

What is new...

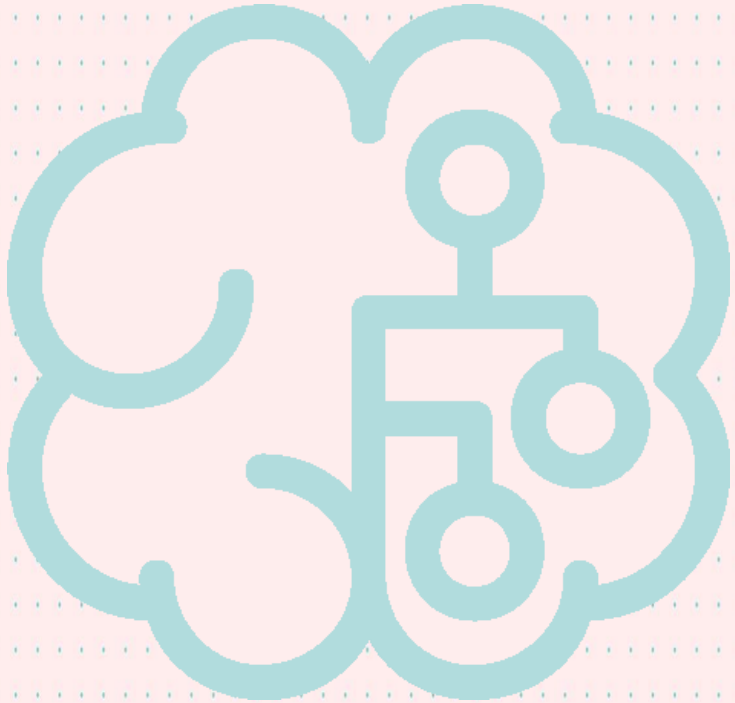
Azure RedHat OpenShift

Be faster and do more with less.

Côme REDON

Sr Specialist - Microsoft





Topics

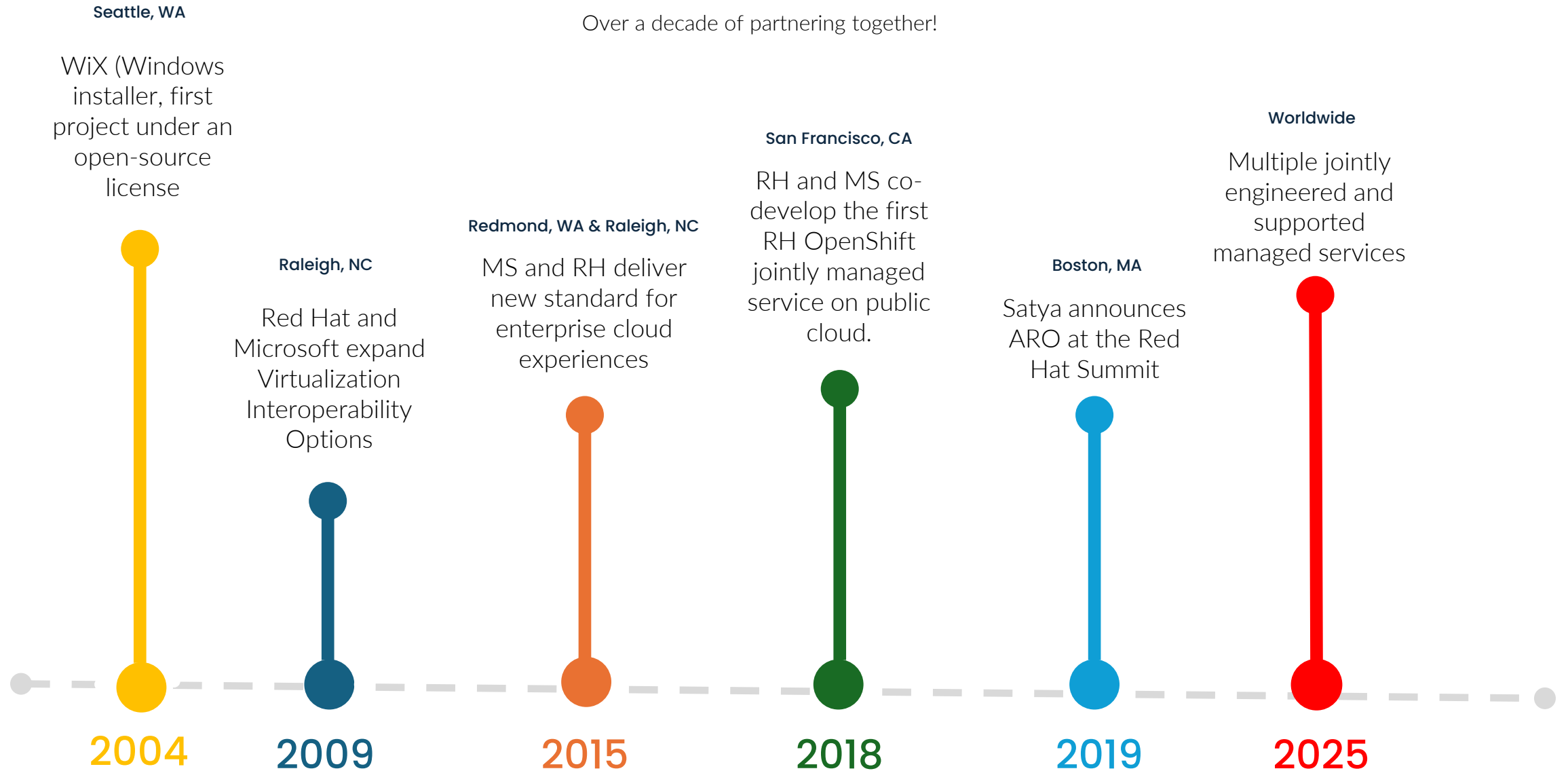
- **Our partnership and Why ARO?**
- **AI on ARO**
- **OpenShift Virtualization on ARO**
- **M.I.**
- **Roadmap update**

The Partnership: Collaboration between Red Hat and Microsoft



The History

Over a decade of partnering together!



