Red Hat OpenShift 4

Datasheet

OpenShift Container Platform

A hybrid cloud platform open to any app, team, or infrastructure

Key benefits

- Integrated platform includes container host, Kubernetes, and application life-cycle management using your choice of infrastructure
- Operators provide an agile DevOps workflow
- Security-focused, validated container content and services from a wide partner ecosystem
- Faster application development cycles and more frequent software deployments
- Simple installation and upgrades, even in air-gapped environments
- Application portability with lower operational cost across hybrid cloud, multicloud, and edge footprints
- Consistent development experience across the application life cycle

Product overview

Red Hat® OpenShift® is a trusted Kubernetes enterprise platform. It is a security-focused, consistent foundation ready to enable modern, hybrid-cloud application development and life-cycle management for any application, in any location, across physical, virtual, private and public clouds, and in edge computing. Designed to deliver continuous innovation and speed at any scale, Red Hat OpenShift empowers organizations to be ready for today and build for the future.

Red Hat OpenShift Container Platform

Red Hat OpenShift Container Platform is self-managed and includes enterprise-grade Linux® operating system, container runtime, networking, monitoring, container registry, authentication, and authorization solutions. These components are tested together for unified operations on a complete Kubernetes platform spanning every cloud.

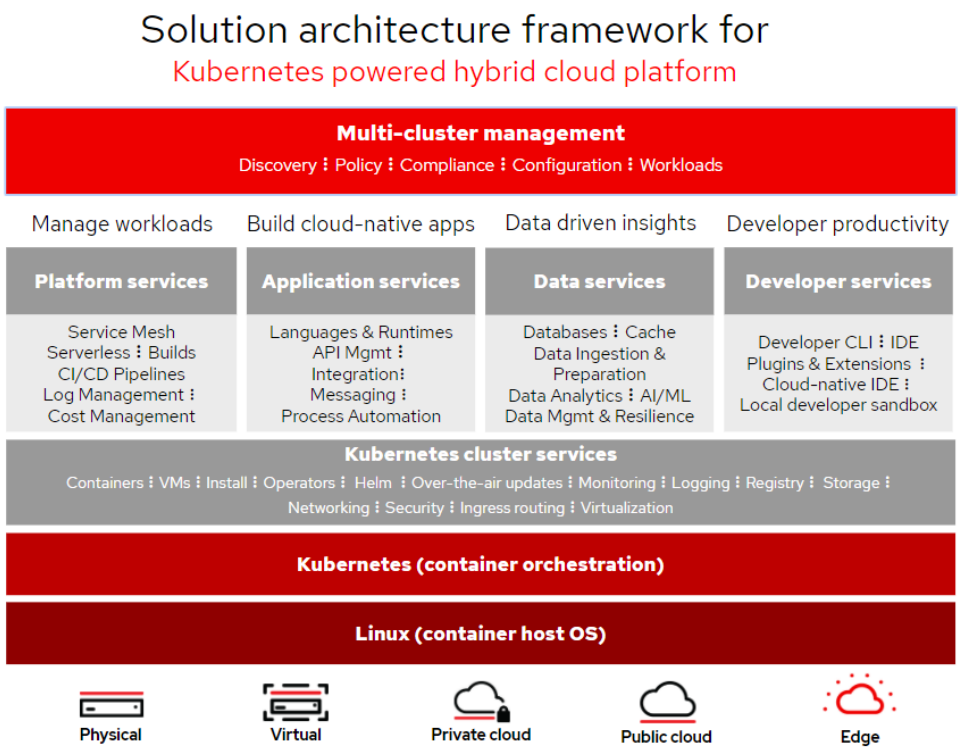

Figure 1. Red Hat OpenShift architecture overview

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Advanced capabilities

Red Hat OpenShift supports multiple advanced capabilities.

- **Operators** provide automated installation, upgrades, and life-cycle management for every part of your container stack, providing a more secure and up-to-date Kubernetes application platform with no downtime.
- **Red Hat OpenShift Service Mesh** provides a uniform way to manage, connect, and observe applications as managing and security between services becomes more difficult.
- **Red Hat OpenShift Serverless** allows an application to use compute resources and automatically scale up or down based on use, driven on-demand from a number of event sources.
- **Red Hat OpenShift Pipelines** provides a streamlined user experience through the OpenShift console developer perspective, command-line interfaces (CLIs), and integrated development environments (IDEs).
- **Red Hat OpenShift Virtualization** brings virtual machines to OpenShift to modernize existing applications or run them alongside containers, and serverless, in a Kubernetes-native architecture.
- **Edge computing** includes 3-node clusters as well as remote worker nodes to provide organizations full Kubernetes capabilities in a smaller footprint.
- **Databases and data analytics** provide methods for ingesting, storing, processing, and analyzing datasets from a variety of sources for use cases such as mobile and ecommerce applications, AI/ML, business intelligence, and more.
- **AI/ML on OpenShift** ensures better collaboration between data scientists and software developers and accelerates the roll out of intelligent applications across hybrid cloud.

Features and benefits

Feature	Benefit
Platform	
Scalability	Applications running on OpenShift Container Platform can scale to thousands of instances across hundreds of nodes in seconds.
Multicluster federation	Consolidated views of clusters and the use of Kubernetes technologies offer a consistent management layer across on-site and public clouds.
Persistent storage	Red Hat OpenShift Container Storage allows users to run stateful applications and cloud-native stateless applications.
Open source standards	OpenShift Container Platform incorporates Open Containers Initiative (OCI)/docker-formatted containers and Cloud Native Computing Foundation (CNCF)-certified Kubernetes for container orchestration, in addition to other open source technologies.
Container portability	Container images built on the OCI industry standard ensure portability between developer workstations and production OpenShift Container Platform environments.

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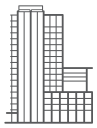

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry leading operating system, and automate, secure, and manage complex environments. Award winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

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Feature	Benefit
3-node clusters	Access all of the capabilities of a full Kubernetes platform with this highly available, smaller footprint for edge architectures comprised of both supervisor and worker nodes.
Remote worker nodes	Place single worker nodes in remote locations that can then be managed by centralized supervisor nodes at a larger site, such as a core or regional datacenter—especially important for remote edge locations that have space constrained environments and limited power/cooling capabilities.
Automated installation and upgrades	Automated installation and over-the-air platform upgrades are supported in cloud with Amazon Web Services, Google Cloud Platform, IBM Cloud, and Azure, and on-premises using vSphere, OpenStack®, Red Hat Virtualization, or bare metal. Services used from the OperatorHub can be deployed fully configured and upgradable with a single operation.
Automation	Streamlined and automated container and application builds, deployments, scaling, health management, and more are standard.
Robust ecosystem	An expanding ecosystem of partners provides a wide variety of integrations. Third parties deliver additional storage and network providers, IDE and CI integrations, ISV solutions, and more.
Self-service provisioning	Developers can quickly and easily create applications on demand from the tools they use most, while operations retain full control over the entire environment.
Multi-language support	Developers can use various languages, frameworks, and databases on the same platform.
Integrated CI/CD pipelines	Developers reduce manual deployment work to deploy higher quality software for continuous integration and automated tests.
User interfaces	Developers have direct access to a rich set of command-line tools, a multidevice web console, and Eclipse-based IDEs.
Source-to-image deployment	OpenShift Container Platform provides a toolkit and workflow for producing ready-to-run images by injecting source code into a container and letting the container prepare that source code for execution.

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