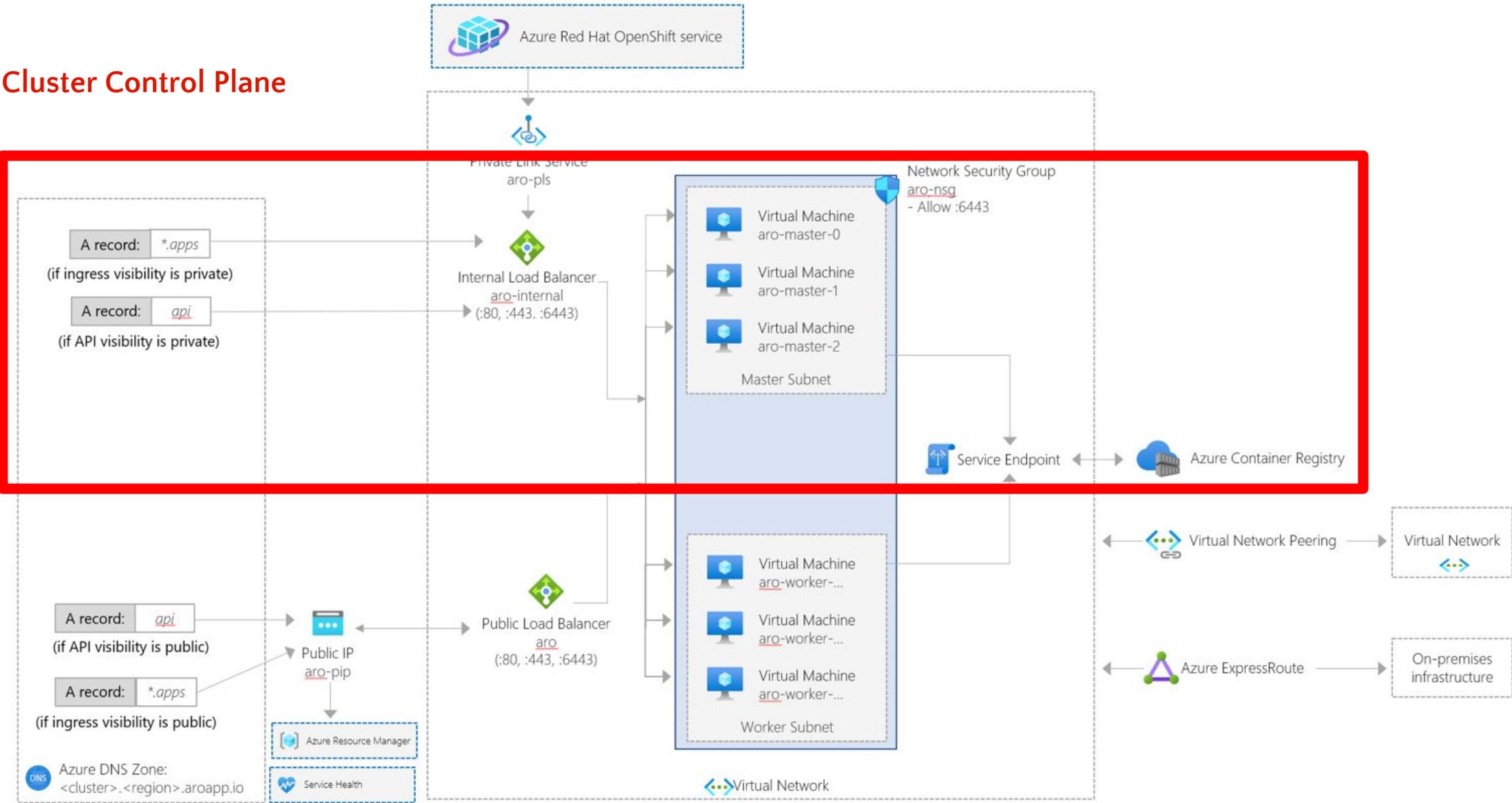


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