

Transform your applications

Innovate with containers and Kubernetes

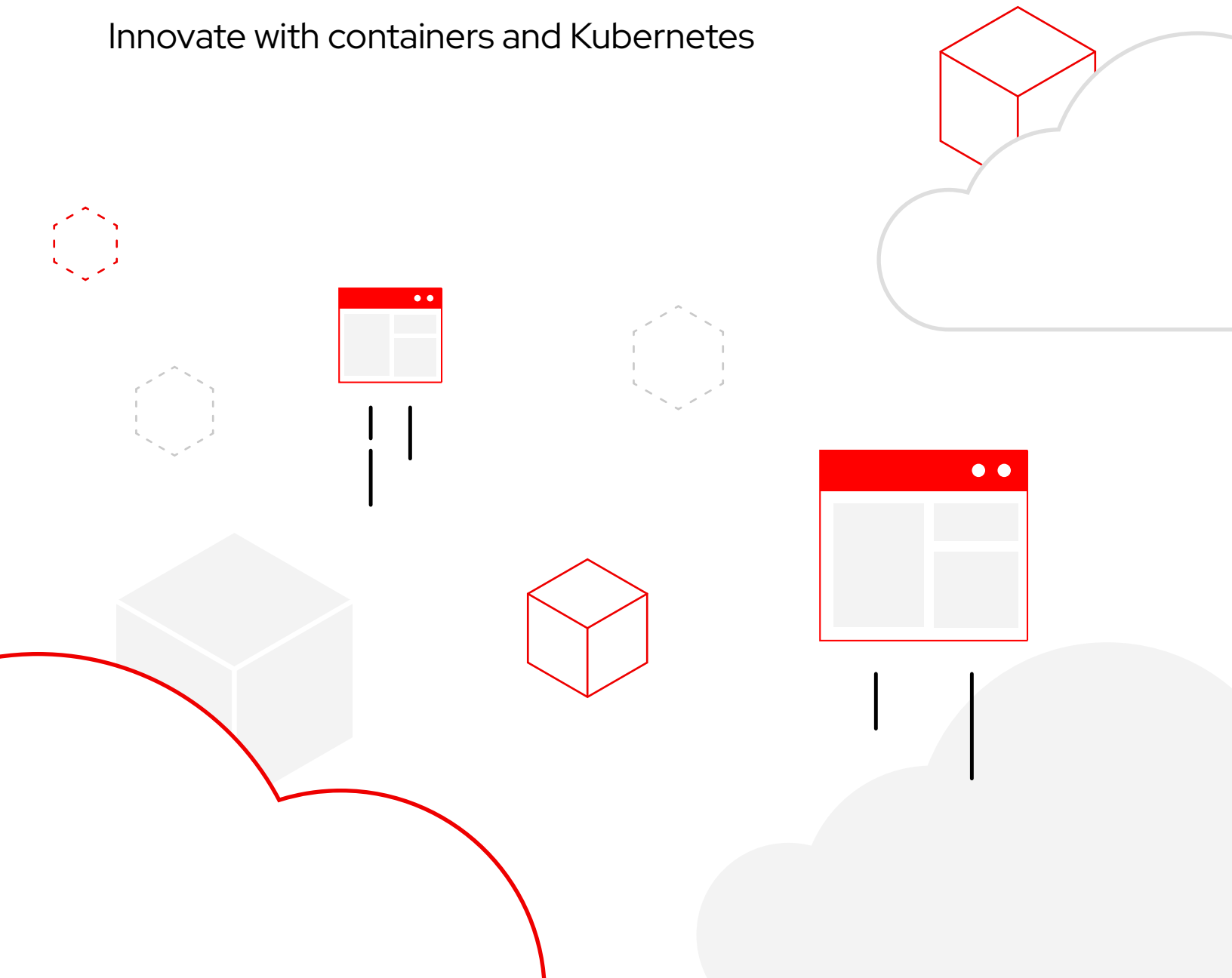
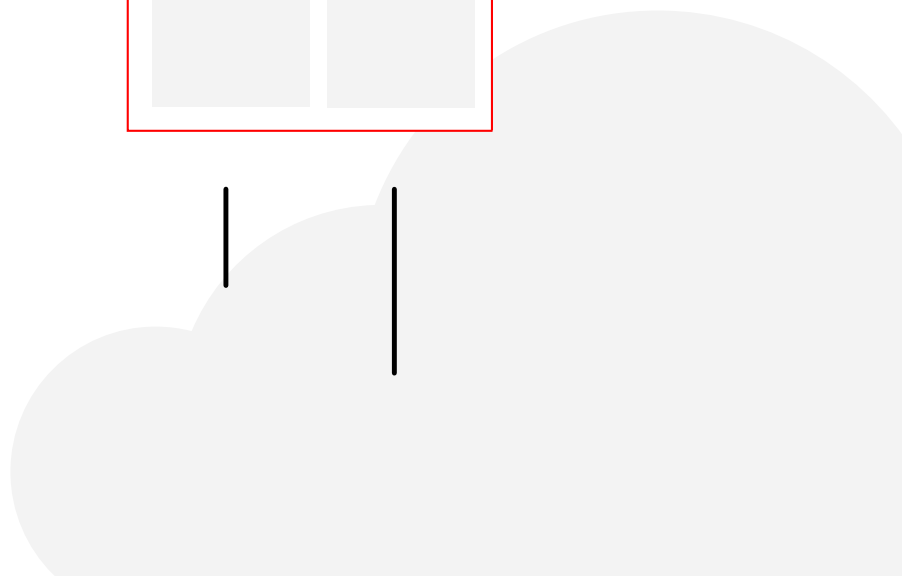
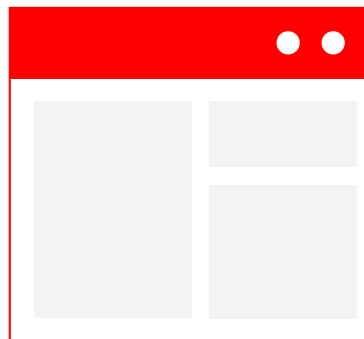
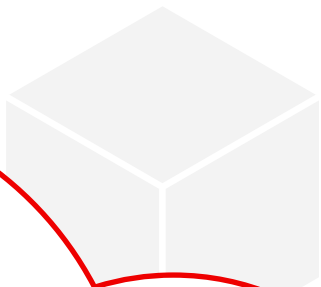
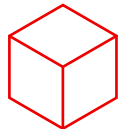
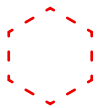
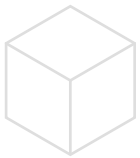