Our joint solutions



Red Hat® Enterprise Linux®
on Microsoft Azure



Red Hat OpenShift® on
Microsoft Azure



Microsoft SQL Server on Red Hat
Enterprise Linux and Microsoft Azure



Microsoft SQL Server big data clusters on
Red Hat OpenShift



Red Hat Ansible Automation Platform on
Azure



Red Hat Enterprise Linux for SAP
Solutions on Microsoft Azure

And..... AI !

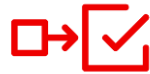
Azure Red Hat OpenShift

A jointly supported, turnkey application platform native to Azure.



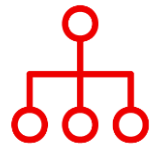
Accelerate time to value

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.



Running your own Red Hat OpenShift cluster

Responsibilities

User management



Project and quota management



Application lifecycle



Cluster creation



Cluster management



Monitoring and logging



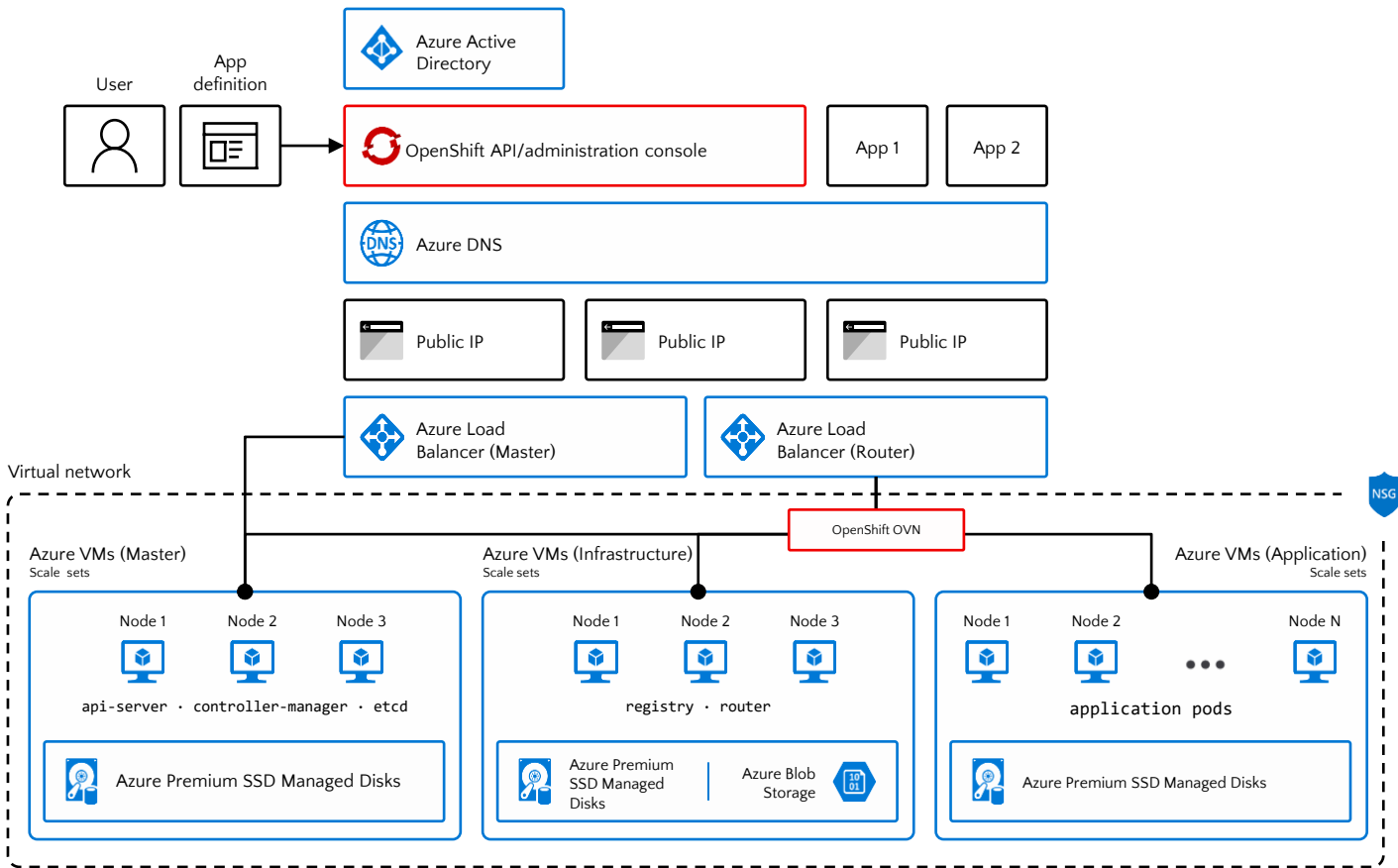
Network configuration



Software and security updates



Platform support



Customer



Microsoft and Red Hat



Fully managed clusters with Azure Red Hat OpenShift

Responsibilities

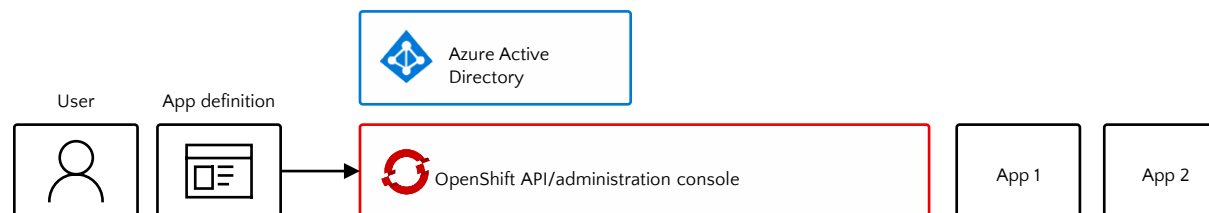
User management	■
Project and quota management	■
Application lifecycle	■
Cluster creation	■
Cluster management	■
Monitoring and logging	■
Network configuration	■
Software and security updates	■
Platform support	■



Customer



Microsoft and Red Hat



Let **Microsoft** and **Red Hat**...

