

OpenShift everywhere

Red Hat OpenShift deployment methods

Marek Martofel Cloud Native and Container Platform Lead, CEE





Red Hat OpenShift

Self Managed





Red Hat OpenShift Self-Managed Editions

Sed Hat OpenShift Container Platform

Complete application development

Red Hat OpenShift Kubernetes Engine

Essential enterprise Kubernetes infrastructure

Includes:

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- Enterprise Kubernetes runtime
- RHEL CoreOS immutable container OS
- Administrator console
- OpenShift Virtualization

Adds:

platform

- Developer Console
- Log Mgt & Metering
- Serverless (Knative)
- Service Mesh (Istio)
- Pipelines & GitOps (Tekton, ArgoCD)
- Insights for OpenShift (Cost, Subscription, Advisor)

Red Hat OpenShift Platform Plus

Manageability and consistency across hybrid and multicloud with advanced security for DevSecOps

Adds:

- Multicluster management
- Advanced observability and policy compliance
- Declarative security
- Threat detection and response
- Scalable global container registry







* Red Hat OpenShift® includes supported runtimes for popular languages/frameworks/databases. Additional capabilities listed are from the Red Hat Application and Data Services portfolio.

Red Hat OpenShift Platform Plus

Enabling Hybrid and Multi-Cloud Deployments





Red Hat OpenShift

At the Cloud



4.9 Supported Infrastructure Providers





Generally Available

Your goal is application development, not platform maintenance

- Focus on building revenue generating applications.
- Red Hat provides a 99.95% uptime SLA and 24x7 support for the application development platform on AWS, Azure, Google or IBM clouds.
 Gartner recommends that you focus on



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cloud native application development.

Beware of the public clouds offering traps





OpenShift Managed Services:

Control plane and workers, both supported by Red Hat





Managed OpenShift vs Kubernetes stack comparison





OpenShift offers automatic defense against CVEs



CVE-2021-30465 Public on May 19, 2021 "Customers of ROSA, ARO or OpenShift Dedicated have SELinux enabled in enforcing mode in every host across all clusters. Therefore, It is expected that customers **have a reduced impact from this issue**..."

Red Hat





When the vulnerability <u>CVE-2018-1002105</u> was reported, Red Hat backported **nine** versions of OpenShift to ensure the security of its customers' environments.

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https://access.redhat.com/security/security-updates/#/cve?q=8558&p=1&sort=cve_publicDate%20desc&rows=10&documentKind=Cve

Red Hat Site Reliability Engineers provide uptime

- Responsible for the 24x7 support for all OpenShift hosted environments
 Including for building, installing, upgrading, managing and maintaining every cluster
- Resources distributed across 3 regions: APAC, EMEA and NASA
- Cluster maintenance scheduled by Region Leads to increase SRE:Customer affinity
- SLA 99.9%, premium support 24*7



	OpenShift Dedicated	
Support Tier	Premium Support	
Hours of coverage	Standard business hours (24x7 for Severity 1 and 2) ²	
Support Channel	Web and Phone	
Number of cases	Unlimited	
Response times	Initial response	Ongoing response
Severity 1	1 hour	1 hour or as agreed
Severity 2	2 hours	4 hours or as agreed
Severity 3	4 business hours	8 business hours or as agreed
Severity 4	8 business hours	2 business days or as agreed



99.95% uptime SLAs on AWS, Azure, Google

Red Hat Managed Service SLAs

- Red Hat SLA covers: control plane, security response, patches, worker nodes
- **AWS**: ROSA comes with pay-as-you-go hourly and annual billing, a 99.95% SLA, and joint support from AWS and Red Hat and 24x7 support.
- **AZURE**: Jointly engineered, operated, and supported by Red Hat and Microsoft with an integrated support experience and 99.95% uptime SLA and 24x7 support.
- **GCP**: OpenShift Dedicated comes with a 99.95% availability SLA and 24x7 support.







Your goal is application development, not platform maintenance

- In a tight market for technical talent, focus on hiring to build revenue generating applications.
- Red Hat provides a 99.95% uptime SLA and 24x7 support for the application development platform on AWS, Azure, Google or IBM clouds.
 Gartner recommends that you focus on



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cloud native application development.

Gartner

Extending your value of OpenShift





Supporting hybrid usage and consumption patterns



Self-Managed Red Hat OpenShift

Customer Managed, for control and flexibility

Red Hat OpenShift Container Platform

On **public cloud**, or on-premises on **physical** or **virtual** infrastructure ³

¹ In preview as of 1/1/2021. Also available as Red Hat OpenShift Dedicated managed service running on user-supplied AWS infrastructure.
² Red Hat managed service running on user-supplied GCP infrastructure
³ See docs.openshift.com for supported infrastructure options and configurations



