

Modernize
application
delivery with
cloud services



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Capitalizing on the benefits of cloud computing

The pace of digital transformation is accelerating as businesses adapt to changing customer expectations. Today's organizations are under pressure to build cloud-native applications that allow them to stay ahead of customer and market demands as well as their competitors.

Choosing the right cloud service provider can be the decision that makes or breaks a critical application launch.

While organizations have many options, the choice isn't easy, as not every cloud service provider is suited to every business.

If time to market is a critical factor in your industry (and it likely is), you need a provider that streamlines the developer experience, fully supports your existing cloud environments, offers full-stack management of infrastructure, and accelerates overall application development.

In this e-book, we will look at questions you need to ask when evaluating whether a cloud service provider is the right fit for you.

Chapter 1

What are cloud services? Understanding the basics

Cloud services are infrastructure, platform, and software applications hosted and managed by a third party.

Building and managing these elements can be a challenging prospect. With the right cloud service provider in place, organizations can abstract away the complexity of the platform infrastructure in their cloud environments. Using cloud services gives responsibility for some or all of the management and maintenance of infrastructure to external system reliability engineers (SREs). These experts take responsibility for operating the infrastructure where your applications run in a way that helps lower costs and improves service quality. This work includes both writing code to create fixes and coordinating directly with support engineering and product teams to ensure platforms are always up-and-running so your internal teams can focus on higher value strategic projects.

Some organizations may still prefer a traditional self-managed approach and are comfortable taking on the time and effort required. Others value how finding the right cloud services partner can help:

- ▶ **Remove pressure on application developers.** By having a third-party handle day-to-day platform maintenance, monitoring, and other important but routine tasks such as performing updates, development teams are able to focus on what they do best—building applications that benefit the business.

What are cloud services?

Cloud services are infrastructure services for building applications that are hosted and managed by a trusted vendor, such as Red Hat. Using these services allows organizations to focus on their business's core competencies rather than maintaining infrastructure.

- ▶ **Bring more certainty and reliability.** Cloud service providers offer service level agreements (SLAs) that shield companies from unexpected costs by ensuring uptime on critical applications.
- ▶ **Accelerate application delivery.** An ideal cloud service provider lets you start application development right away. With infrastructure that's always up to date, you won't have to do any infrastructure development first.

For these reasons, many enterprise and commercial organizations have come to rely on cloud services to quickly build, deploy, run, and manage applications at scale.

The core benefits of cloud services versus self-managed infrastructure

The benefits of cloud services can also help leaders realize their business objectives in the following ways:

- ▶ **Prioritize innovation:** The less time that application developers have to devote to overseeing infrastructure, the more time they can use their core skills to build applications. Cloud services can help organizations to refocus their DevOps team on high-value innovation and revenue-generating activities rather than ongoing platform or resource management.
- ▶ **Increase cost efficiencies:** With cloud services, organizations only pay for the infrastructure it uses and services can be scaled up or down to meet demand.
- ▶ **Achieve faster time to market:** Cloud service providers offer businesses a turnkey application platform with developer capabilities built in. Developers are able to start new projects immediately, as well as build, debug, and deploy applications more quickly and more frequently. As a result, organizations can build and launch applications significantly faster and are better able to respond to customer and competitive demands.

Chapter 2

Key questions to ask when choosing a cloud service provider

When choosing a provider, it's important to ask the right questions to determine which option is best for your organization.

Not all cloud services providers are the same. The cloud service provider you choose must be able to help your development teams build and deploy strategic business applications at the speed your business requires, but there is more to consider. The following questions can help you find the right fit for your organization.

Is the cloud service provider built around hybrid cloud support?

Hybrid cloud is an environment that includes public and private cloud environments.

Almost every organization today uses a hybrid cloud or is in the process of moving to a hybrid cloud. Wherever you are on this spectrum, when considering cloud services it is important to ask how the provider will facilitate supporting it.

Is their architecture built from the ground up with the hybrid cloud in mind? And, does the cloud service provider offer a consistent experience across that hybrid cloud environment? This isn't something that is true of every cloud service provider, and should not be assumed.

Does self-managed infrastructure sound more your speed?

See how you can [get started with self-managed Red Hat® OpenShift®](#).

How much of the application stack is being managed by your cloud service provider?

The amount of the stack that needs to be managed by the cloud service provider varies from business to business. If you are focused on time to market and application velocity, then the more of the stack that the cloud service provider is able to manage for you, the more your development team can focus on building and deploying new applications.