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Executive summary

Open new business possibilities with application transformation and hybrid cloud platforms.



Across industries, organizations depend on applications to engage customers, partners, and employees and achieve business goals. Most operate a mix of custom-developed and commercially available applications that direct both internal and external business processes. Even so, the way you deploy and manage these applications can greatly impact your organization's ability to innovate and adapt.

Application transformation changes the way you build, deploy, and manage applications to increase speed, efficiency, and agility.

The goal is to rapidly build, deploy, update, and scale applications in a secure way, across hybrid environments, using repeatable processes. Application transformation can open new possibilities for your business. For example, [DAB Pumps](#) now delivers applications to market in 60% less time. [Bajaj Allianz Life Insurance Company](#) simplified security management and eliminated downtime across its IT environment. And [Royal Bank of Canada](#) improved trading execution and insights.

[Hybrid cloud application platforms](#) are a key component in successful application transformation journeys. They can provide the consistency and flexibility needed to modernize existing applications, develop new cloud-native applications, and deliver applications at scale across infrastructures—without locking you into a specific public cloud or technology.

With a large certified partner ecosystem and open source development model, Red Hat offers an agile hybrid cloud foundation for application transformation. We also have the expertise to be your trusted partner, provide the training your teams need, and support your journey to modern, cloud-native applications and operations.

Read on to discover current trends in application transformation and how you can modernize using hybrid cloud application platforms and cloud services.

A stylized, handwritten signature in black ink that reads "Abhinav". The signature is written in a cursive, flowing style.

Abhinav Joshi

Senior Manager | Red Hat OpenShift
Product Marketing, Red Hat

Application deployment trends

Organizations use multiple technologies and methodologies to modernize their applications.

Applications are at the core of modern business. They connect organizations, partners, and customers to deliver value for everyone. Today, organizations are transforming their existing applications to increase customer satisfaction and engagement, create differentiated services, improve operational efficiency, and compete in fast-changing markets. At the same time, they must also maintain existing infrastructure and business processes. As a result, most organizations approach application transformation as an ongoing journey, rather than a single event. Common initiatives include:



Modernize existing applications

Rehost, replatform, or refactor your monolithic and n-tier business applications to run in cloud-native environments and use modern programming frameworks like [Quarkus](#), [Node.js](#), and [Spring](#).



Build cloud-native applications

Adopt cloud-native and DevSecOps approaches to create modular, adaptable, micro-services-based applications and data services. Deliver these applications and services as standalone offerings or combine them with existing applications to release new capabilities faster. You can also deploy modern architecture and operational practices like [serverless](#), [application programming interfaces \(APIs\)](#), [event-driven architecture](#), and [automated pipelines](#) to simplify application development, delivery, and integration. Using these technologies, developers can focus on creating applications that deliver business value – without requiring detailed knowledge of the underlying infrastructure.



Add intelligence to cloud-native applications

Integrate data analytics, artificial intelligence (AI), and machine learning (ML) capabilities into cloud-native applications to deliver more insight and value. Make use of vast amounts of data generated in different ways and stored across multiple locations.



Integrate custom and third-party services

Combine application and data services from in-house developments and independent software vendors (ISVs) in a consistent manner across on-site, public cloud, and edge environments.

Hybrid cloud application platforms based on containers and Kubernetes provide an ideal foundation for application transformation. These platforms can deliver the agility, consistency, efficiency, and scalability needed to build, deploy, run, and manage applications across datacenter, edge, and public cloud infrastructures. Combined with DevSecOps approaches, hybrid cloud application platforms can help you build a modern, reliable, and security-focused environment for both existing and new applications.

Top reasons for choosing containers and Kubernetes

Organizations choose to deploy their applications in containers and Kubernetes environments for several reasons:¹

74%
Consistency

73%
Agility

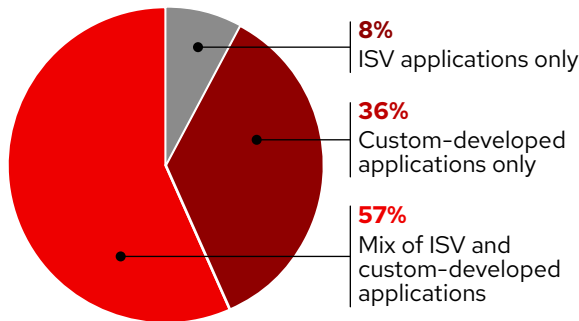
55%
Portability

54%
Scalability

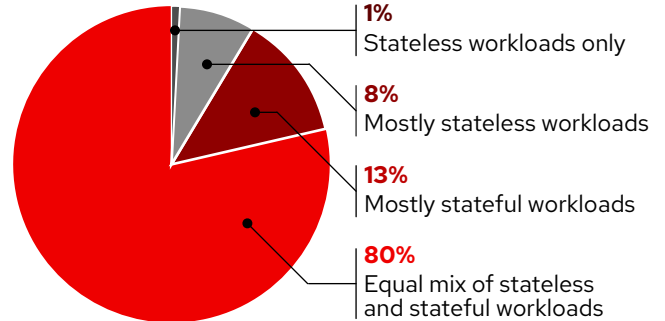
47%
Flexibility

Organizations deploy many different types of applications and workloads in their container and Kubernetes environments.