OpenShift offers the broadest set of hybrid cloud services



Red Hat



Managed OpenShift in the public cloud

aws Services ▼	Q Search for services, features, marketplace products, and docs [Option+S]	
Contai	liners	
Re 合 Containers	ed Hat OpenShift Service on WS	aws 🖊 🖊 Red Hat
Elastic Container Registry Elastic Container Service Elastic Kubernetes Service Red Hat OpenShift Service on AWS	Ully managed Red Hat® OpenShift® Ervice on AWS lat OpenShift Service on AWS allows you to deploy fully operational and managed Red Hat OpenShift clusters leveraging the full breadth and depth of AWS.	Enable Red Hat OpenShift Click below to begin by enabling the service. Enable OpenShift
Microsoft Azure	Red Hat OpenShift on IBM	
Overview Solutions <u>Products</u> > Documenta	ation Pricing ~ Training	Dod Llot OpopChift op
Home / Products / Azure Red Hat OpenShift		IBM Cloud
	hift OpenShift Dedicated	Deploy highly available, fully managed clusters with a click
Get started	Build and scale applications with confidence. We manage the rest.	Try it at no charge \rightarrow Get pricing options \rightarrow



Red Hat OpenShift

At the Edge





Quay Mirror Registry

Bootstrap registry for disconnected OpenShift cluster installations

- We prefer customers to run Quay on top of OCP
- But: disconnected clusters need a registry to store OCP release images and Operators before OCP can be installed
- Solution: tailored version of Quay helping customers to get a registry up and running quickly, mirroring is carried out via oc
- Local all-in-one Quay instance on RHEL 8
- Released as part of OpenShift, post 4.9 GA, included in every OCP subscription





Red Hat OpenShift

The Next





OpenShift Roadmap

Q4 2021

DEV	 Tekton Hub in Automated re Mount Secre Export Applie
АРР	 OpenShift Se Dynamic Plug
PLATFORM	 MetalLB Sup Azure Stack I RHEL 8 Serv AWS support Single Node Custom audit OpenShift AI API for Custor Operator Me GA of BYOH + additional set Disable case Multi Service

HOST

- OpenShift Pipelines Tekton Triggers GA ntegration in Pipeline builder
- etrieval of RHFL entitlement
- at and ConfigMap in BuildConfigs
- cation (Dev Preview)
- erverless cold start improvements
- gins for the OCP Console
- port (L2)
- Hub (UPI)
- ver Compute/Infra Nodes
- t for China Regions
- OpenShift (UPI)
- t profiles by group
- PI compatibility level discovery tools
- om Route Name and Certificates
- etering end of life
- Windows host for Windows Containers supported platforms
- -sensitivity for case-insensitive IdPs
- -Serving-Certificates for Headless StatefulSet
- Service Mesh federation between meshes/clusters
- ZeroTouchProvisioning and Central infrastructure management Tech Preview (ACM)
- ROSA: cluster manager UI for ROSA provisioning
- ROSA/OSD: Cluster Hibernation
- ARO: Azure Portal UI for ARO provisioning
- Cost: Improved models for distribution of costs

H12022

- Dev Preview of App Studio, a hosted developer Ъ Ч experience
 - OpenShift Serverless Functions IDE Experience
 - OpenShift Dev CLI (odo onboarding & more)
 - OpenShift Serverless Functions GA
 - Encryption of inflight data natively in Serverless
 - Integration of Knative(Serverless) with KEDA
 - OpenShift Serverless Kafka Broker
 - Operator SDK for Java (Tech Preview)
 - File-based operator catalog management
 - MetalLB BGP support

АРР

PLATFORM

HOSTED

- Azure Stack Hub (IPI)
- Alibaba, Nutanix & IBM Cloud (UPI/IPI)
- OpenShift on ARM (AWS and Bare Metal)
- SRO manages third party special devices
- Additional capabilities for Windows containers: health management, 3rd party network plugins such as Calico
- ZeroTouchProvisioning and Central infrastructure management GA (ACM)
- ExternalDNS Support
- NetFlow/sFlow/IPFIX Collector
- Introduce Gateway API
- ROSA/OSD: FedRAMP High on AWS GovCloud
- ROSA/OSD: Terraform provider
- ROSA/OSD/ARO: GPU Support
- ARO: Upgrades through cluster manager
 - Cost management understands IBM Cloud IaaS

2022 +

- OpenShift Builds v2 & Buildpacks TP
- Shared Resource CSI Driver GA
- DEV Tekton Hub on OpenShift
 - Unprivileged builds
 - Image build cache
 - Manual approval in pipelines
 - Global Operators Model & new Operator API
 - Operator Maturity increase via SDK
- АРР Serverless Functions Orchestration
 - Stateful Functions
 - Azure China
 - Utilize cgroups v2
 - Expand cloud providers for OpenShift on ARM
 - Enable user namespaces
 - Windows Containers: CSI proxy, improved
 - monitoring/logging & more platforms supported
 - Gateway API / Ingress Controller support
 - Network Topology and Analysis Tooling
 - SmartNIC Integrations
 - eBPF Support

PLATFORM

- Network Policy v2 & OVN no-overlay option
- BGP Advertised Services (FRR)
- Service Mesh on VMs
- SigStore style image signature verification
- Disconnected mirroring simplification
- Cost mgmt integration to Subs Watch, ACM
- Detailed Quota Usage in cluster manager
- HOST ROSA/OSD: AWS Dedicated instances





Thank you



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