



# Innovate and transform with a modern application platform

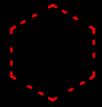
Transform your applications using  
containers, Kubernetes, and DevSecOps

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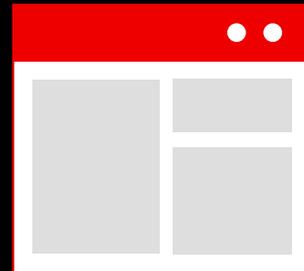
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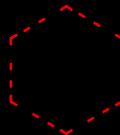


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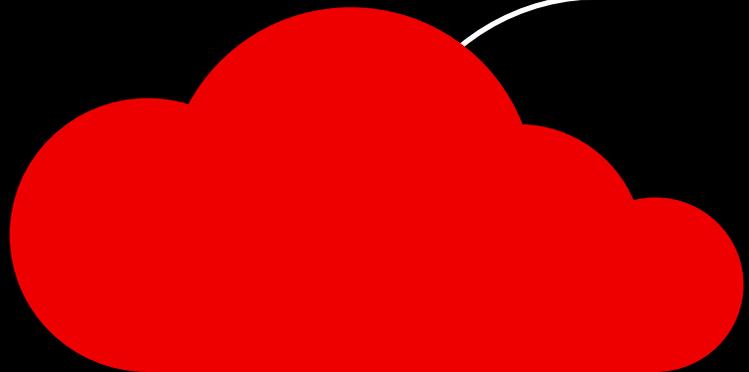


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# Executive summary



Open new business possibilities with a modern application platform and DevSecOps approaches.

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. Even so, the way you deploy and manage your applications can greatly impact how well your organization can 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. And **Bajaj Allianz Life Insurance Company** simplified security management and eliminated downtime across its IT environment.

Container technologies and DevSecOps approaches are key components in successful application transformation journeys. Deploying a Kubernetes-powered application platform can help you make the most of these components across hybrid and multicloud environments. The right platform will provide the consistency, security, and flexibility needed to modernize existing applications, develop new cloud-native applications, and deliver all applications at scale across infrastructures – without locking you into a specific public cloud or technology.

Red Hat® OpenShift®, Red Hat Application Services, and our large certified partner ecosystem provide an ideal foundation for application transformation. Flexible deployment options let you choose your underlying infrastructure and level of staff involvement. Plus, our training programs, consulting engagements, and support services empower your teams to collaborate, innovate, and deliver higher business value.

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

A handwritten signature in black ink that reads "Abhinav".

**Abhinav Joshi**

Director, Red Hat OpenShift Product Marketing, Red Hat

# Current application transformation trends



Organizations use multiple technologies and methodologies to transform and 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. While each organization's journey is different, there are several common themes and initiatives.

## The importance of digital transformation

Modernizing and transforming your IT and applications can help your organization succeed in a fast-changing digital world.

# 92%

of executives say that digital transformation will become more important in the next 12 months.<sup>1</sup>



<sup>1</sup> Harvard Business Review, sponsored by Red Hat. "Digital Transformation Refocused: New Goals Require New Strategies," May 2022.

## 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](#).

Companies plan to modernize

**78%**

of their custom applications within the next year.<sup>2</sup>

## Develop new cloud-native applications

Adopt cloud-native and DevSecOps approaches to create modular, adaptable, microservices-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 applications

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

**44%**

of organizations plan to invest in AI and ML technologies in the next 12-18 months.<sup>3</sup>

## 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.

<sup>2</sup> Red Hat. "How enterprises approach legacy application modernization," January 2023.

<sup>3</sup> Pulse, sponsored by Red Hat. "Cloud services help remove hybrid cloud complexity," December 2021.

Modern application platforms that bring together container technologies, Kubernetes orchestration, and DevSecOps capabilities 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.