Manage all your clusters.

Secure your nodes.

Monitor and operate your VMs.

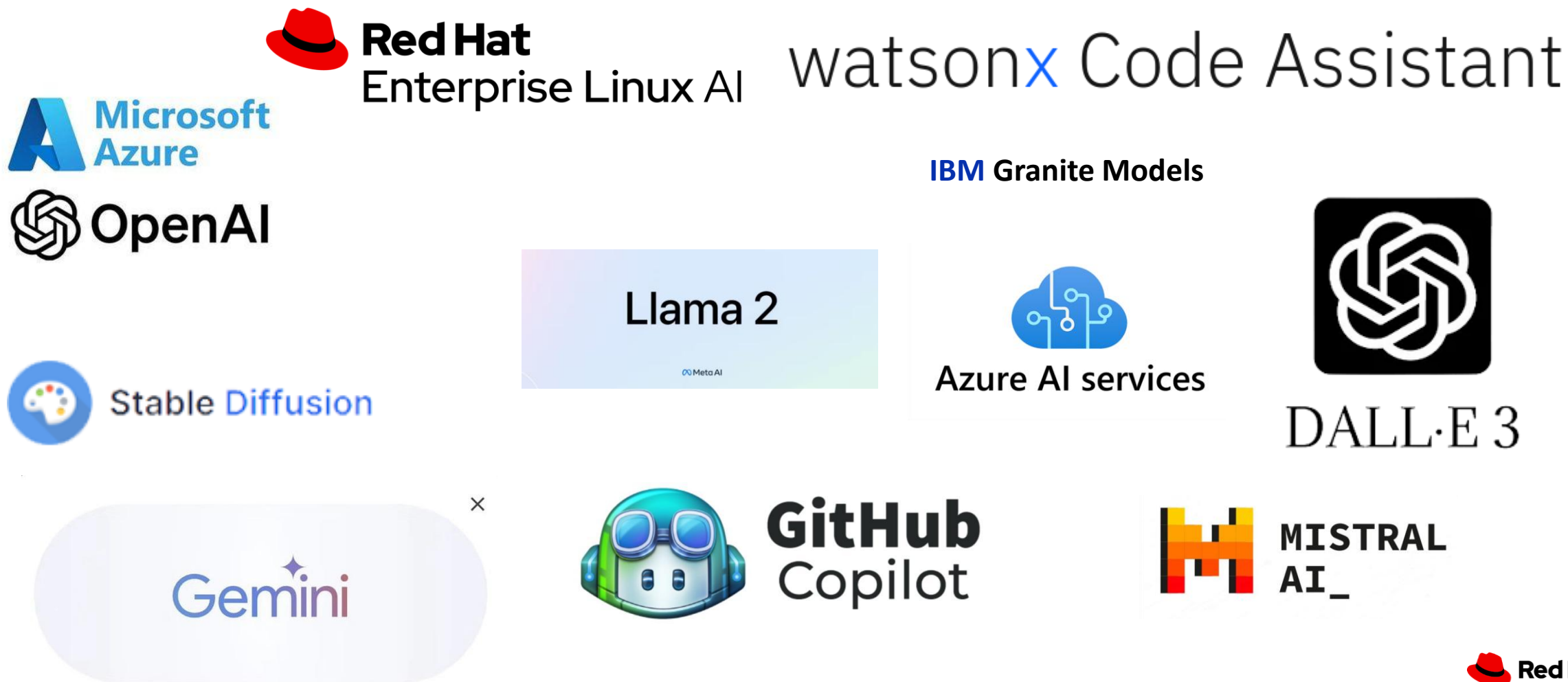
Manage environment patches.



AI on ARO: Your AI use-cases now easier

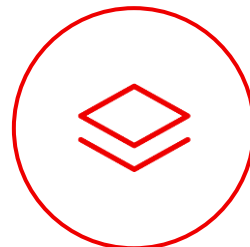


AI is becoming a part of our everyday lives



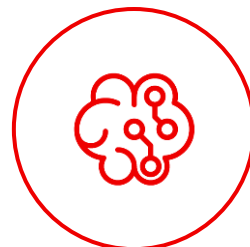


Develop, train, serve, monitor, and manage the life cycle of AI/ML models and applications, from **experiments to production.**



Built on top of OpenShift®

Deliver consistency, **cloud-to-edge** production deployment and monitoring capabilities



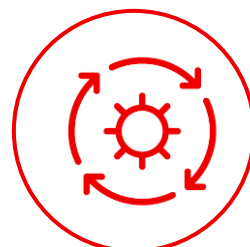
Designed for Gen and predictive AI

Scale to meet the workload demands of foundation models and traditional ML.



