

Hybrid cloud solutions beyond the platform

A guide to Red Hat's hybrid cloud software partner ecosystem





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The importance of Red Hat's software partner ecosystem

Multicloud environments are on the rise

Hybrid cloud infrastructure is becoming increasingly common within organizations across industries. According to the 2021 Global Tech Outlook, 60% of organizations use multiple cloud platforms today.¹ And 79% plan to increase the number of clouds they use over the next year.¹

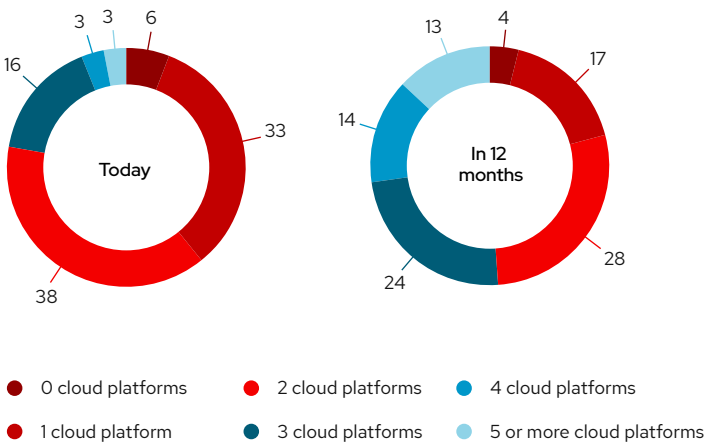


Figure 1. Current and future cloud platform usage¹

With multiple cloud platforms in use, the need for a consistent hybrid cloud platform is more critical than ever because supporting each cloud service individually means that an organization is tasked with custom work that results in vendor lock-in. To avoid being locked into any one cloud provider, many organizations rely on [Red Hat® OpenShift®](#) which offers total portability across cloud platforms.

In addition to a consistent hybrid cloud foundation, organizations need access to software that is trusted, interoperable, and supported.

Red Hat's hybrid cloud strategy is built on the technological foundation of Linux®, containers, Kubernetes, and automation using Red Hat Enterprise Linux, Red Hat OpenShift, and Red Hat Ansible® Automation Platform.



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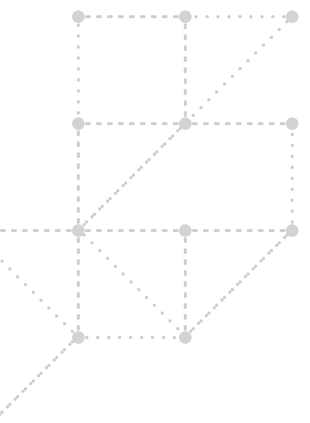
¹ Red Hat report. "2021 Global tech outlook," 2021.



To support organizations looking to extend the value of their investments with innovative software and solutions, Red Hat has cultivated a comprehensive ecosystem of Red Hat OpenShift software partners, also referred to as technology partners or independent software vendors (ISVs).

These ISV partners work collaboratively with Red Hat to provide organizations with the specialized tools and expertise they need to be more efficient, operate with greater flexibility, maximize application automation, and accelerate digital transformation.

Red Hat OpenShift provides a platform for innovation. Red Hat's hybrid cloud software partners offer certified solutions that support advanced Kubernetes-based workloads.



This e-book highlights key hybrid cloud solutions available in the Red Hat partner ecosystem, including artificial intelligence and machine learning (AI/ML), application development, databases and data analytics, DevSecOps, networking, and storage solutions. It will also introduce how these solutions offer organizations the flexibility they need to:

- **Deploy** applications across any environment.
- **Operate** with confidence, knowing that their workloads are supported.
- **Use** automation at scale across hybrid cloud infrastructure to deliver business outcomes and growth.



The need for hybrid cloud software partners

What is a Kubernetes Operator?