Even so, integrating these platforms into complex IT environments yourself is often a time-consuming process that requires in-house expertise in containers and Kubernetes. Choosing an application platform that offers both self-managed and cloud service deployment options gives you the flexibility to choose where you deploy your applications and how much time your staff spends managing your platform versus focusing on strategic projects.

Accordingly, 73.5% of organizations are outsourcing the implementation, maintenance, and optimization of their cloud platforms through cloud services, or plan to within the next year.<sup>4</sup> And 55.5% of companies expect to have more time to focus on core competencies as a result of using cloud services.<sup>4</sup>

# 33%

of organizations cite increased productivity and efficiency as a digital transformation goal.<sup>4</sup>

## Top reasons for choosing containers and Kubernetes

Organizations choose to deploy their applications in containers and Kubernetes environments for several reasons:<sup>5</sup>

# 74%

Consistency

# 73%

Agility

# 55%

Portability

# 54%

Scalability

# 47%

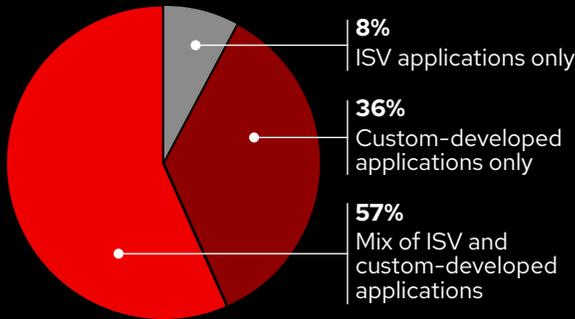
Flexibility

<sup>4</sup> Pulse, sponsored by Red Hat. "Cloud services help remove hybrid cloud complexity," December 2021.

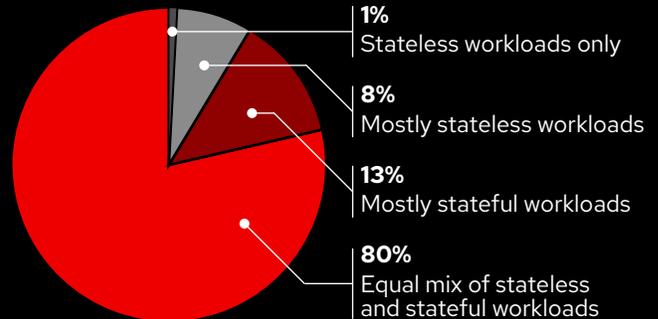
<sup>5</sup> Pulse, sponsored by Red Hat. "State of workloads adoption on containers and Kubernetes," November 2021.