Types of applications and workloads deployed in containers and Kubernetes environments²

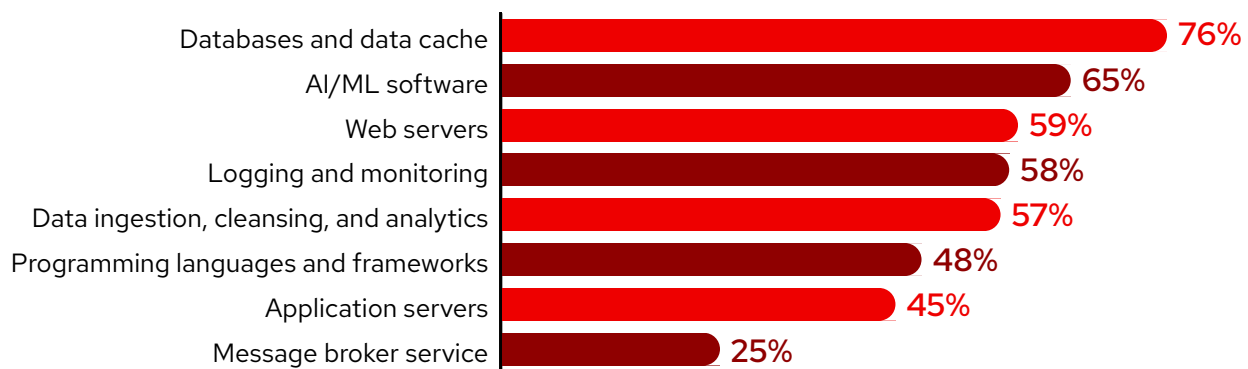


Takeaway: Organizations run a mix of ISV and custom applications on Kubernetes.



Takeaway: Organizations are comfortable deploying stateful applications on Kubernetes.

Types of workloads deployed in containers and Kubernetes environments²



Transform to gain business value

Across industries, application transformation can help you deliver real business outcomes faster.



Financial services

- Detect fraud faster.
- Enhance customer services.



Healthcare

- Increase clinic and hospital efficiency.
- Improve diagnostics.



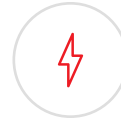
Manufacturing

- Better predict equipment failures.
- Perform preventative maintenance.



Automotive

- Create and deploy autonomous driving technologies.
- Simplify and automate component testing.



Energy

- Optimize field operations.
- Improve worker safety.



Government

- Improve information management.
- Enhance critical decision support.



Telecommunications

- Offer more valuable customer services.
- Optimize network operations.

What you need to transform applications

To effectively and efficiently build, deploy, and manage applications in containers and Kubernetes, you need a unified, integrated hybrid cloud application platform. Look for a platform that includes:



A consistent infrastructure software foundation

A secure Linux® container host operating system and Kubernetes orchestration and cluster services – including automated installation, over-the-air updates, monitoring, and logging – provide consistent operations and life-cycle management across infrastructure.