Providing full-stack cloud services is not necessarily something all providers can do. Some focus mainly on specific parts of the stack, such as the control plane. No matter which part of the stack your cloud service provider manages, it's essential that the third-party management you choose oversees the health and safety of deployed clusters. Check each cloud service provider's responsibility matrix to see what their service contract covers.

Are all of the working parts of your cloud services provided by the same vendor or do they use separate vendors?

Some cloud services solutions compile the services of several different vendors. This approach introduces the possibility that one component may not work well with another. When this happens your development team must either create a solution to make it work, your IT team needs to spend resources to fix errors, or—more likely—both.

If a cloud service provider uses infrastructure components from one vendor as part of the same package, it is more likely that those services will work correctly together, minimizing development time and IT resources spent, while also creating conditions for a faster time to market at a lower cost. Instead of having to decide which tools to use and connect, out of hundreds, a good cloud services provider will offer curated services that simplify and improve your development experience.

Do they work with existing cloud providers and cloud provider agreements?

Organizations need to know that a provider can fully integrate with their existing cloud programs and plans such as Amazon Web Services (AWS) or Microsoft Azure. If your organization is structured around a specific hyperscaler, you need to know that your cloud services provider can deliver efficient, uninterrupted operations with that hyperscaler and that you don't need to dedicate additional resources into ensuring their interoperability.

Can you use your committed spend?

If you can't use your existing committed cloud spend plans on a cloud services provider, it may be significantly more difficult to adopt in your organization, as committed spends are there to simplify and speed procurement when working with a hyperscaler such as AWS or Azure. Look for a cloud services provider that meets you where you are.

“Engaging with Red Hat has allowed us to speed up time-to-market, increase agility, and respond more efficiently to customer needs.”

Sarawut Nanakorn

Executive Vice President,
IT Planning and Development,
Government Savings Bank¹

Chapter 3

The Red Hat approach

Working with major cloud providers, Red Hat Cloud Services offer managed application, data, and platform cloud services with full stack management, and a streamlined developer experience across hybrid cloud environments.

As the first priority, Red Hat Cloud Services offer a streamlined, end-to-end developer-first experience with all of the services—platform, application, and data—playing key roles. The Red Hat family of cloud services are tightly integrated with each other and the platform, which creates a consistent, curated, and productive development designed for a hybrid-cloud environment that’s ready to use right away.

This level of integration leads to:

- ▶ **Faster application velocity.** Fully managed cloud services allow teams to begin developing immediately, continuously evolve microservices-based applications to respond to change, and onboard modern technology more quickly and easily.
- ▶ **An approach that simplifies cloud-native development.** Services support an open, modern approach to building container-native applications that allows organizations to more rapidly build new applications and modernize existing systems.
- ▶ **A focus on core competencies with a reduced dependency on and consumption of IT resources.** The services are hosted, managed, and maintained by Red Hat, reducing the dependency on IT and freeing development teams from investing in infrastructure expertise.

One study found Red Hat OpenShift cloud services delivered these results for a composite organization:²

- ▶ Accelerated application development by 65% by year 2.
- ▶ Recouped 20% of developer time by reducing infrastructure maintenance work.
- ▶ Increased operational efficiency by 50%.

Reduce IT workloads

Red Hat Cloud Services provides fully managed cloud services for hybrid cloud, supported by an [expert SRE team](#), and management of deployment and daily operations of the clusters. Red Hat Cloud Services also offers a unified experience across all clouds with managed Kubernetes and applications on multiple public and private clouds with consistent developer, life cycle, and upgrade support and billing experiences.

¹ Red Hat press release. “[Government Savings Bank, KASIKORN Business-Technology Group, KTB Computer Services Co., Ltd., and TMB Bank Public Company Named Winners of the Red Hat APAC Innovation Awards 2020 for Thailand](#).” Oct. 2020.

² Forrester Consulting. “[The Total Economic Impact of Red Hat OpenShift Cloud Services](#).” Commissioned by Red Hat, Jan. 2022.

“Cloud-native development is our future. With Red Hat OpenShift, we can develop and deliver new features much more efficiently and release them much faster.”³

Muharrem Gün
DevOps Manager,
Akbank

Teams get the ultimate level of choice and flexibility with the same, consistent Red Hat OpenShift experience:

- ▶ **Reduced complexity of infrastructure management.** Fully managed infrastructure and daily operations backed by a specialized 24x7 global SRE team of experts so your teams can simplify operations and focus valuable resources on core competencies and innovation.
- ▶ **Increased productivity.** With built-in workflows including automated container builds, continuous integration/continuous delivery (CI/CD), and application deployments, the platform supports the entire life cycle. Teams can innovate faster, staying ahead of the competition.