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

### Types of applications deployed in containers and Kubernetes<sup>6</sup>

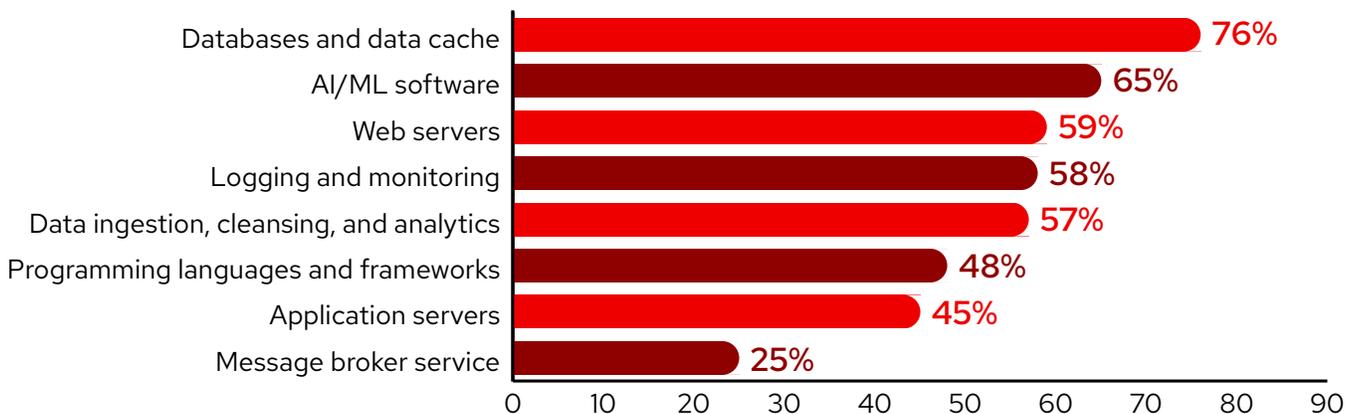


Organizations run a mix of ISV and custom applications on Kubernetes.



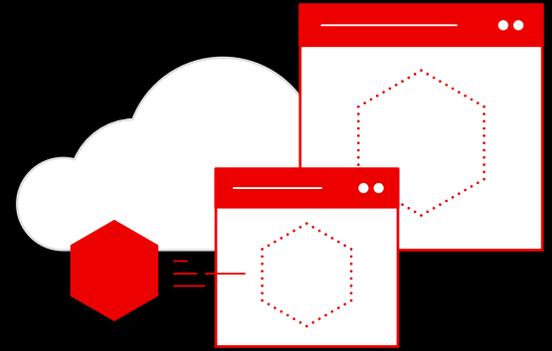
Organizations are comfortable deploying stateful applications on Kubernetes.

### Types of workloads deployed in containers and Kubernetes environments<sup>6</sup>



<sup>6</sup> Pulse, sponsored by Red Hat. "State of workloads adoption on containers and Kubernetes," November 2021.

# Transform to gain business value



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



# What you need to transform applications



To effectively and efficiently build, deploy, and manage applications, you need a unified, integrated application platform that brings together container technologies, Kubernetes orchestration, DevSecOps capabilities, and a broad partner ecosystem. Look for a platform that includes the following features and capabilities.

## A consistent foundation for applications

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, developer, and data services provide capabilities for efficiently modernizing existing applications and developing new, intelligent cloud-native applications. Key services include:

- ▶ Continuous integration/continuous deployment (CI/CD) pipelines
- ▶ Runtimes
- ▶ Integrated development environments (IDEs)
- ▶ API management
- ▶ Programming languages
- ▶ Data streaming

