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Innovate and grow across
three key IT pillars with Red Hat

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Introduction

In today's world, the possibilities for business value span the entire IT organization, from traditional workloads and applications to new technology integrations and deployments.

That means IT organizations can be a key contributor to growth and advance innovation, efficiencies, and productivity throughout the business. In short, IT organizations are crucial to your competitive advantage.

Whether rapidly meeting business innovation and growth requirements or using open source and hybrid cloud technologies, IT teams need flexibility and freedom from being locked into a single solution so they can use the tools to automate and standardize methods and deployment options as new opportunities arise.

However, that optimization isn't as simple as flipping a switch. It involves the complex task of creating a robust, flexible, and efficient IT operation within a modern hybrid cloud strategy. You need to ensure IT has the resources it needs to support your

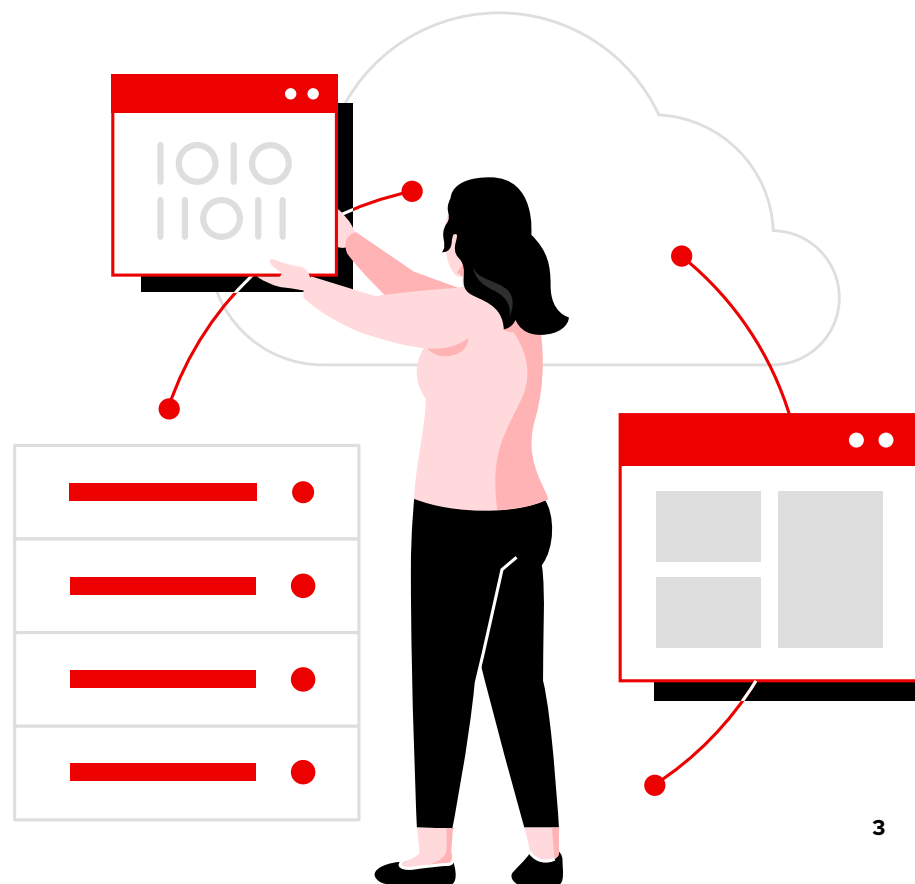
business. You need to map how your IT agility helps you compete with larger organizations. You need to figure out how to manage multiple toolsets and vendor solutions. And, you need to use the IT operational efficiency you've gained to focus on innovation with support from leadership to position IT as a center for innovation.

This isn't easy, especially if you're doing it all in house, tried a similar transition before and experienced setbacks, or relied on open source solutions that you know cannot scale in the way that you need. All

of these factors can make the move seem daunting.

But ultimately it's worth it. Using tested and trusted enterprise-ready technology can help you build efficiency and security into your hybrid cloud strategy and reduce costs in the long run.

[What you need is a reliable, tested partner in the process.](#)



At Red Hat, our goal is to help you overcome business challenges and make informed decisions. We can help you:

- Set a strong foundation with industry-leading infrastructure.
- Free your IT organization for higher value tasks through automation.
- Modernize application development through Kubernetes and cloud services.
- Do any or all of the above to respond promptly to your market demands while still focusing on security.
- Gain the support of our extensive partner ecosystem that provides straightforward integration with technology, tools, and services you are already familiar with.

Businesses that use Red Hat subscription software instead of unpaid, community supported alternatives gain US\$17,195 in benefits per 100 users¹.