A Kubernetes Operator extends a Kubernetes application programming interface (API) to manage the packaging, deployment, and life cycle of the applications and infrastructure software that it manages. A Kubernetes Operator can provide agility, reliability, and simplicity for automating Day 1 and Day 2 operations across hybrid cloud systems.

Learn more in the [Kubernetes Operators on Red Hat Marketplace](#) datasheet.

A platform is not a complete solution

To successfully run Red Hat OpenShift, organizations need a vibrant ecosystem of technologies, services, and sellers. Red Hat OpenShift software partners can fill this gap.

The Red Hat software partner ecosystem is critical for organizations that want to gain a competitive advantage and deliver higher value for their customers. Here are five reasons why:

1. Gain agility, consistency, and scalability for operating within a hybrid cloud.

Research conducted on the state of workloads adoption on containers and Kubernetes found that 70% of respondents indicate their company deploys workloads on containers and Kubernetes for a variety of reasons, from agility to flexibility.²

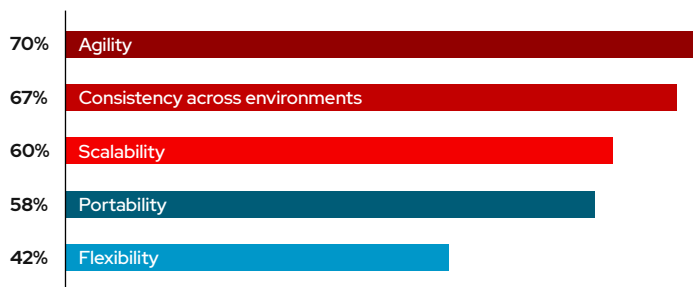


Figure 2. What are the top 3 reasons your organization is deploying workloads on containers and Kubernetes?

Red Hat OpenShift and Red Hat's hybrid cloud software partner solutions offer customers the ability to deploy certified software consistently across multiple clouds and on-premise infrastructure, increasing agility, scalability, and efficiency, and providing an elevated user experience. Red Hat's software partner ecosystem provides containerized solutions that meet these requirements.

² Pulse survey, sponsored by Red Hat. "State of workloads adoption on containers and Kubernetes," June 2021.



2. Extend your use of Red Hat OpenShift.

When asked about future plans for container usage, 72% of survey respondents reported that their container use would increase either slightly or significantly over the next 12 months.³

The Red Hat software partner ecosystem provides extended innovation for containerization, offering a wide range of Kubernetes Operators, which are based on a model pioneered by Red Hat for infrastructure and application automation. Operators can enhance a user's operational experience without requiring extensive skills. These operators range from basic Day 1 automation to advanced Day 2 cloud-native automation services—the more capable the Kubernetes Operator, the more differentiating the solution is.

Your organization can benefit from this automated application deployment and management, as Kubernetes Operators allow portable, cloud-native software to run more like a service, embedding operational expertise alongside the software itself.

3. Find Kubernetes Operator options you can trust.

All partner software in the hybrid cloud software ecosystem is certified for use on Red Hat OpenShift and curated and enhanced by Red Hat experts. As a result, the Kubernetes Operators and Helm charts that organizations choose are interoperable and supported. This support includes upgrades, life cycle management, log processing, and auto-scaling.

4. Access and provision apps on Kubernetes in an easier way.

Through [Red Hat Marketplace](#), you are able to discover, try, buy, and deploy software—regardless of footprint.