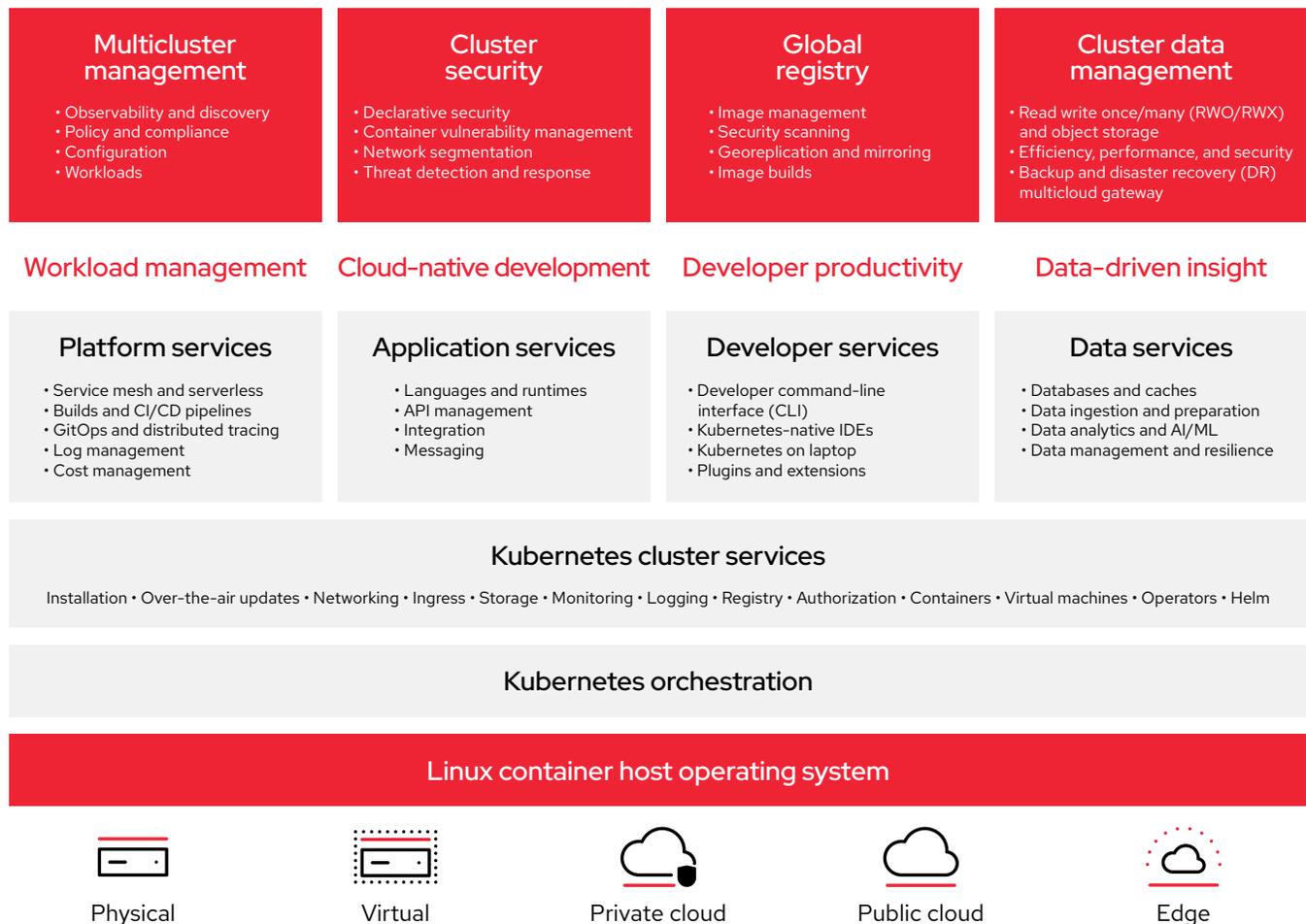
## Streamlined security and management capabilities

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

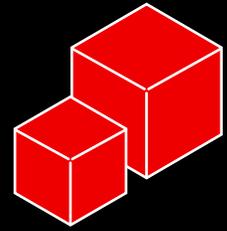
## Self-managed and cloud service consumption options

An application platform that can be deployed in-house, in the cloud, or as a cloud service gives you the flexibility to choose where you run your applications and how much internal time and effort you devote to platform operations and management. Cloud services can offload time-consuming platform and infrastructure management to dedicated third-party teams, so you can shift IT operations, security, and development team focus back to innovation, rather than administration. Meanwhile, self-managed options let you deploy your application platform in-house on your choice of infrastructure for more involvement with day-to-day operations.

An ideal application platform should incorporate all of the services and capabilities needed to effectively modernize existing applications and develop new cloud-native applications, while offering deployment flexibility and expert managed services.



# Deploy a modern application platform to speed transformation



**Red Hat OpenShift** is a unified, enterprise-ready application platform for cloud-native innovation. Powered by containers, Kubernetes, and DevSecOps capabilities, it provides a foundation for rapidly building, deploying, running, and managing both existing and new applications at scale and with security across hybrid and multicloud environments. Red Hat OpenShift empowers your staff to modernize, transform, and innovate to support business initiatives. For example, you can take advantage of AI/ML capabilities to create intelligent applications, edge computing features to support Internet of Things (IoT) and 5G deployments, and transformative migration tools to modernize your applications.

Red Hat OpenShift runs consistently across hybrid and multicloud environments, giving you the tools, services, and capabilities you need to be successful today and in the future.