Empowered collaboration

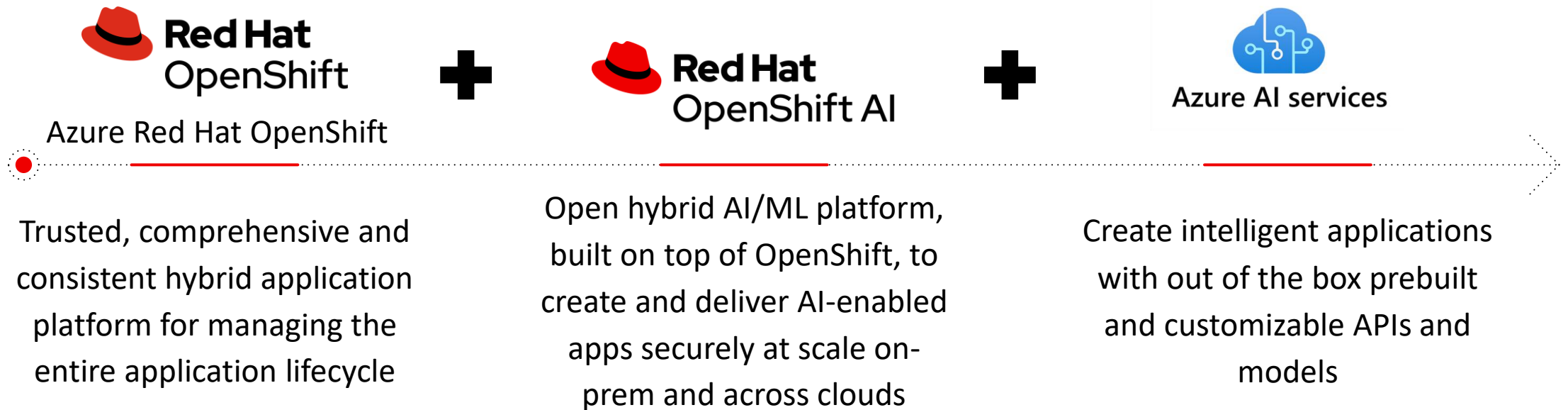
Provide a **unified platform** for **data scientists, operations** and **intelligent application developers**



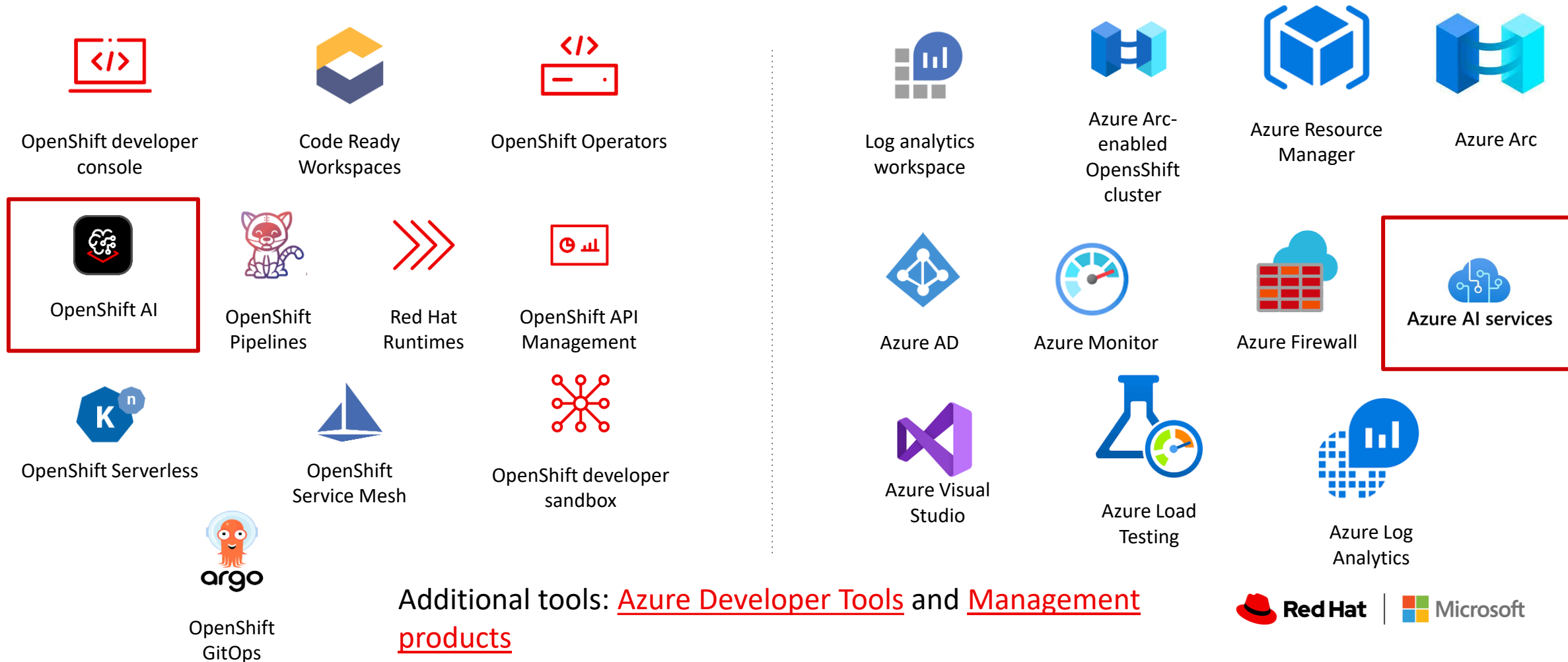
DevOps applied to ML

Set up rigorous **pipelines** and **workflows** to take you from **development** to **production.**

Build an AI platform for E2E AI lifecycle management



Azure Red Hat OpenShift integrates with OpenShift and Azure Developer and Management Tools