5. Connect with the support you need.

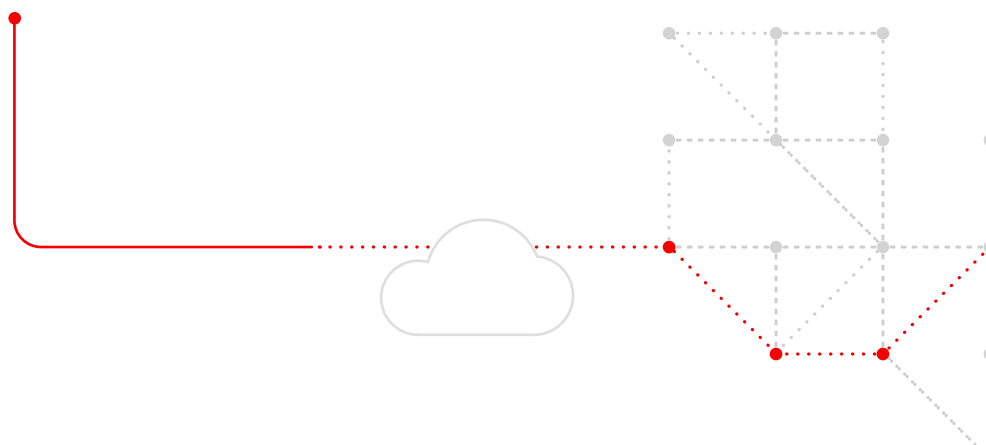
Have confidence when deploying a partner solution because of the collaborative support between the partner and a third-party technical support alliance network (TSANet).

What is Helm?

Helm, a package and install manager, standardizes and simplifies packaging and deployment of containerized applications with Kubernetes, anywhere in a hybrid cloud.

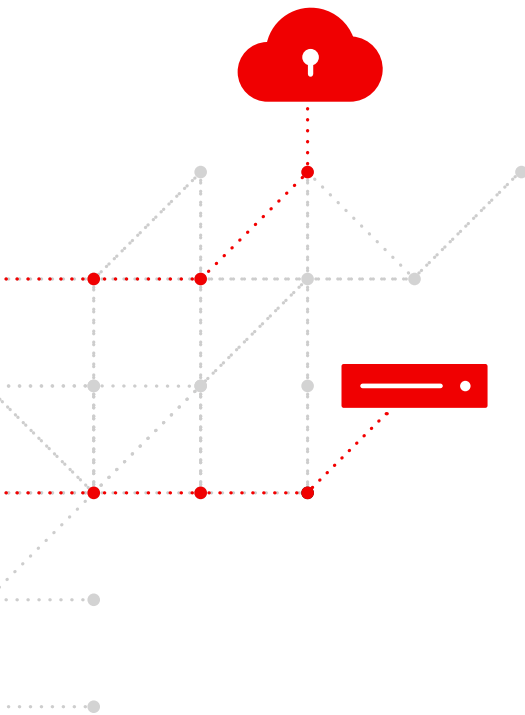
It can also be used to automate Day 1 tasks, such as installation and basic configuration management for setting up the applications, and some Day 2 operations like performing simple upgrades and rollbacks.

Learn more about Helm on this [topic page](#).



³ Red Hat report. "[The state of enterprise open source](#)," 2021.

A unique software partner ecosystem



Built on open innovation

Red Hat OpenShift is built on Red Hat Enterprise Linux—the foundation from which you can scale existing apps and roll out emerging technologies across bare-metal, virtual, container, and all types of cloud environments.

Red Hat’s hybrid cloud software partner ecosystem never locks a user into specific hyperscalers or cloud platforms—it is optimized for Kubernetes and works across clouds. Organizations can use software from Red Hat’s hybrid cloud software partners on whichever platform they choose, whether it’s in a public or private cloud, on-premise, or a combination of environments.

Additionally, Red Hat’s software partner ecosystem can have their software certified by Red Hat. These certifications are based on Red Hat’s recommended practices for supporting Red Hat platforms, which means that organizations know this software is trustworthy and will integrate into their current Red Hat environment.



What is a hybrid cloud ecosystem and what are its benefits?

A hybrid cloud ecosystem includes partner solutions that use open source technologies in a uniform way to deploy and maintain a cloud-like service experience for customers.

These partner solutions are:

1. Built to run and operate the same way regardless of footprint.
2. Managed in a consistent way to enhance the customer operational experience and reduce learning costs.
3. Tested and Red Hat certified to operate according to defined standards and Red Hat recommended practices.
4. Continuously scanned for vulnerabilities.
5. Built to use Red Hat Ansible Automation Platform and certified solutions to automate Red Hat OpenShift, Red Hat Enterprise Linux, and a variety of workloads.