## 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.

**Native capabilities** – as well as integration with **Red Hat Application Services**, cloud services, and certified partner ecosystem – deliver speed, efficiency, and scalability across a broad selection of technologies and applications.

### Red Hat OpenShift or Kubernetes?

Learn about key differences between Red Hat OpenShift and Kubernetes.

Read the **e-book**.

## Built-in developer tools

Access integrated, certified tools, development environments, and self-service capabilities that let developers code at speed and improve consistency throughout application life cycles. [Red Hat OpenShift Dev Spaces](#) and a [command-line interface \(CLI\)](#) give developers fast, consistent, zero-configuration development environments, while maintaining centralized control for IT operations. [Red Hat OpenShift Serverless](#), [Red Hat OpenShift Service Mesh](#), and [Red Hat Applications Services](#) offer self-service access to the runtimes, frameworks, API management, data streaming, and event-driven services that developers need to be productive.

[Learn more](#) about Red Hat OpenShift features for developers. →

## Streamlined management and automation

Adopt CI/CD approaches with included, integrated tools. [Red Hat OpenShift Pipelines and Red Hat OpenShift GitOps](#) bring native CI/CD and GitOps capabilities to your teams, so you can automate application delivery and use Git as a single source of trust for your environment.

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

## Built-in security and DevSecOps capabilities

Adopt DevSecOps practices with integrated features and protection. Red Hat OpenShift includes core security features – like access controls, network security, and an enterprise registry with a built-in scanner – to protect your platform from the start. For example, integration with [Red Hat Single Sign-On](#) safeguards access to developer environments, applications, and clusters. [Red Hat Advanced Cluster Security for Kubernetes](#) (included with Red Hat OpenShift Platform Plus) delivers consistent security and compliance capabilities that integrate directly with your DevSecOps tools and workflows to enforce best practices. And you can access additional security capabilities – like runtime threat detection, life cycle vulnerability management, and risk profiling – through our certified partner ecosystem.

## Integrated AI/ML capabilities

Add intelligence to your cloud-native applications more easily. Integration with [Red Hat OpenShift Data Science](#) and AI/ML products from our certified partner ecosystem let you implement machine learning operations (MLOps). You can create a self-service MLOps platform for data scientists, data engineers, and developers to build models, incorporate them into applications, and perform inferencing tasks.

## Flexible 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).

### Achieve more for less

Learn how Red Hat OpenShift cloud services can help you save time and money.

Read the [brief](#). →

## Expert consulting and training services

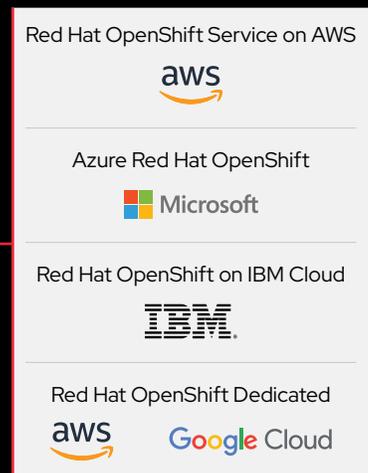
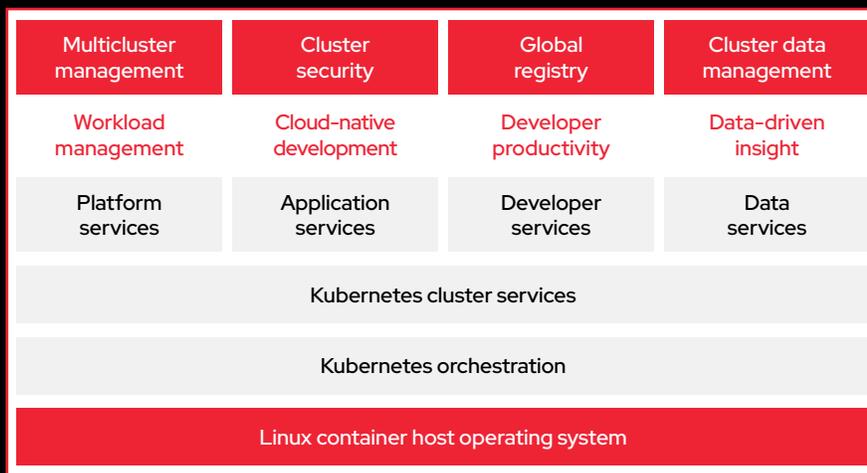
Access customized guidance and hands-on training to modernize, migrate, and develop applications faster and more effectively. **Red Hat Consulting** experts work with your teams through mentor-based engagement to achieve your goals by incorporating culture, process and technology into your strategy. **Red Hat Training and Certification** help your teams build and validate the skills needed to maximize your company’s technology investments.