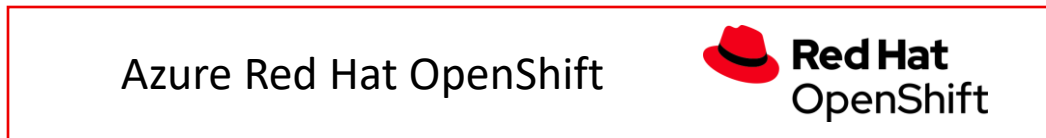


More Choice for Model Development, Tuning and Serving on Azure Red Hat OpenShift

Model development,
serving and
monitoring



Orchestration,
compute resource
and fleet mgt



GPU acceleration
support



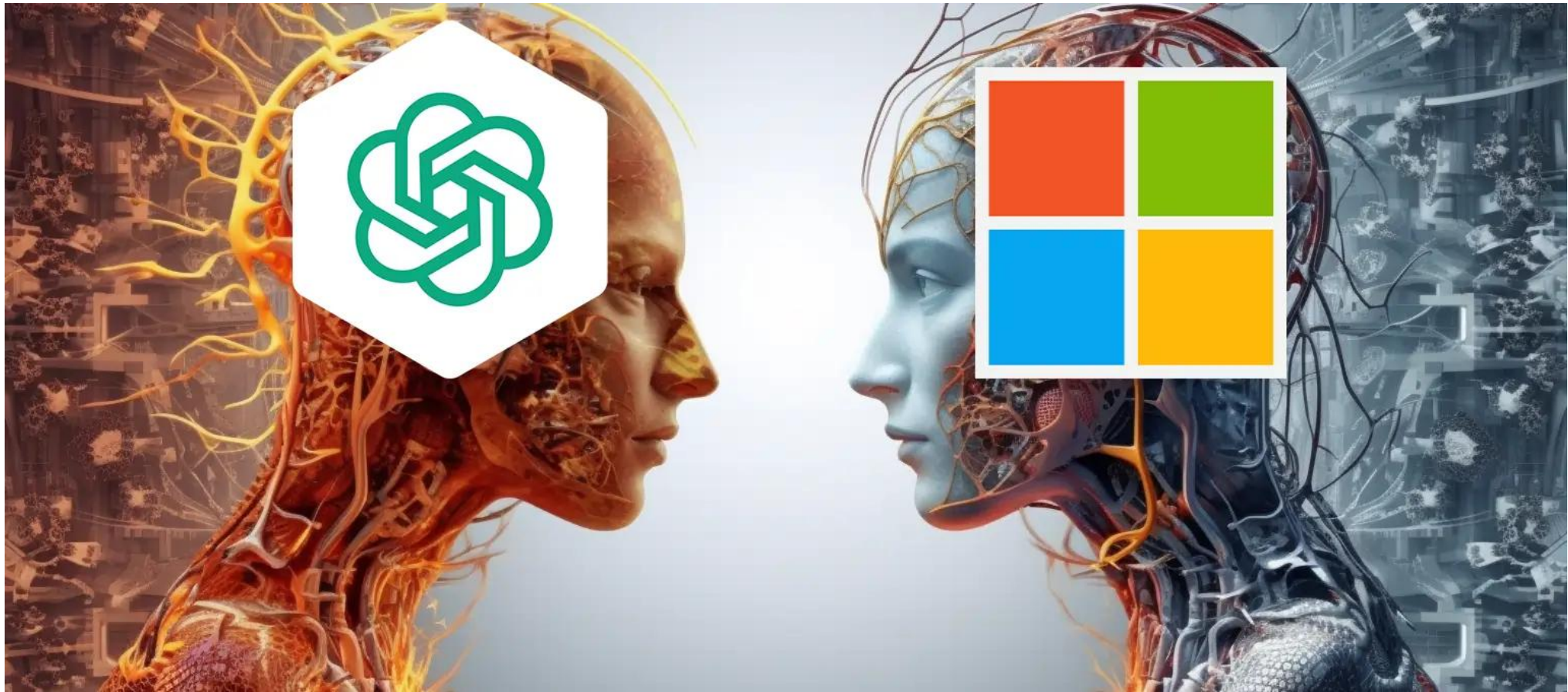
Deploy anywhere



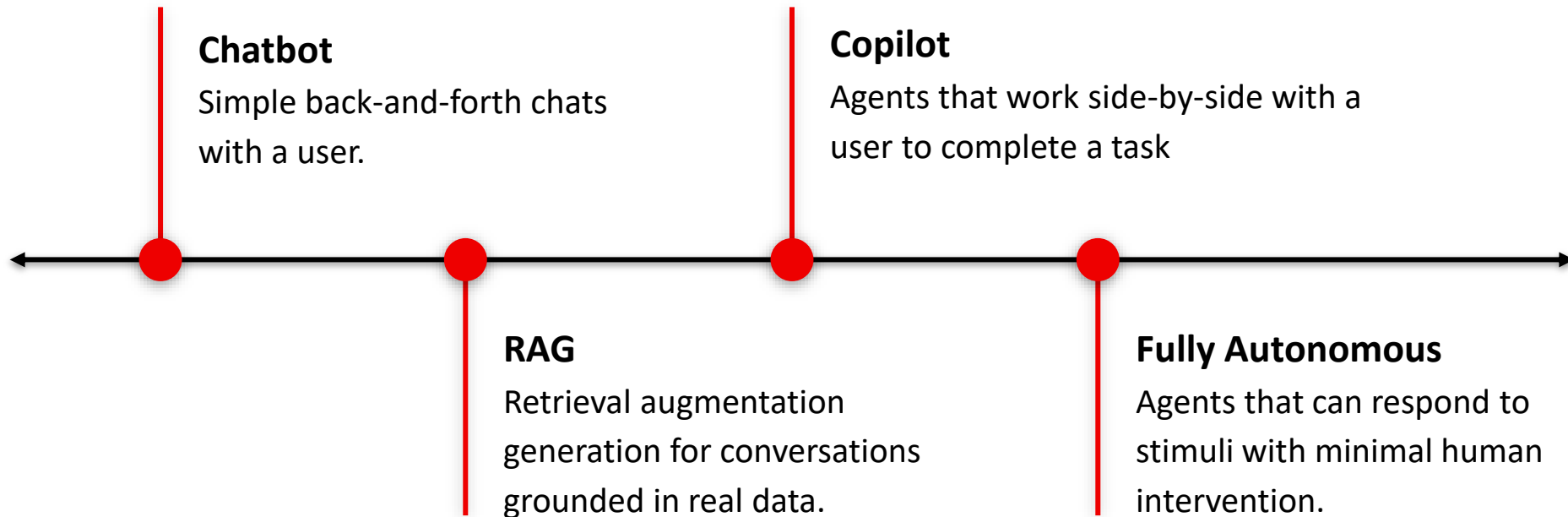
Consistency and choice across deployment options and AI/ML tools

Focus on AI Innovation and minimize complexity with a fully managed platform

Accelerate deployments with a comprehensive app platform that operationalizes AI faster