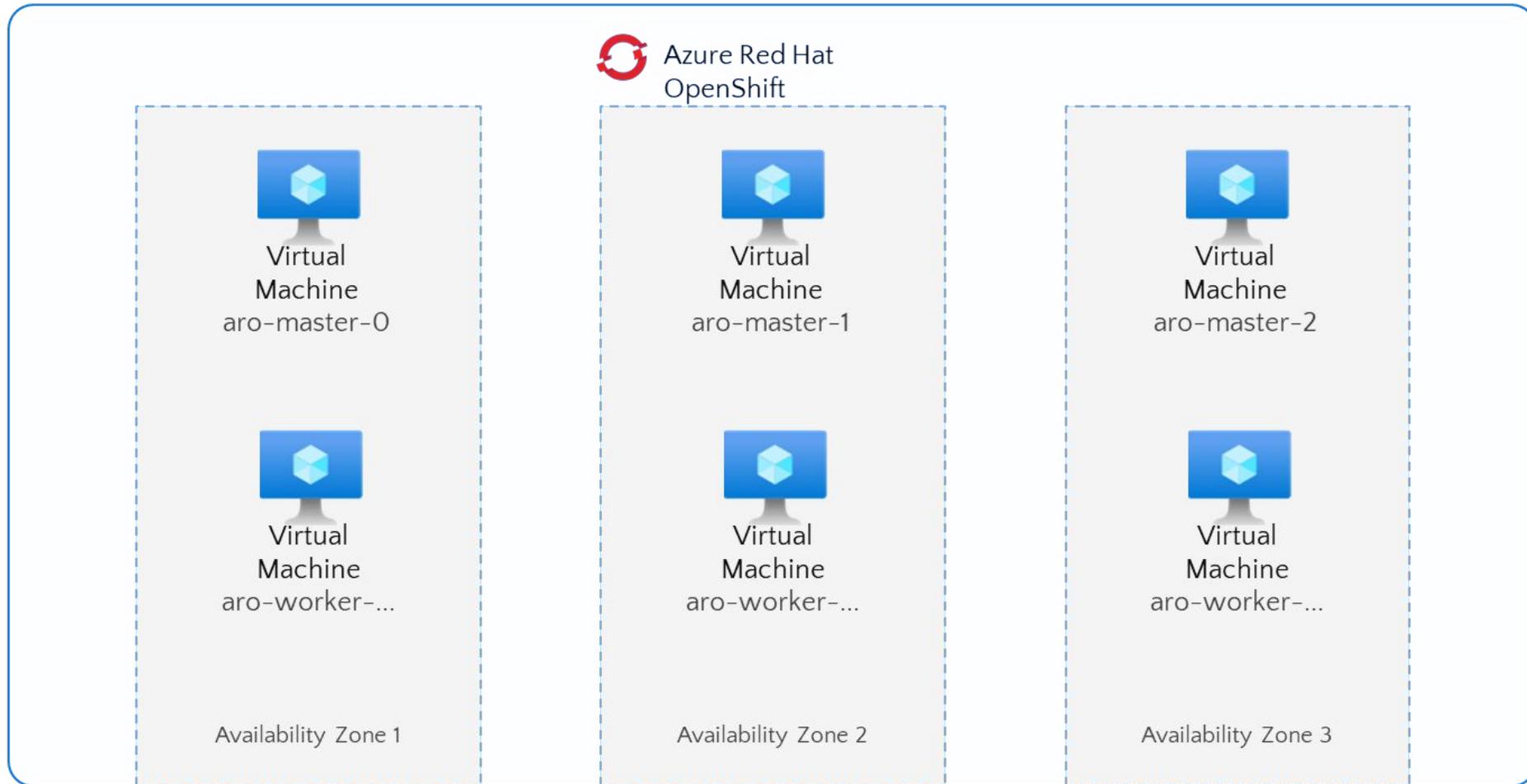