Meet the Red Hat software partner ecosystem

What does Red Hat certification mean?

A Red Hat OpenShift certification means that a partner has differentiated their product to provide an optimized Kubernetes operational experience with Red Hat.

Solutions for any footprint in a hybrid cloud system

The Red Hat software partner ecosystem allows organizations to more easily access and choose the Red Hat OpenShift-based solutions they need for their workloads—for any footprint in a hybrid cloud system.

Red Hat’s partner ecosystem of certified hybrid cloud software focuses on a wide range of solutions, each critical to an organization’s success. Some of the most crucial include AI/ML, application

development, DevSecOps, databases and data analytics, networking, and storage. The Red Hat software partner ecosystem provides support in each of these areas.

- (e.g., Redis, PostgreSQL, MySQL, MongoDB, etc.)
- (e.g., Apache Kafka, Apache Spark, Cloudera Data Platform, etc.)
- (e.g., Elastic Search, Kibana)
- (e.g., NGINX)
- (e.g., Jupyter notebooks, Python, Tensorflow, Pytorch, etc.)
- (e.g., Red Hat JBoss® EAP, IBM Websphere, Oracle WebLogic)
- (e.g., NodeJS, GO, Java™, Spring, Quarkus)
- (e.g., RabbitMQ, Calico)

Common Kubernetes workloads

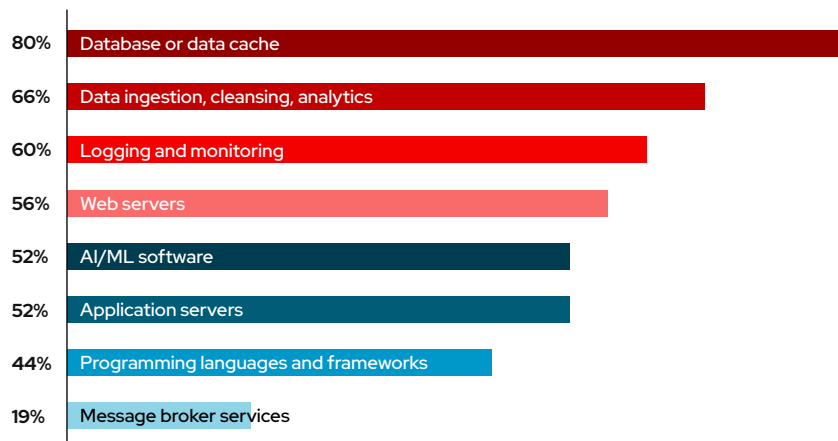


Figure 3. Tech leaders answer: "Which of the following workloads are you currently deploying on Kubernetes containers?"²