¹ IDC White Paper, sponsored by Red Hat. ["The Business Value of Red Hat Solutions Compared to Unpaid Alternatives."](#) #US47607721, April 2021.



What Red Hat provides to help you support three key IT pillars

For many IT organizations, successful modernization is dependent on three key areas—infrastructure, automation, and application development.

This e-book reviews each of these areas in detail and provides tools and strategies to help you solve the business challenges in each category.

We'll also show how Red Hat's connections with a global ecosystem of leading hardware, software, system integrators, solution providers, and service provider partners can help you integrate your deployment and installation preferences into your IT organization.

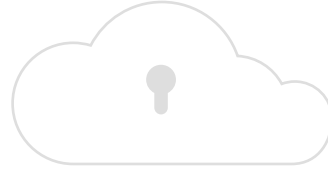


Innovation starts with infrastructure

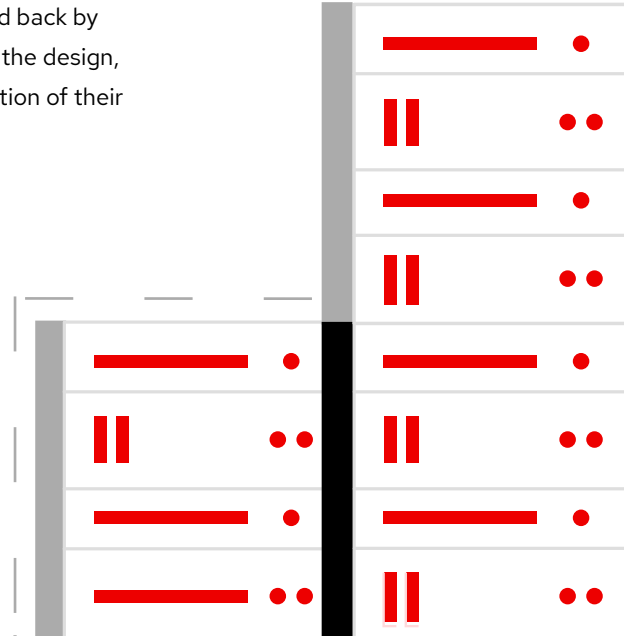
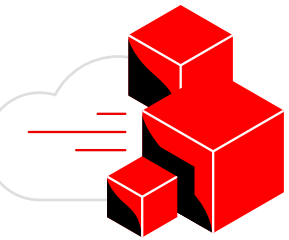
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Organizations cannot innovate without a solid foundation.

When an organization's systems have a common, shared foundation, they can deliver services as needed instead of being limited to a single function. Intelligent sharing of IT resources gets more work done with less hardware.



Businesses are often held back by outdated approaches to the design, management, and operation of their IT environment.



Does your organization have too much infrastructure complexity and not enough clarity?

If so, you are not alone. Over time, many organizations have evolved a complex maze of operating systems and versions, server hardware configurations, and management tools. It often takes a large, skilled IT team to handle interoperability issues, complicated administration, and labor-intensive processes. And legacy processes

created decades ago lurch on while competitors are using tools better crafted for digital-native businesses.

The consequences? Slower provisioning, more downtime, and greater security and compliance gaps. It can be difficult to deliver the services the business needs with the efficiency and speed it demands.



Finding a standard operating environment (SOE)

An SOE is a standard operating environment—a specific computer operating system and collection of software that an IT department defines as a standard build.

SOEs help if you're managing a lot of computers and want to reduce complexity. With SOEs, IT teams can automate the deployment and maintenance of servers and workstations. And standardizing the operating system helps you consistently operate workloads anywhere they run.

To understand why SOEs are important, consider that a modern enterprise might manage thousands or tens of thousands of servers and workstations.

Deploying all these systems manually or semi-manually is expensive and error-prone.