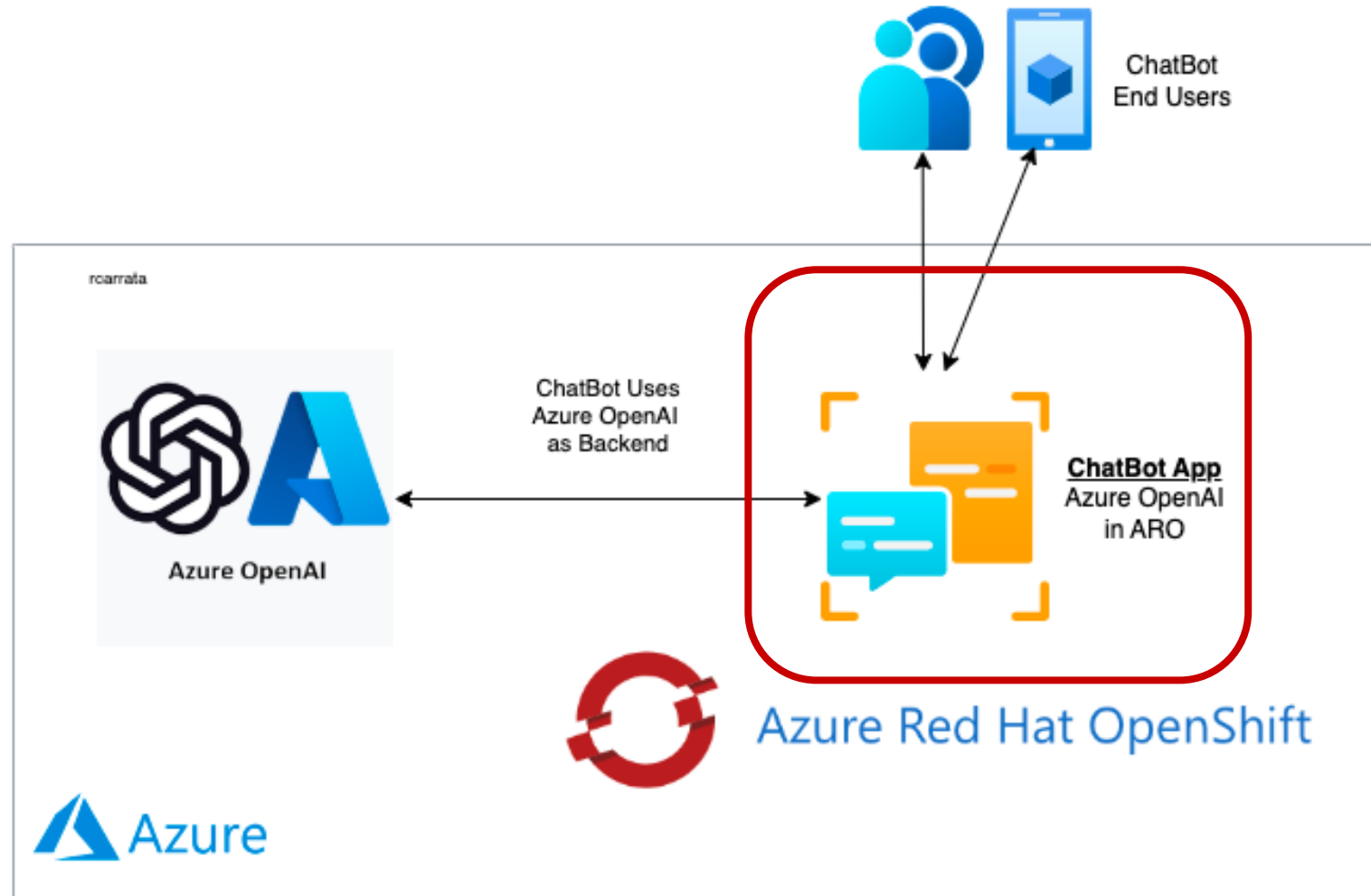


Intelligent apps & frameworks spectrum

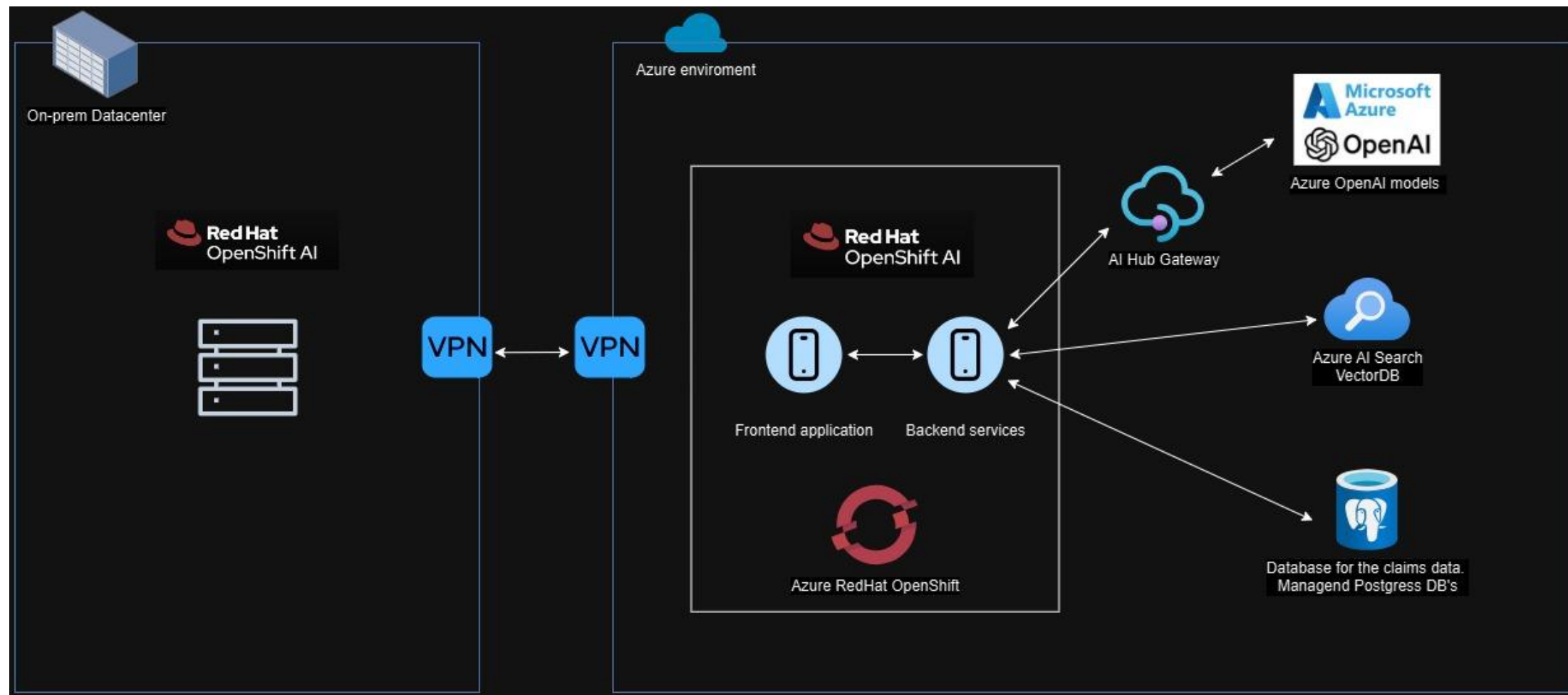


Example: AI ChatBot

in Azure Red Hat OpenShift fully integrated with Azure OpenAI



Azure Red Hat OpenShift AI Workshop Architecture



OpenShift Virtualization on ARO:

Manage your VM's and container workloads with ease



Why should you consider running VMs in the Cloud?

Cloud modernization journey



Data Center Exit



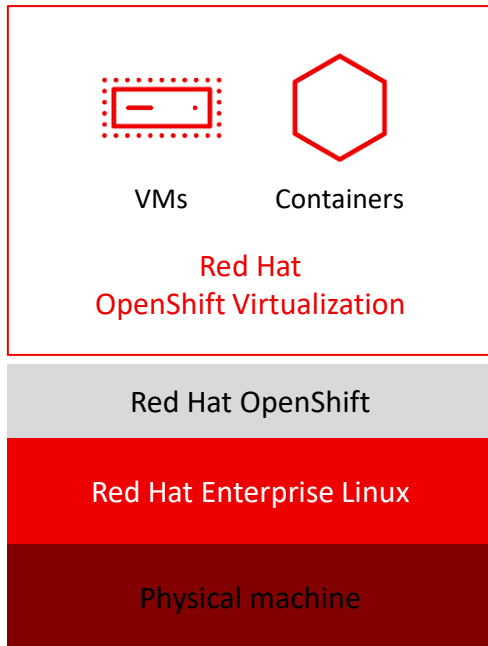
Scale to the cloud



Application
modernization

Red Hat OpenShift Virtualization

The modern option for general purpose virtualization



- **Unified platform**
for virtual machines and containers
- **Consistent management**
tools, interfaces, and APIs incl. ACM and AAP integrations
- **Performance and stability**
of Linux, KVM, and qemu
- **Healthy open source community**
the KubeVirt project is a top 10 CNCF active project, with 200+ contributing companies
- **Diverse ecosystem**
of Red Hat & partner operators
- **Includes Red Hat Enterprise Linux**
guest entitlements
- **Supports Microsoft Windows**
guests through Microsoft SVVP
- **Inbound guest migration**
using Ansible Automation Platform + Migration Toolkit for Virtualization, Training and Consulting

Virtualization on ARO accelerates the migration of VMs while offering the cloud flexibility to modernize

Use Cases

Migrate VMs as is to the cloud

Modernize apps with cloud-native tech

Why Virtualization on Azure Red Hat OpenShift

- Migrate & modernize at **your own pace** on a **consistent** platform
- Traditional VM behavior & existing VM roles in a modern platform
- Built on a trusted platform
- **Accelerated migration** with a 1st party Azure solution
- Cloud flexibility with pay-as-you-go pricing and dynamic resource scaling

Effortless VM Deployment with Azure Red Hat OpenShift

Discover how to swiftly create and manage virtual machines using Azure Red Hat OpenShift's intuitive interface. This demo highlights the streamlined process of deploying a Red Hat Enterprise Linux 9 VM, showcasing its powerful virtualization capabilities and seamless integration options.

Get Started

Managed identities: Better and easier security!



Managed identity with Azure Red Hat OpenShift

(Preview)

Key Components

1. **Short-term** token based authentication
2. **Minimal set of permissions** - Abiding by the principle of least privilege