# Azure Red Hat OpenShift Reference Architecture

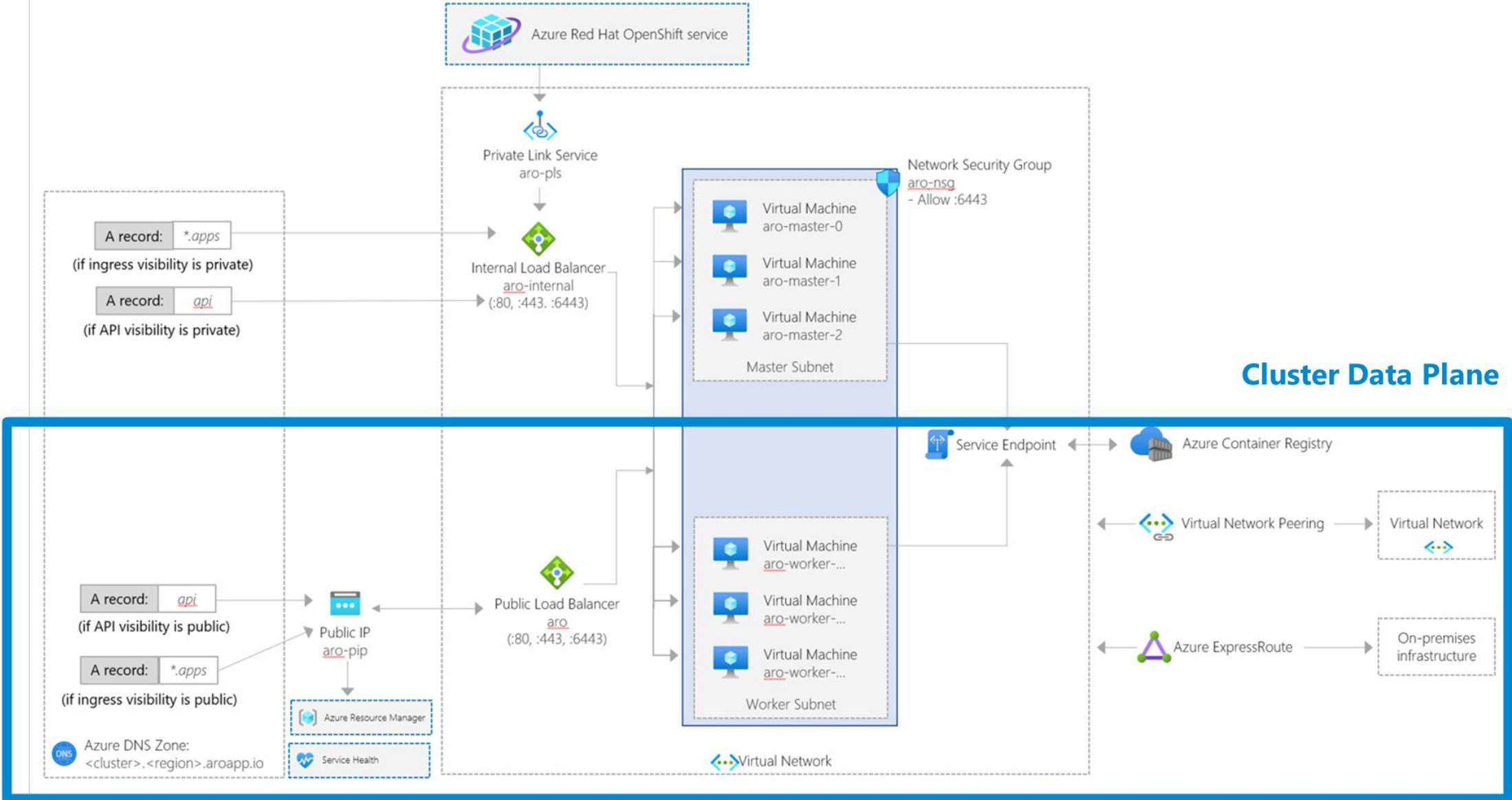
## Cluster Control Plane



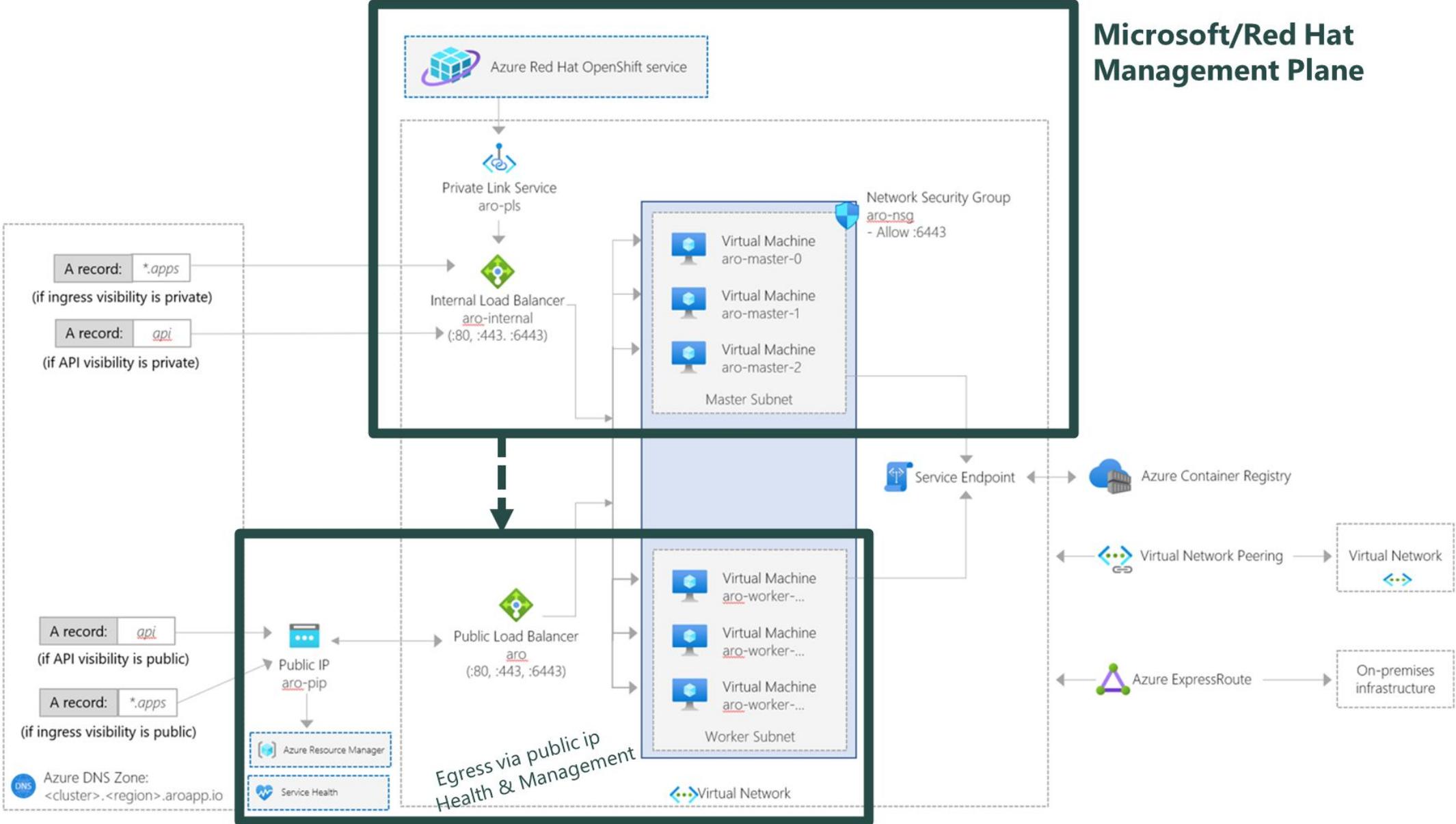
To ensure the highest resiliency, cluster components are deployed across 3 Azure Availability Zones in [supported Azure regions](#).