Cloud-native development and operations services

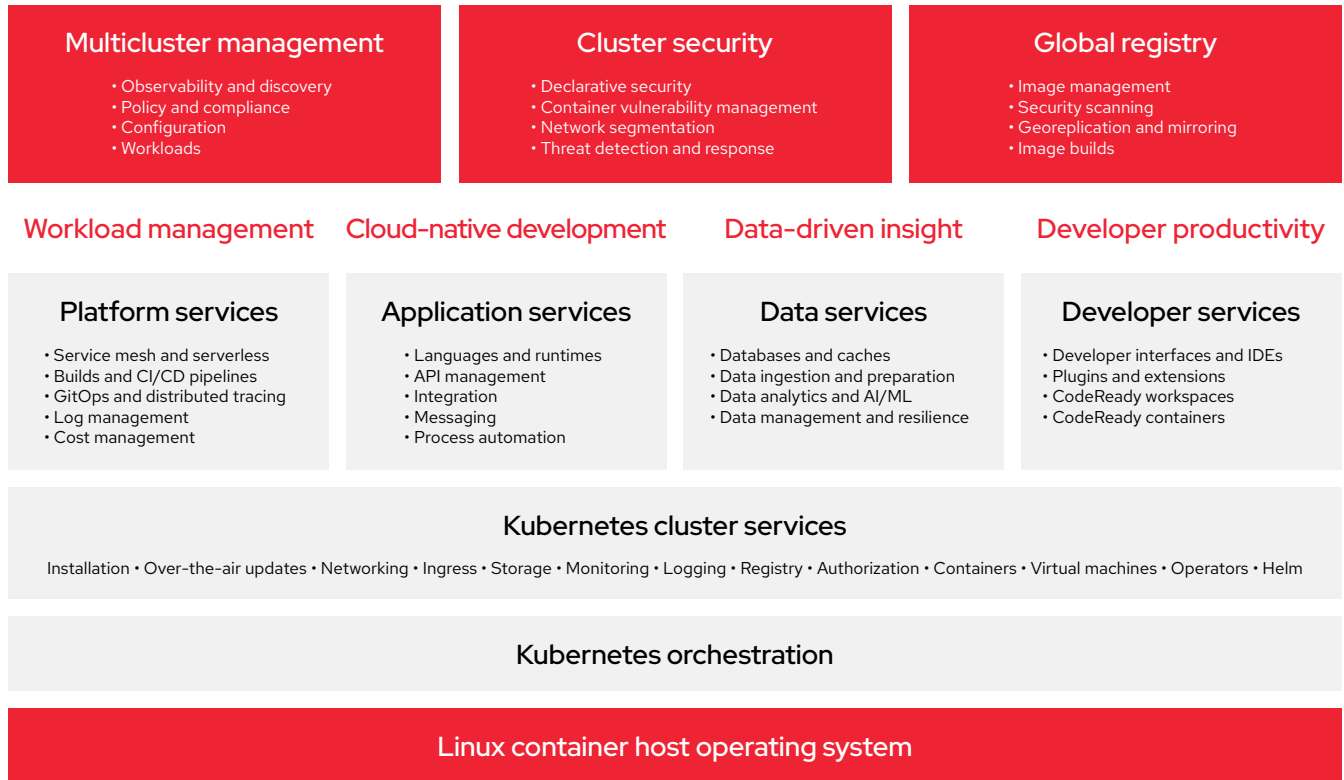
Platform, application, data, and developer services – including continuous integration/continuous deployment (CI/CD) pipelines, integrated development environments (IDEs), programming languages, runtimes, and API management – provide capabilities for efficiently and consistently building, deploying, and managing intelligent, cloud-native applications.



Streamlined security and management capabilities

Consistent, unified security, management, and container image registry services simplify administration of large, distributed hybrid cloud environments.

An ideal hybrid application cloud platform should incorporate all of the services and capabilities needed to effectively modernize existing applications and develop and deploy new cloud-native applications.



Physical



Virtual



Private cloud



Public cloud



Edge

Deploy a platform for transformation

Red Hat® OpenShift® is a unified, security-focused hybrid cloud application platform for innovation. Powered by containers and Kubernetes, it provides a foundation for modernizing existing applications, building cloud-native applications, streamlining development, adding intelligence to applications, and integrating third-party services. Red Hat OpenShift runs consistently across hybrid and multicloud environments, giving your organization the capabilities you need to be successful today and in the future.

Read the [Red Hat OpenShift and Kubernetes... what's the difference? e-book](#) to discover more.