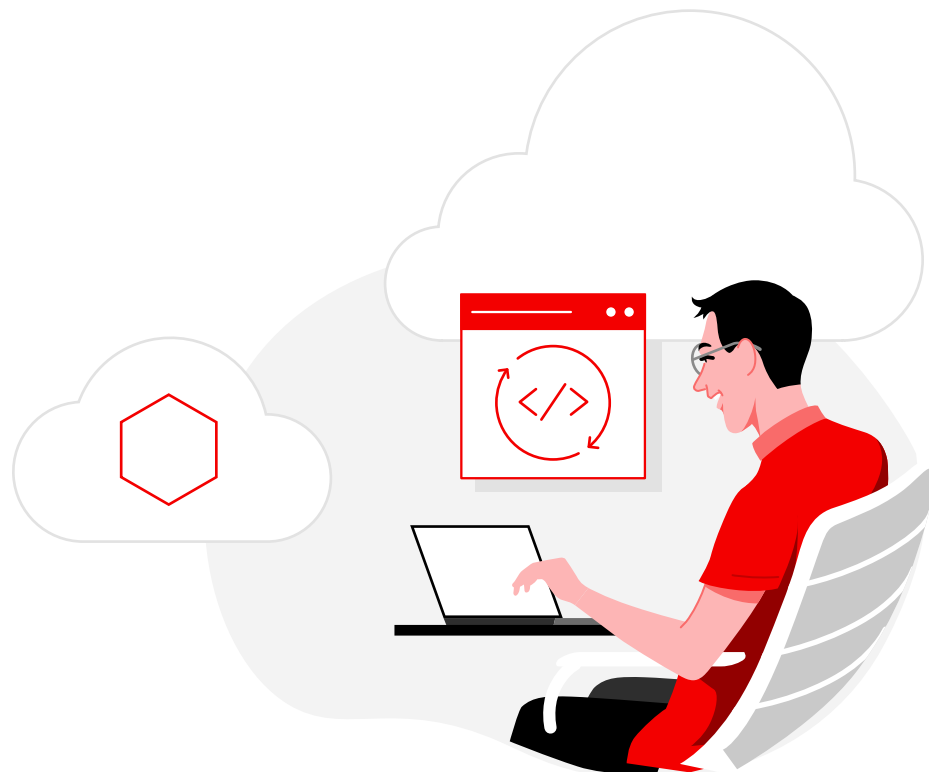
² Pulse survey, sponsored by Red Hat. "State of workloads adoption on containers and Kubernetes," June 2021.

Application development

With evolving market trends, organizations need to turn application ideas into production quickly. Additionally, apps have to provide intuitive user experiences, have responsive performance, and incorporate user feedback for continuous improvement. To keep moving forward, developers need to use their existing skills, expertise, and investments to build modern applications to support and grow the business.

The application development partners within Red Hat's certified software ecosystem offer innovative workloads to help accelerate, provide security for, and simplify the deployment and life cycle management of applications—within a DevOps environment.

Together, Red Hat and its application development hybrid cloud software partner ecosystem provide the platform, methods, application services, and tools that customers need to produce higher-quality cloud-native apps, with greater agility, at scale, and without sacrificing reliability.



Artificial intelligence and machine learning (AI/ML)

AI/ML technologies have the potential to transform all aspects of business and are critical to the digital transformation journey for many organizations. For instance, healthcare, financial services, telecommunications, insurance, and automotive are some of the key markets being transformed by AI/ML. From autonomous driving, improved supply chains, and increased threat detection,

to enhanced risk analysis, reduced fraud, and better customer insights, experiences, and outcomes, the use cases for AI/ML are rapidly increasing.

With AI/ML hybrid cloud software partners, organizations can augment their Red Hat architecture with supported software tools and data services to help accelerate and simplify the development, testing, deployment, and life cycle management of AI/ML solutions—from pilot to production.

Red Hat's hybrid cloud software partners are able to innovate rapidly, using [Red Hat OpenShift Data Science](#), a managed add-on service for Red Hat OpenShift Dedicated built from a curated set of components from the open source project Open Data Hub. Red Hat OpenShift Data Science provides a fully supported sandbox

to quickly develop, train, and test containerized AI/ML applications on public cloud platforms.

Red Hat's hybrid cloud software partners in the AI/ML space help organizations that are looking for an end-to-end AI/ML solution access the benefits of open source innovation and interoperability.



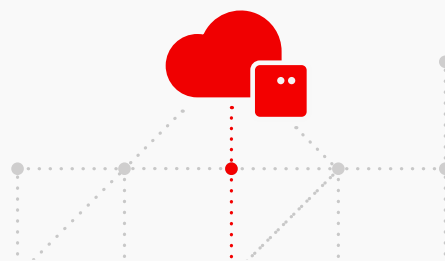
Databases and data analytics

Organizations that want to modernize must consider new data requirements that support critical workloads being developed and deployed worldwide, including apps for mobile, e-commerce, online transactions, data and business analytics, and AI/ML. To meet desired business results faster, a flexible and responsive data architecture is crucial.