# Azure Red Hat OpenShift Reference Architecture



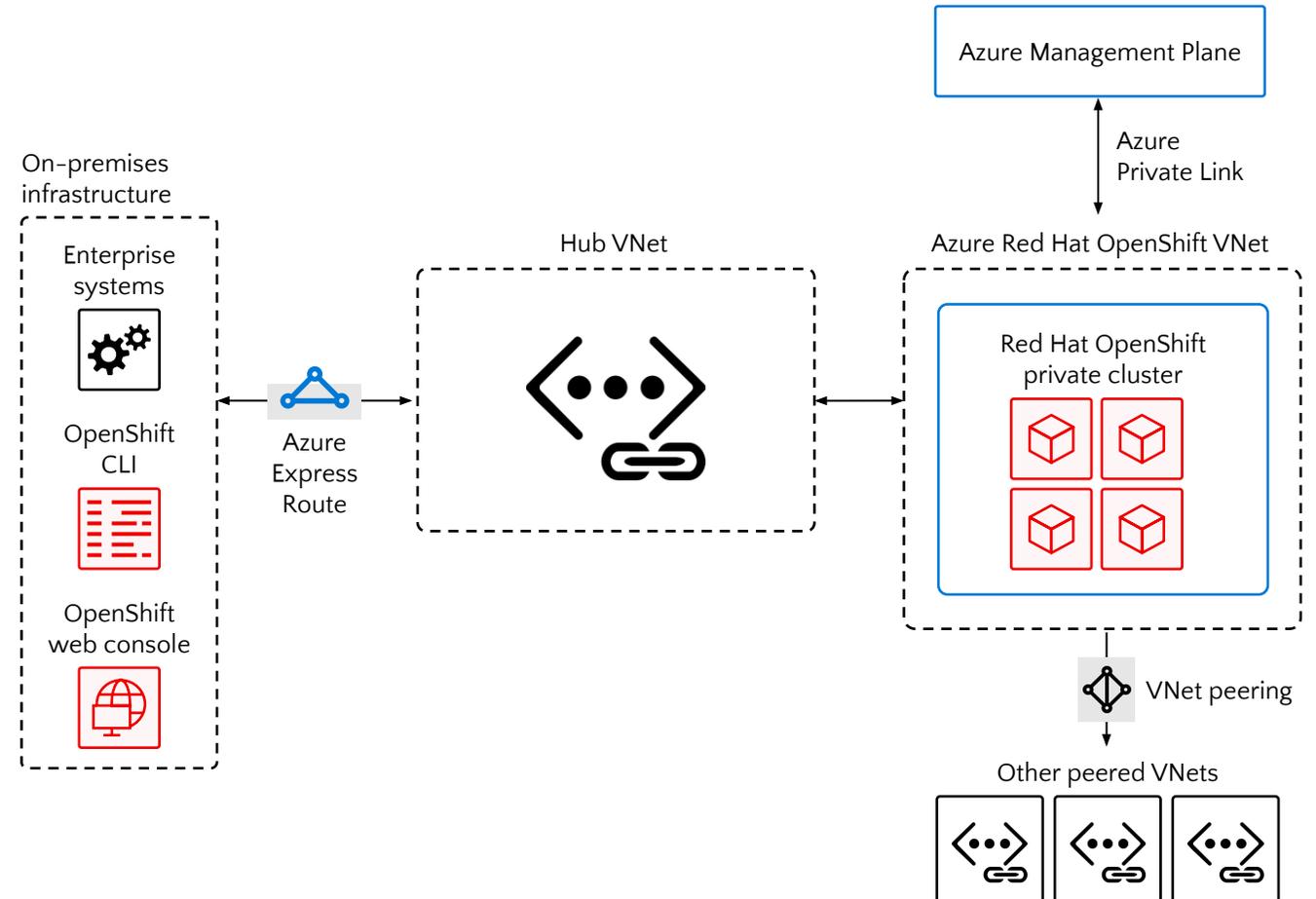
# Azure Red Hat OpenShift Reference Architecture



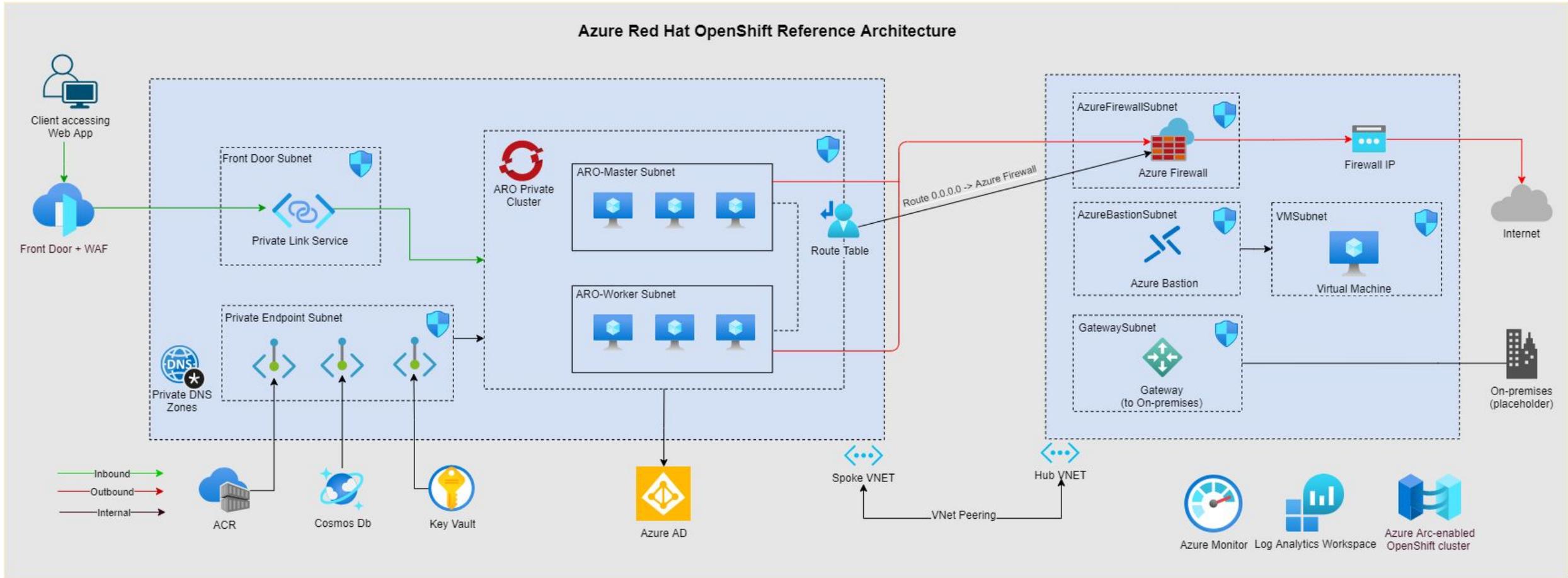
# Private cluster management and ingress endpoints

