



Deployment models for OpenShift/OpenShift Virtualization

NetApp virtualization solutions

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Deployment models for OpenShift/OpenShift Virtualization

OpenShift Container Platform deployment models are categorized primarily by the infrastructure they run on (cloud vs. on-premises) and how they are managed (by Red Hat or the customer). OpenShift Virtualization can be installed on the OpenShift Container platform.

Key deployment models include

1. **Managed Services (Red Hat Managed):** In this model, Red Hat manages the OpenShift Container Platform infrastructure and operations. The customer is responsible for managing their applications and workloads on top of the platform. Examples include:
 - a. **Red Hat OpenShift Service on AWS (ROSA):** A managed service that allows for easy integration with AWS services. OpenShift Virtualization is installed on EC2 bare metal instances on AWS.
 - b. **Azure Red Hat OpenShift (ARO):** This is a Managed Service on Azure Cloud. OpenShift Virtualization operates on top of Azure Virtual Machines.
 - c. **Red Hat OpenShift Dedicated (OSD):** A fully managed service deployed on Google Cloud, managed by Red Hat. OpenShift Virtualization is deployed on Google Cloud bare metal instances.
2. **Self-Managed Services (Customer Managed):** In this case, the OpenShift Container Platform is deployed and managed directly by the customer on their own infrastructure. The infrastructure could be on either public cloud or on-premises.
 - a. **Public Cloud:** Deployed on AWS, Azure or GCP using either Installer-Provisioned infrastructure (IPI) or User-Provisioned Infrastructure (UPI)
 - b. **Bare Metal:** Deployed directly on physical hardware.
 - c. **Virtualization:** Deployed on platforms like VMware vSphere.

Infrastructure deployment Options

1. **Installer-provisioned infrastructure (IPI):** The installation program automates the provisioning of infrastructure components, such as networking and machines.
2. **User-provisioned infrastructure (UPI):** The user manually creates and manages the infrastructure, providing more control over the environment.

Specialized Deployment Models

1. **Single-node OpenShift (SNO):** A full OpenShift cluster installed on a single physical or virtual machine, often used for edge computing.
2. **Disconnected (Air-gapped) Deployment:** Deployed in restricted network environments with no external internet access.
3. **Red Hat OpenShift Virtualization Engine:** A bare metal-only, virtualization infrastructure, purpose-built to provide enterprises with a reliable, enterprise-grade solution for deploying, managing, and scaling VMs. A subset of OpenShift functionality, this edition of OpenShift is targeted at virtual machine-only workloads.

Additional Resources

For complete details on OpenShift Container platform, refer to the Red Hat [documentation here](#).

For complete details on OpenShift Virtualization, refer to the Red Hat [documentation here](#).

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