Open, collaborative approach

As the largest open source company in the world, we believe using an open development model helps create more stable, resilient, and innovative technologies. At Red Hat, we’ve spent more than two decades collaborating on community projects and protecting open source licenses so we can continue to develop software that pushes the boundaries of technological ability. This commitment to integration and stable platforms extends to our Red Hat Cloud Services offering.

Chapter 4

What’s included in the Red Hat Cloud Services portfolio

Red Hat Cloud Services offers foundational technologies that will help you reach your organization’s business goals. Combined, the various component services create a ready-to-use application development platform for building, deploying, and maintaining applications making Day 1 and Day 2 operations more efficient. The services include:

The core platform: Red Hat OpenShift

At the heart of Red Hat Cloud Services is Red Hat OpenShift, an enterprise-ready Kubernetes container platform built for a hybrid cloud strategy. Red Hat OpenShift provides a consistent application platform that helps make IT infrastructure management more efficient.

Red Hat OpenShift platform services are the foundation for building cloud-native applications. Red Hat OpenShift services are hosted and managed versions of the enterprise Kubernetes platform. These platform services help organizations to modernize applications and infrastructure, accelerate digital transformation, and enhance business innovation with the application services you need. Red Hat OpenShift runs natively on your choice of clouds and delivers a consistent experience.

Real-time streaming data: Red Hat OpenShift Streams for Apache Kafka

Based on the open source Apache Kafka project, Red Hat OpenShift Streams for Apache Kafka lets development teams incorporate streaming data into applications without having to build and manage a Kafka service at scale—a complex and time-consuming endeavor.

Apache Kafka, the next generation of messaging, is the preferred solution for real-time streaming data. Kafka is central to an event-driven architecture, delivering high volume, speed, and reliability to distributed applications.

3 Red Hat case study. [“Turkish bank launches digital banking app on container platform.”](#) Feb 2020.

“The true value in Red Hat’s subscription is that in-depth product knowledge ... We can rely on Red Hat to help us bring the best possible projects to production in the safest, most stable way.”

Stephen Griffin

Architect and Software
Development Manager,
Version 1

As a managed and hosted Kafka service—fully integrated with Red Hat OpenShift and Red Hat’s application cloud services—Red Hat OpenShift Streams for Apache Kafka gives developers freedom to focus on building innovative applications more quickly, without concern for the underlying data collection and processing requirements.

Build and test applications faster: Red Hat OpenShift API Management

Red Hat OpenShift API Management is a fully managed service offering application programming interface (API) life cycle management. This service allows developers to build, prototype, deploy, monitor, and share APIs from a unified, developer-friendly interface. The service also includes a fully functional API gateway and Red Hat’s single sign on (SSO) technology. Red Hat OpenShift API Management accelerates time to value for APIs and reduces the cost of delivering and scaling API-first, microservices-based applications.

Take advantage of AI and ML: Red Hat OpenShift Data Science

Red Hat OpenShift Data Science gives data scientists and developers a platform for building intelligence into applications with artificial intelligence (AI) and machine learning (ML).

Instead of modeling sophisticated analytics in a separate environment, users can build AI and ML models directly into the application using the same platform so they can code with confidence and move into production faster. As a fully managed and hosted service, Red Hat OpenShift Data Science helps development teams get intelligent applications to market faster—where they can differentiate the company’s applications and deliver competitive value.

Developer efficiency: Red Hat OpenShift Service Registry

Red Hat OpenShift Service Registry lets development teams publish, discover, and communicate topics using well-defined data schemas with Apache Kafka, and also works with Red Hat OpenShift API Management. OpenShift Service Registry supports event-driven and API-driven applications with support for a wide variety of message schema types.

Red Hat OpenShift Connectors

Red Hat OpenShift Connectors offer prebuilt connectors for Red Hat Cloud Services—delivering rapid, scalable, and reliable connectivity across data, services, and systems—including edge environments. These prebuilt connectors allow development teams to more easily build a wide variety of pipelines across multiple standards, ecosystems, and upstream projects, which helps organizations with a diverse mix of disparate components take advantage of all the data across their business.

4 [Red Hat DAFM Ireland case study](#), Apr. 2021.

Learn more

With hybrid clouds getting increasingly complex and ubiquitous, a cloud service provider that can take infrastructure burdens off your development and IT teams, and provide a consistent experience across the entire hybrid cloud environment is essential to getting your application to market as fast as possible.

See if [Red Hat Cloud Services](#) is right for your organization.

[Start a trial.](#)



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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