Configure control plane (API) and ingress to use public or **private endpoints**

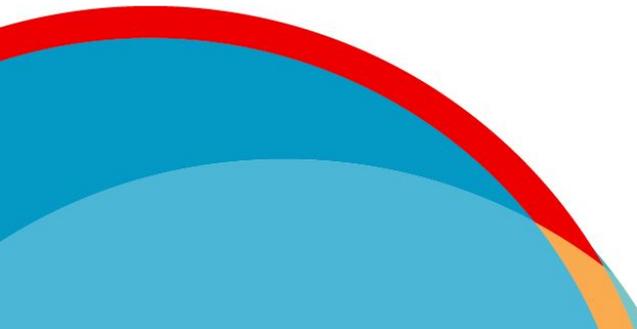
The virtual network is configurable, enabling peering with other virtual networks, including **Express Route circuits**



# ARO Secure Reference Architecture



# ARO integration with Azure services



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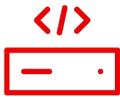
# ARO integrates Azure Developer and Management Tools



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

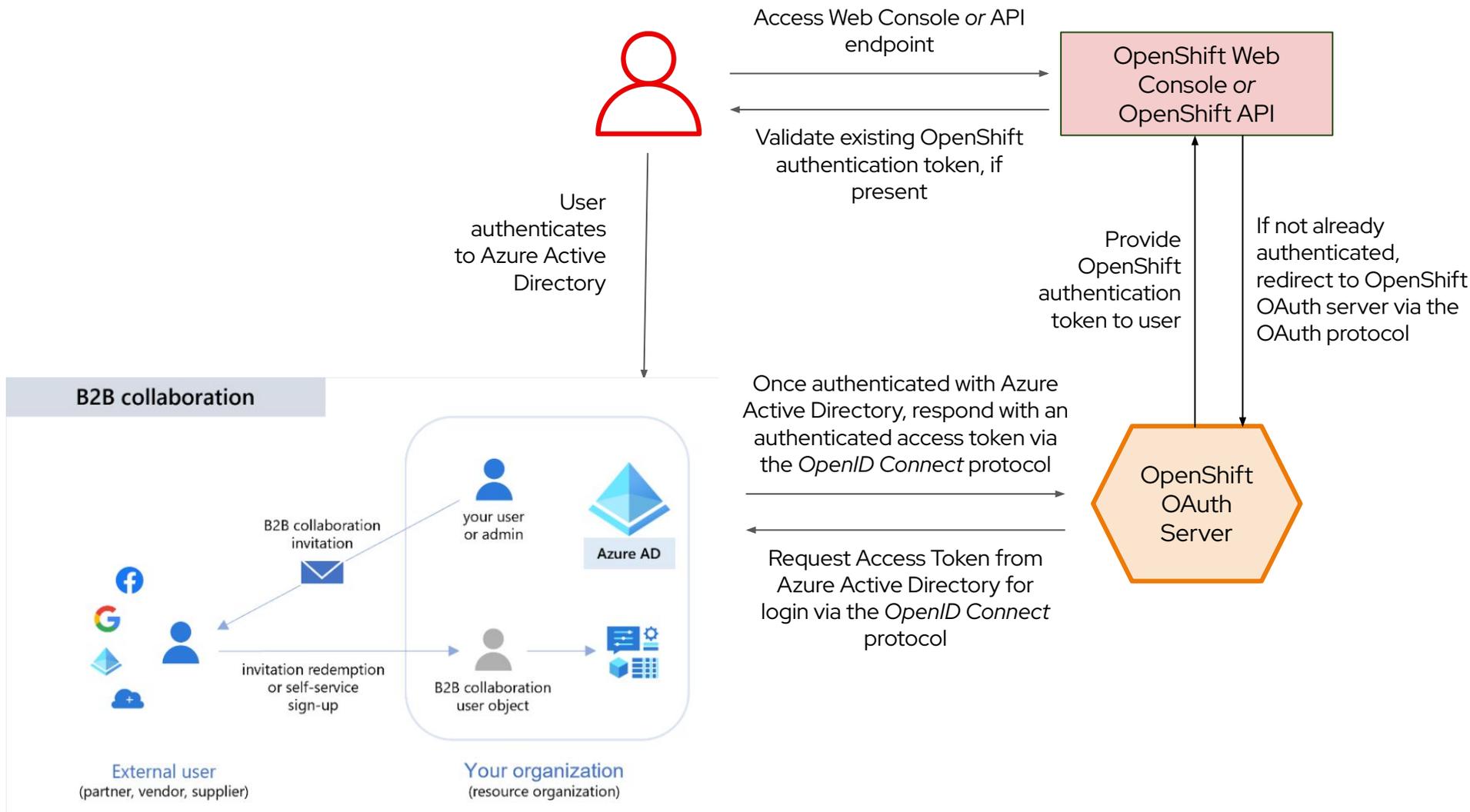


Azure Load Testing

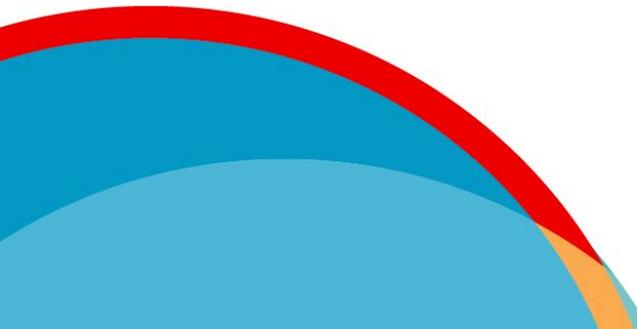


Azure Log Analytics

# Single sign-on with your own identity provider



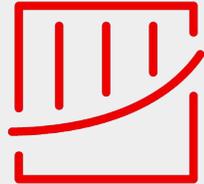
# Cloud Native Development with ARO



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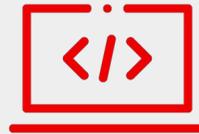


# Why cloud-native development?



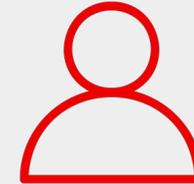