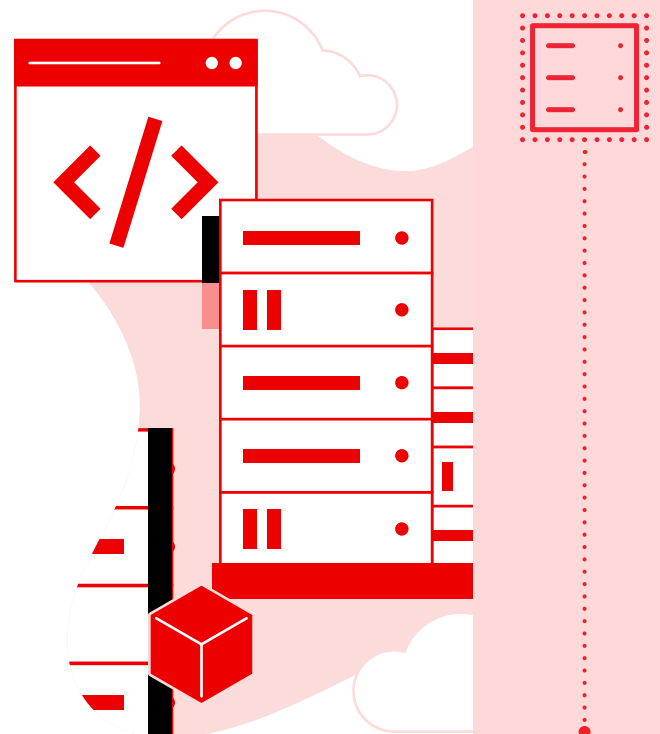
Without standardization, IT teams can be forced to create custom scripts to deploy and maintain multiple platforms. Inconsistent environments increase time and money spent as they require complicated maintenance. Training and support also become more expensive and complex.

Do-it-yourself versus enterprise-ready solutions

Many open source-based operating systems such as Linux® are available both in free deployments or through companies such as Red Hat, packaged and standardized for enterprise use. While free deployments can be an option for some organizations, in the long run, a paid enterprise operating system can save money, as it offers benefits such as support, better management, and standardized security that aren't available if you use a DIY approach.

Want to learn more?

[Read how to manage your Linux environment for success](#)





How Red Hat helps you do more with enterprise-ready solutions

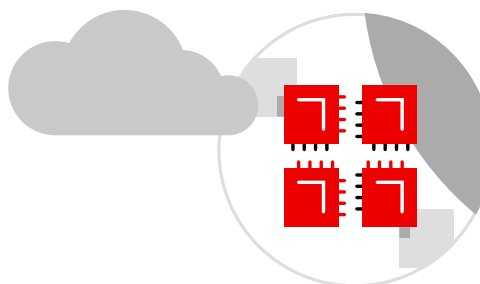
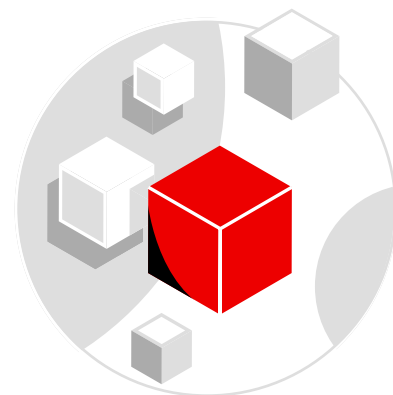
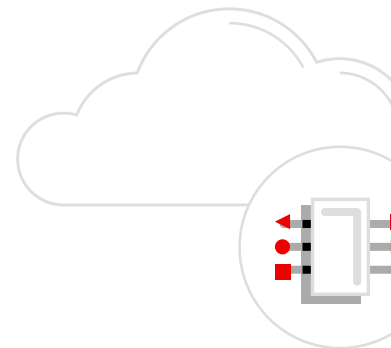
Red Hat® Enterprise Linux is the world's leading enterprise Linux platform,² and is the foundation for tens of thousands of the world's most successful business applications across companies of all sizes and industries.

[Red Hat Enterprise Linux](#) is certified by hundreds of public cloud and service providers, so you can move to a cloud environment with confidence.

As an add-on to Red Hat Enterprise Linux, [Red Hat Smart Management](#) is an infrastructure management solution designed to provision and maintain any Red Hat Enterprise Linux infrastructure at scale—physical, virtual, cloud, edge, and even disconnected environments. It simplifies system management by streamlining repetitive tasks from defining and deploying SOEs to patching across environments to upgrading or retiring systems. Red Hat Smart Management includes Red Hat Satellite and new cloud management services. These include services for vulnerability, compliance, and system comparison, and give you the flexibility to choose the management solutions that best meet the needs of your environment.

Building on the success of Red Hat Enterprise Linux, Red Hat OpenShift® is the leading enterprise Kubernetes platform.³

Red Hat OpenShift is the leading choice for organizations that want a more secure, supported Kubernetes platform guided by deep expertise. Red Hat OpenShift automates the container life cycle, embeds security into the container pipeline, and supports DevOps teams. Optimized to improve developer productivity and promote innovation, Red Hat OpenShift is an enterprise Kubernetes container platform with full-stack automated operations for managing hybrid cloud, multcloud, and edge deployments.