## 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.



### Red Hat OpenShift cloud service offerings



Physical



Virtual



Private cloud



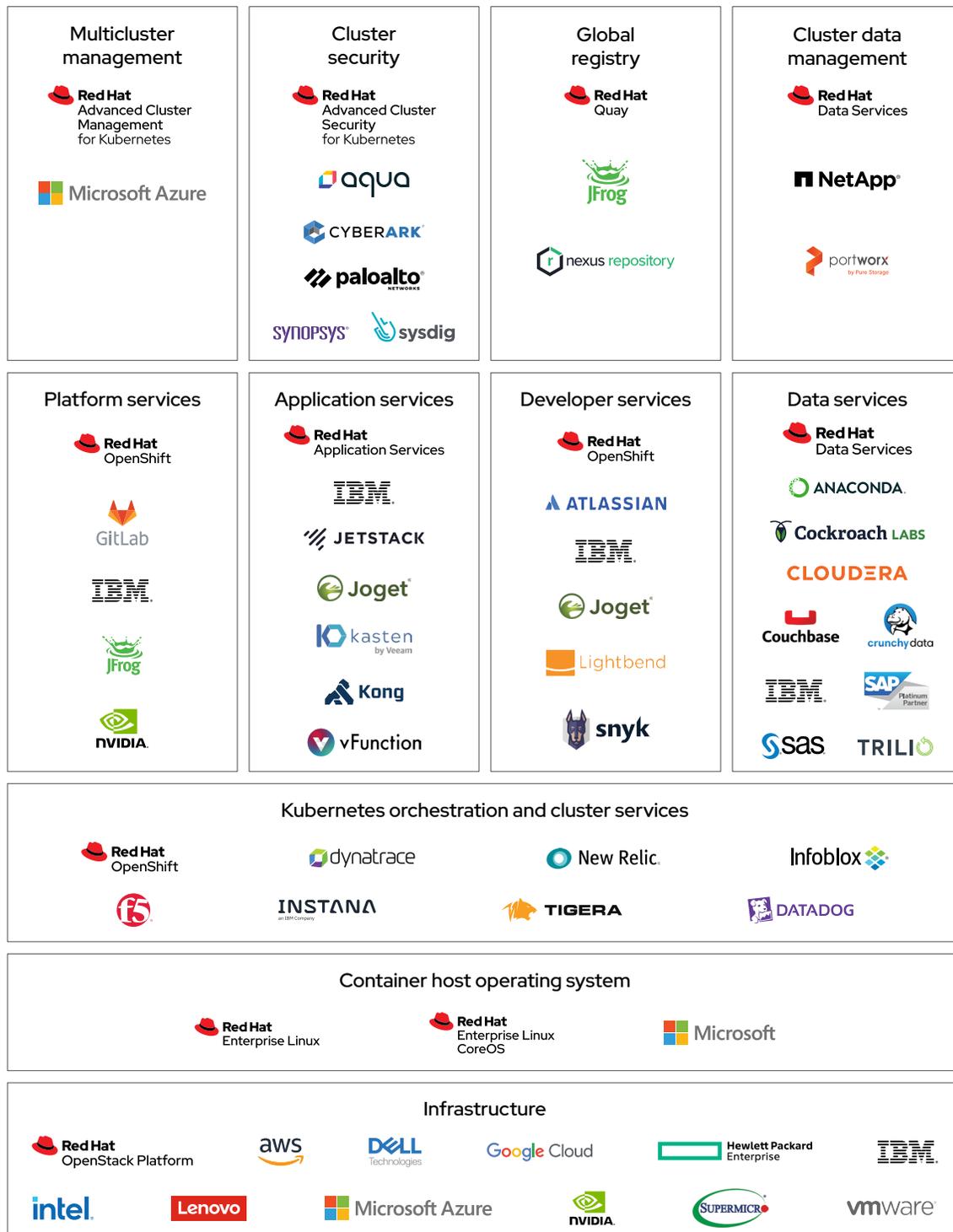
Public cloud



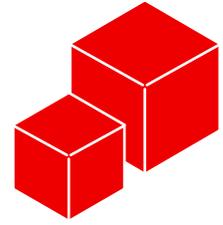
Edge

## Certified partner ecosystem

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



# See success in action



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. →



**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%

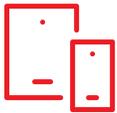


Set up real-time  
data availability

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

## novobanco

**novobanco** sought to reinvent banking with personalized, digital customer experiences based on open banking practices. With the help of Red Hat Consulting, the bank migrated to **Microsoft Azure Red Hat OpenShift** and DevOps approaches to increase digital services adoption year over year (YOY), reduce time to market for applications, and improve partner integration.



Grew mobile banking interactions by 20% YOY



Increased active digital customers by 7% YOY



Improved responsiveness to changes in demand

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

## Brightly

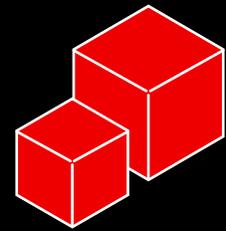
A global leader in intelligent asset management solutions, **Brightly Software** needed to modernize its products' legacy foundations and consolidate those products on a single platform. The company engaged Red Hat Consulting and **Red Hat Open Innovation Labs** and chose to build their new platform on **Red Hat OpenShift Service on AWS**.

"Red Hat OpenShift Service on AWS allows us to take our scarce DevOps resources, and instead of having them focus on that Kubernetes centric platform, it allows us to focus them on improving our applications, delivering automation to our software developers, delivering performance improvements to our clients."