**Revitalize business for the digital economy**

The ability to adapt is as important as the ability to plan



**Software as a competitive edge**

Companies must have core competency in software development to compete



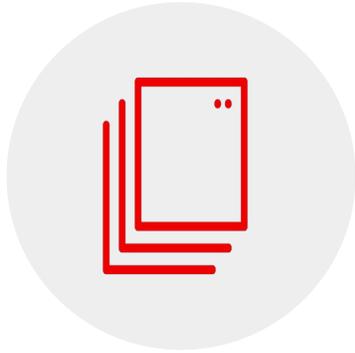
**Modern customer experience**

Customers expect your business to provide personalized, secure services anytime, anywhere

Creating value depends on your ability to develop and deliver high-quality applications faster on any cloud

# Adopting a Cloud Native Approach

## Top Considerations



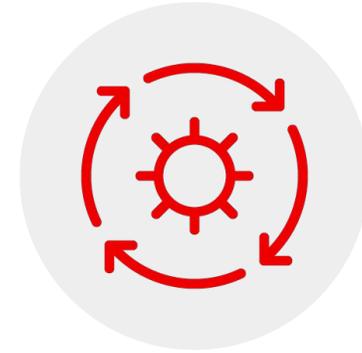
### Speed

Increase developer productivity and ship quality applications faster



### Security

Application and supply chain security from start to production

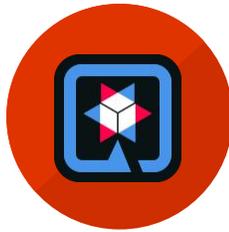


### Scale

Automate and scale application delivery on hybrid cloud infrastructure

# Cloud-native delivered with Red Hat

Red Hat Container and Operator Catalog  
Database | Message Broker | Integration | Business Process | More