Complete, integrated platform

Deploy an integrated infrastructure software foundation, cloud-native application and data services, and security and management controls with a modular platform that is trusted by industry innovators around the world. Gain speed, efficiency, and scalability across a broad selection of technologies and applications.



Developer tools

Access a large library of integrated, certified tools, development environments, and self-service capabilities that let developers code at speed and improve efficiency and consistency throughout application life cycles.



Automation

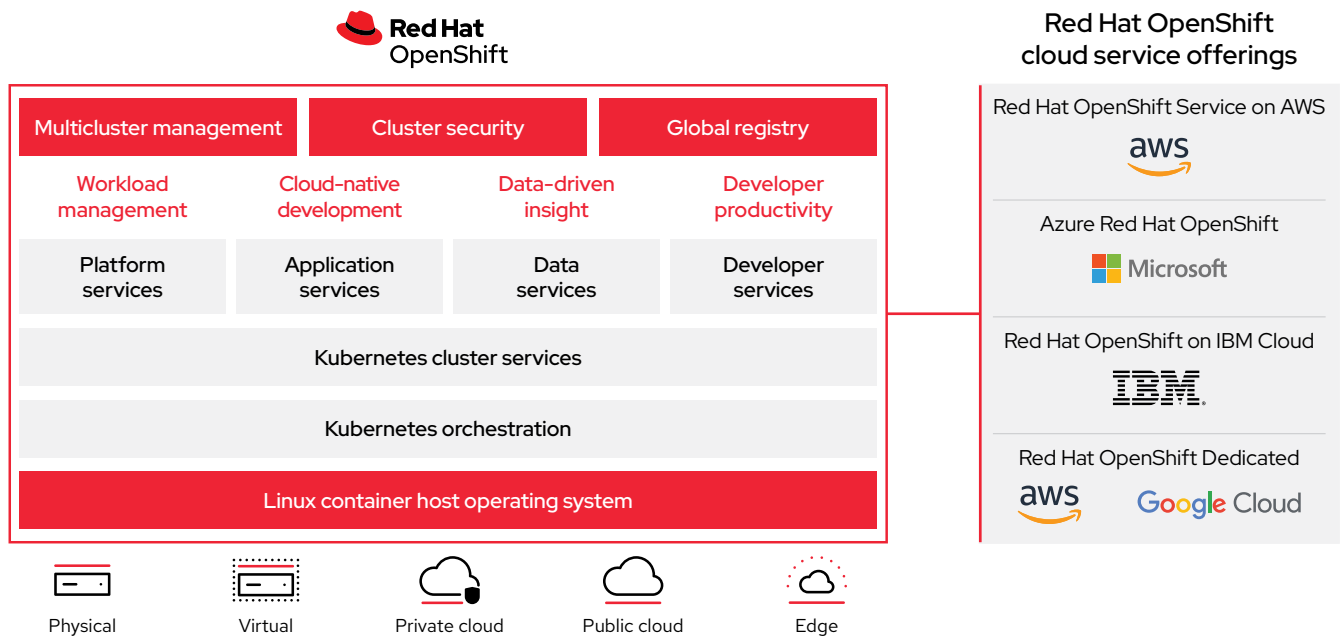
Simplify application life-cycle management with support for both Kubernetes Operators and Helm. Deploy and manage your preferred partner applications more easily and confidently with [certified operators](#) and Helm charts that encompass detailed vendor expertise.



Multiple deployment options

Deploy and manage Red Hat OpenShift yourself or use a cloud service. Red Hat OpenShift cloud services are available on AWS, Google Cloud, IBM Cloud, and Microsoft Azure, so you can choose the option that best fits your organization's needs. Each service provides complete, full-stack environments with all necessary services, simple self-service options, and expert 24x7 support via stringent service-level agreements (SLAs).

Read the [Achieve more with Red Hat OpenShift cloud services brief](#) to learn more.



Red Hat brings together everything you need to transform your applications.