**Kent Norton**  
CTO, Brightly Software

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

# Get started today



Red Hat simplifies application transformation. With Red Hat OpenShift, you can take advantage of a unified application platform, integrated tools and services, a large certified partner ecosystem, and flexible deployment options to modernize your applications and innovate faster.

**Start your application transformation journey today:**

[red.ht/services](https://red.ht/services)

## Get the most from your application transformation investment

Planning your transformation journey can be a daunting task. Red Hat can help your organization develop the practices, tools, and culture needed to more efficiently modernize existing applications and build new ones. In fact, customers that engage Red Hat Services and Support offerings for Red Hat OpenShift experience 703% return on investment.<sup>7</sup>

Get started with a [free consulting discovery session](#) or [find your training skills path](#).

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](#)
- ▶ [App management in Kubernetes environments](#)
- ▶ [Cloud-native databases and data analytics](#)
- ▶ [Modernize application delivery with cloud services](#)
- ▶ [Production-ready AI/ML environments](#)
- ▶ [App transformation on OpenShift Service on AWS](#)
- ▶ [Red Hat OpenShift ISV ecosystem](#)
- ▶ [Build a software factory to support DevSecOps](#)

<sup>7</sup> Forrester Consulting study, commissioned by Red Hat. "The Total Economic Impact™ Of Red Hat Services And Support For OpenShift," May 2022.

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