Red Hat's certified software partners that focus on data provide solutions that have been optimized for Red Hat OpenShift. These solutions accelerate

and simplify the deployment of databases and data analytics workloads that help customers grow their business and innovate faster with hybrid cloud.

Red Hat and its data software ecosystem partners provide the agility, scalability, and portability required to build, test, and manage data workloads with speed while improving time to market.



DevSecOps

The rapid pace of digital transformation has sometimes led to disparate security systems and processes instead of an end-to-end technology foundation for modern workloads. Red Hat provides organizations with a wide range of partners to choose from that support DevSecOps practices with tools and methodologies for the entire application life cycle.

Red Hat platforms create a foundation for DevSecOps, while Red Hat security partners extend and enhance the culture, processes, and technology. Together, they provide customer solutions to automate and provide security for the entire application and container life cycle.

Red Hat's certified software partner ecosystem for Red Hat OpenShift introduces a single, cohesive, and efficient DevSecOps approach. This approach weaves together the technologies organizations need to improve application and container security, reduce risk, improve performance, and get the best return on investment—both now and for the future. Additionally, Red Hat is continuously evolving to set new standards for security to support customers across hybrid cloud environments.



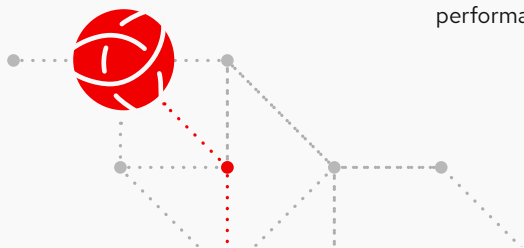
Network infrastructure

Modern applications need the ability to connect, from on-premise to edge deployments, requiring cost-effective, scalable bandwidth, low latency, reliability, and security. The Red Hat software partner ecosystem for network infrastructure offers solutions to help IT organizations build an optimal hybrid network.

Organizations are increasingly developing cloud-native applications that are distributed, data intensive, and more latency sensitive. To provide predictable performance and a consistent user

experience, IT organizations need a reliable, scalable, and more secure networking infrastructure that allows apps to communicate at all levels.

Red Hat works closely with its network infrastructure ecosystem partners to test, certify, integrate, and optimize the technologies businesses need to build more secure and reliable networks.



- **Software-defined networking (SDN):**

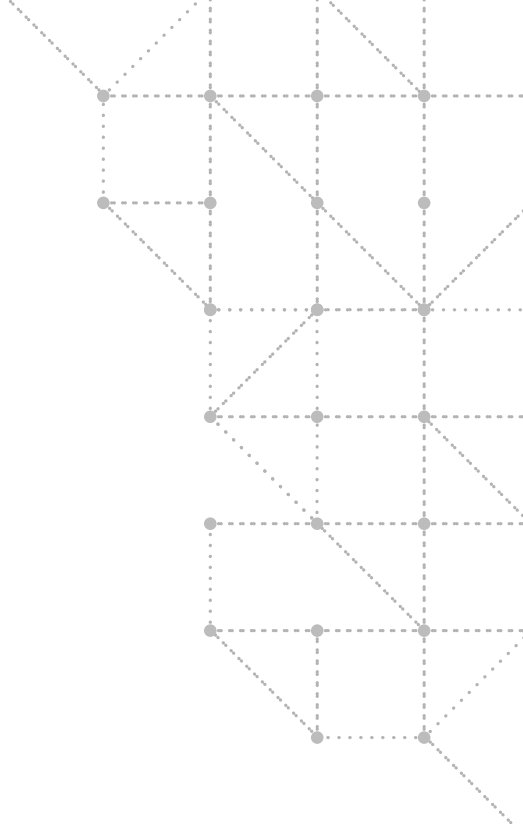
Red Hat OpenShift uses a SDN approach to provide a unified cluster network that allows for communication across the Red Hat OpenShift cluster. The Red Hat software partner ecosystem incorporates features to make sure that Red Hat OpenShift networks are highly configurable, stable, and perform well.