Integrated portfolio

Build an ideal software foundation for all application transformation use cases using a complete, integrated portfolio of products and cloud services that work together reliably.



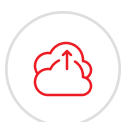
Certified partner ecosystem

Access a [broad ecosystem](#) of Red Hat certified ISV products to customize your environment with the application, data, AI/ML, developer, and IT operations services that work best for your organization. Simplify purchasing via the [Red Hat Marketplace](#).



Expert consulting services


































































[Get help](#) modernizing, migrating, and developing applications with expert services, detailed guidance, and practical tools that incorporate culture, process, and technology.



Migration tools

Take advantage of [Red Hat migration tools](#) and the [Konveyor](#) community to help you plan your transformation journey and move your applications to Red Hat OpenShift.

Combined with our integrated portfolio, the Red Hat [certified partner ecosystem](#) lets you choose the industry-leading products, technologies, and services that work best for your organization's needs.

<p>Multicloud management</p>  	<p>Cluster security</p>      	<p>Global registry</p>   		
<p>Platform services</p>     	<p>Application services</p>       	<p>Data services</p>          	<p>Developer services</p>      	
<p>Kubernetes orchestration and cluster services</p>           				
<p>Container host operating system</p>   				
<p>Infrastructure</p>            				

See success in action



DAB Pumps wanted to update its integration architecture to improve communication between the company's various enterprise applications as a foundation for business expansion. The company used Red Hat OpenShift and [Red Hat Integration](#) to combine and speed data access for critical systems and move from a monolithic environment to a microservices architecture.



Centralized management



Sped time to market by 60%



Set up real-time data availability

Read the [press release](#) to learn more.

LIFE GOALS. **DONE.**



Bajaj Allianz Life Insurance Company (BALIC) sought to increase the effectiveness of its digital service channels and create closer relationships with external partners. The company created a reliable microservices environment for digital applications using Red Hat OpenShift, supported by [Red Hat 3scale API Management](#) and Red Hat's [single sign-on \(SSO\) technology](#).

"With Red Hat's technology, we were able to create an efficient microservices-based environment to enhance business flow."

Goutam Datta

Chief Information & Digital Officer, Bajaj Allianz Life Insurance Company

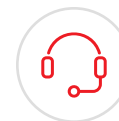
Read the [success story](#) to learn more.

Royal Bank Canada

Royal Bank of Canada (RBC) and its AI research institute Borealis AI wanted to build an AI infrastructure to speed time to market for intelligent applications and deliver an enhanced experience for clients. The company deployed Red Hat OpenShift with NVIDIA's DGX AI computing systems to create a new private cloud infrastructure.



Improved trading execution



Reduced client calls



Sped delivery of new applications

Read the [press release](#) to learn more.

Get started today

Red Hat helps you modernize more easily. Take advantage of a unified platform, integrated products and services, a large partner ecosystem, and expert services to transform your applications.



Modernize existing applications.



Build cloud-native applications.



Add intelligence to applications.



Integrate certified ISV services.

Start your application transformation journey with Red Hat:

red.ht/consulting

Take your application transformation journey further

Red Hat Consulting experts can help you, your team, and your organization develop the practices, tools, and culture needed to more efficiently modernize existing applications and to build new ones using technologies like containers, Kubernetes, databases, data analytics, and AI/ML.

Learn more: red.ht/cloudnativdev

Read these e-books and overviews to discover how Red Hat can help you rapidly transform your applications across use cases and industries:

- [Java™ application modernization](#)
- [Cloud-native databases and data analytics](#)
- [Event-driven architecture for hybrid clouds](#)
- [Production-ready AI/ML environments](#)
- [Application management in Kubernetes environments](#)
- [Red Hat OpenShift ISV ecosystem](#)



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 develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A trusted adviser to the Fortune 500, Red Hat provides award-winning support, training and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners and communities, helping organizations grow, transform and prepare for the digital future.

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