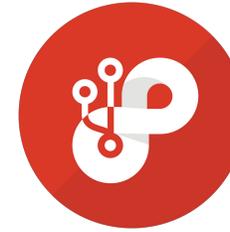
Red Hat build  
of **Quarkus**



OpenShift  
**Serverless**



OpenShift  
**Pipelines**



OpenShift  
**GitOps**



OpenShift  
**Service Mesh**



## Enterprise Kubernetes Platform

Networking | Automated Operations | Ingress | Storage | Monitoring | Logging | Registry



Physical



Virtual



Private cloud



Public cloud



Edge

# A Comprehensive DevOps Platform for Hybrid Cloud

Automate building container images using Kubernetes tools



**OpenShift Builds**

Kubernetes-native on-demand delivery pipelines



**OpenShift Pipelines**

Declarative GitOps for multi-cluster continuous delivery



**OpenShift GitOps**

**OpenShift**



# Continuous Integration & Continuous Delivery



## OpenShift Build

Automate building container images using Kubernetes tools

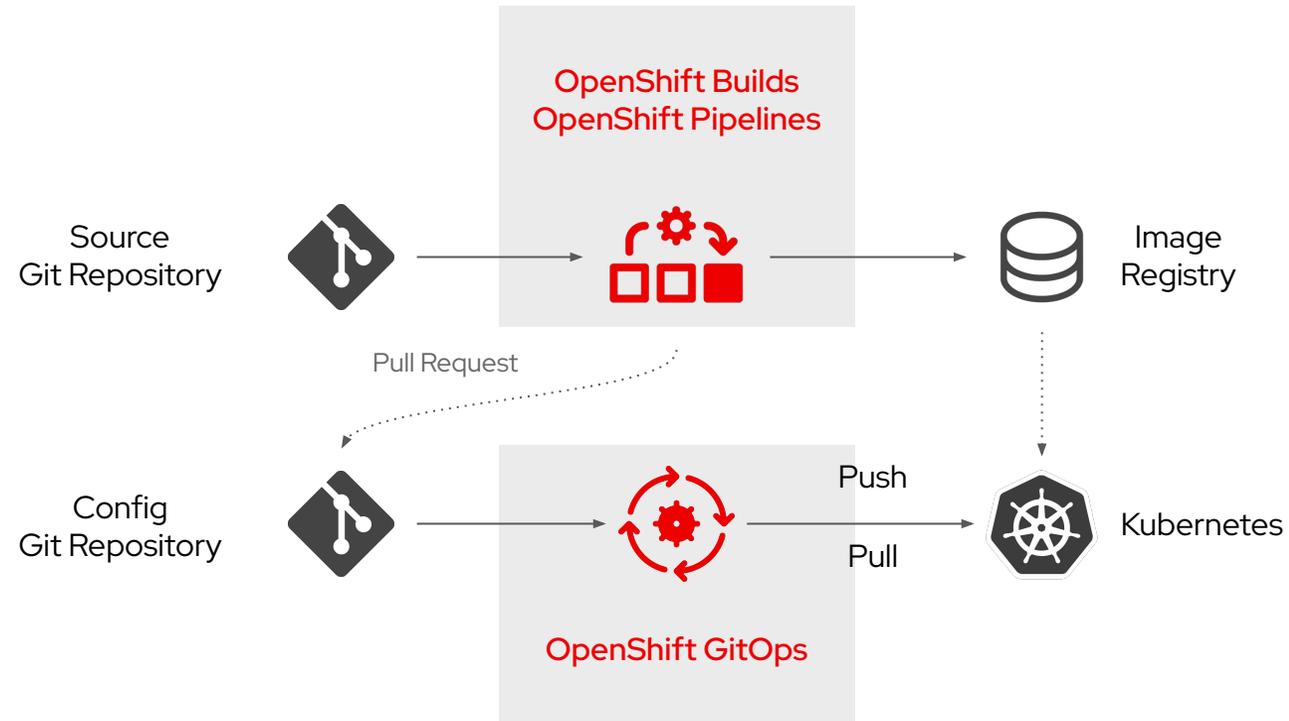
## OpenShift Pipelines

Kubernetes-native on-demand delivery pipelines

## OpenShift GitOps

Declarative GitOps for multi-cluster continuous delivery

# The GitOps Application Delivery Model on ARO



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**Thank you**