Benefits

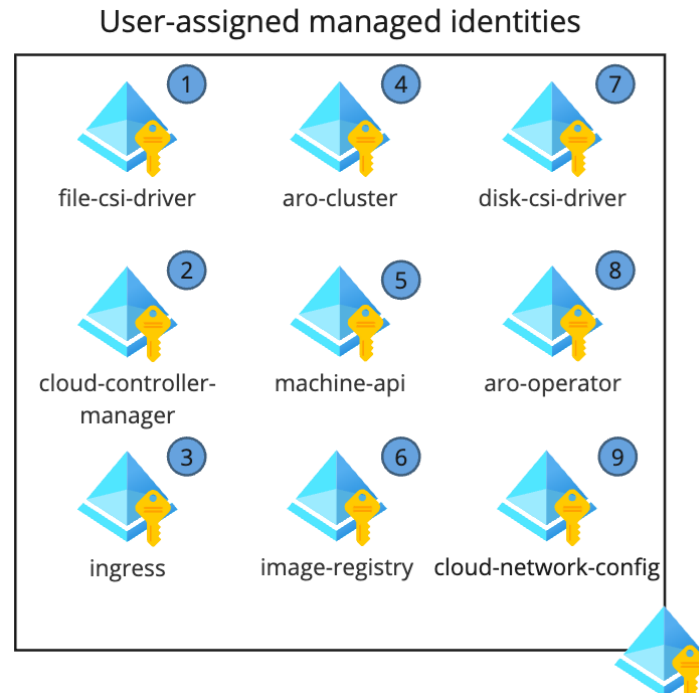
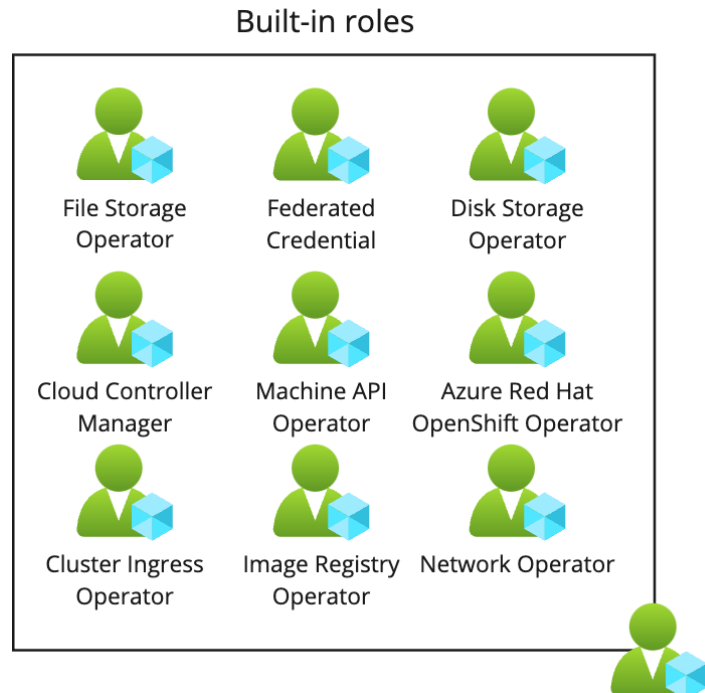
- **Improved security with granular permissions** - each component only has the permissions it needs to complete its function
- **Reduced operational burden** - no need to manage and rotate long lived Service Principal credentials
- **Simplified access control** by using Azure RBAC role assignments



Understanding identity role assignment architecture

Azure Red Hat OpenShift core operators:

- OpenShift Image Registry Operator
- OpenShift Network Operator
- OpenShift Disk Storage Operator
- OpenShift File Storage Operator
- OpenShift Cluster Ingress Operator
- OpenShift Cloud Controller Manager
- OpenShift Machine API Operator
- Azure Red Hat OpenShift Service Operator



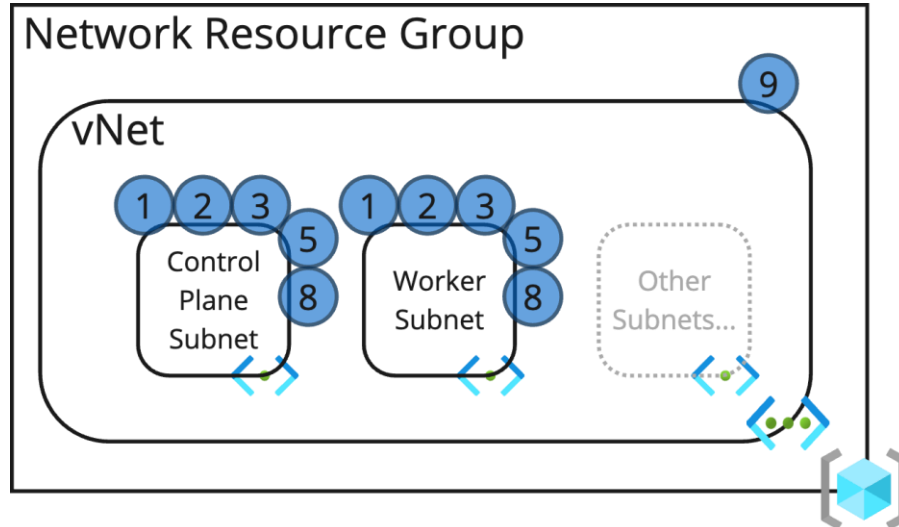
1. Create user-assigned managed identities

```
az identity create \ --resource-group <RESOURCEGROUP> \ --name machine-api
```



How to create a cluster

2. Perform role assignments



```
az role assignment create \  
  --assignee-object-id "<MACHINE_API_ID_OBJECT_ID>" \  
  --role  
"/subscriptions/$SUBSCRIPTION_ID/providers/Microsoft.Authorization/roleDefinitions/0358943c-7e01-48ba-8889-02cc51d78637" \  
  --scope  
"/subscriptions/$SUBSCRIPTION_ID/resourceGroups/$RESOURCEGROUP/providers/Microsoft.Network/virtualNetworks/aro-vnet/subnets/master"  
  
az role assignment create \  
  --assignee-object-id "<MACHINE_API_ID_OBJECT_ID>" \  
  --role  
"/subscriptions/$SUBSCRIPTION_ID/providers/Microsoft.Authorization/roleDefinitions/0358943c-7e01-48ba-8889-02cc51d78637" \  
  --scope  
"/subscriptions/$SUBSCRIPTION_ID/resourceGroups/$RESOURCEGROUP/providers/Microsoft.Network/virtualNetworks/aro-vnet/subnets/worker"
```

3. Create the cluster

```
az aro create \  
[...]  
  --enable-managed-identity \  
  --assign-cluster-identity aro-cluster \  
  --assign-platform-workload-identity machine-api machine-api \  
[...]
```



Demo Time!

ARO Roadmap: What is coming?



Roadmap

- **HCP**
- **4.18**
- **Region Roll-outs**
- **Expand Lockbox**
- **Extended version support**
- **And more....**



Thank you

[Innovation in Action: Azure Red Hat OpenShift at Build and Red Hat Summit 2025 | Microsoft Community Hub](#)



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