- **Network automation:**

Red Hat Ansible Automation Platform, together with Red Hat software partner ecosystem technologies, helps organizations build, monitor, and manage a modern network infrastructure. With network automation, network operations (NetOps) teams can quickly respond to dynamic needs for capacity, application security, load balancing, and multicloud integrations. They can also implement self-service and on-demand network activities.

- **Red Hat OpenStack Platform:**

The Networking (neutron) component of Red Hat OpenStack® Platform provides the API for virtual networking capabilities and includes switches, routers, and firewalls. Red Hat hybrid cloud partner ecosystem technologies offer complementary software for the OpenStack Networking component, which has system services to manage core services such as routing, Dynamic Host Configuration Protocol (DHCP), and metadata.



Storage infrastructure



As IT organizations rely on increasingly complex data-driven apps, data storage needs to support many different workloads without creating performance challenges or security risks.

Red Hat's storage software partners deliver a comprehensive ecosystem that is built for hybrid cloud innovation and optimized for Red Hat OpenShift.

With automated operations and a consistent experience across all environments, organizations can maximize the capabilities of their current storage infrastructure while simultaneously building for the future. The Red Hat software partner ecosystem focusing on storage designs solutions for interoperability, enhanced agility, and improved security, built on [Red Hat OpenShift Data Foundation](#). They provide scalable and resilient software-defined storage for running containerized workloads, including databases and data analytics.



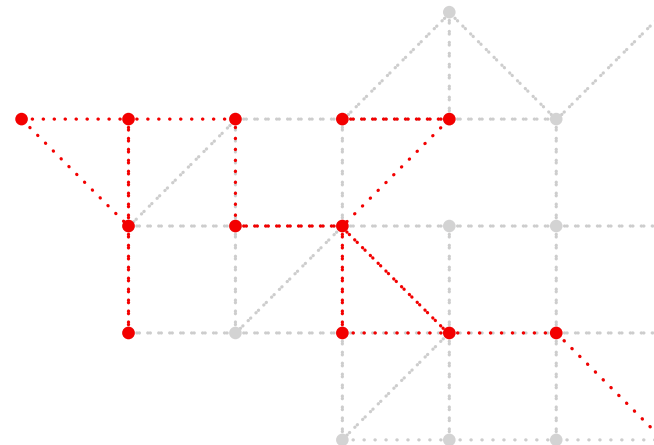
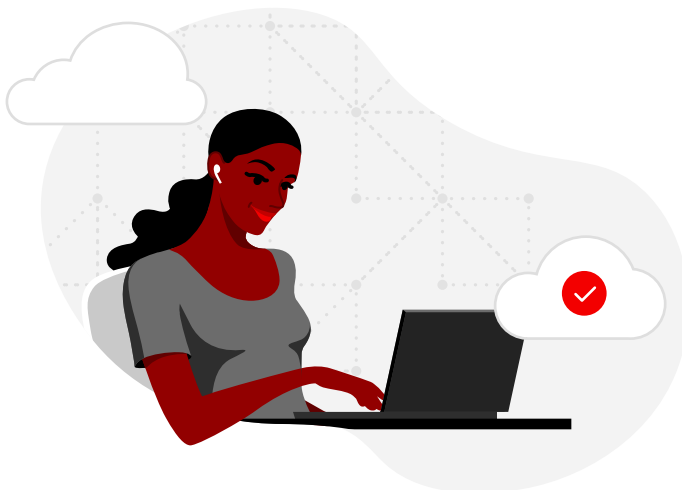
Get started with Red Hat's software partner ecosystem

Maximize your capabilities

Find innovative hybrid cloud solutions to help you maximize the value of Red Hat OpenShift.

Visit [Red Hat Operator Hub](#), a place for the Kubernetes community to share operators.

Try, buy, deploy, and manage Kubernetes Operators that run natively on Red Hat OpenShift clusters through [Red Hat Marketplace](#), a hybrid cloud virtual market.



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