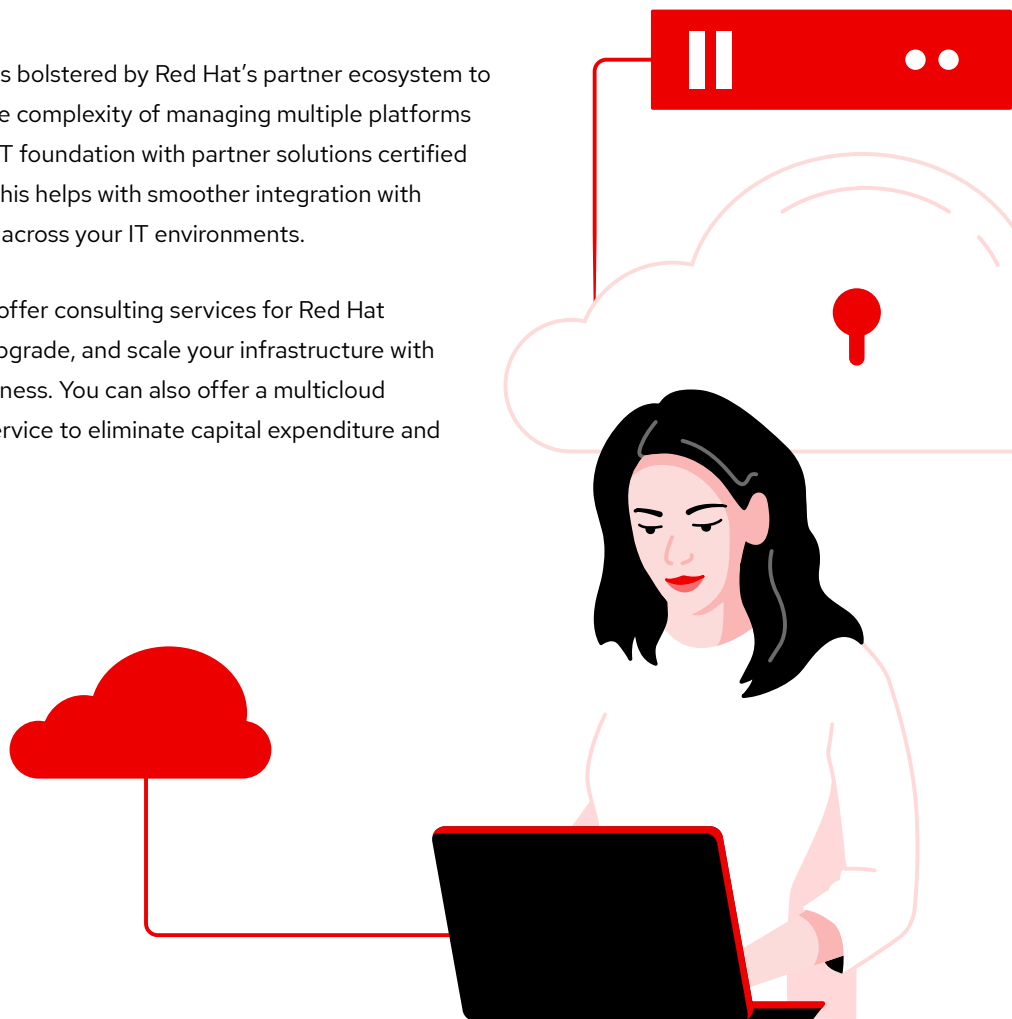


² Red Hat client data and [Fortune 500 list](#) for 2021.

³ [The Forrester Wave™: Multicloud Container Development Platforms, Q3 2020](#), December 2020.

This strength in infrastructure is bolstered by Red Hat's partner ecosystem to help organizations deal with the complexity of managing multiple platforms by simplifying on a consistent IT foundation with partner solutions certified on Red Hat Enterprise Linux. This helps with smoother integration with technologies you already have across your IT environments.

Both Red Hat and its partners offer consulting services for Red Hat technology to help you plan, upgrade, and scale your infrastructure with minimal disruption to your business. You can also offer a multicloud infrastructure as a managed service to eliminate capital expenditure and align expenses to growth.



Infrastructure with an eye toward security

Enterprise-hardened versions of open source software have teams of engineers working to patch vulnerabilities as soon as they are recognized.

Enterprise grade infrastructure has a level of consistency that reduces the chances of human error introducing security vulnerabilities.

Choosing the right infrastructure helps you to start building a security mindset into your organization from the ground up.

Automation can redefine how you do business

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IT components and tasks multiply faster than humans can handle.

Does your organization spend too much time making sure things don't collapse and not enough time innovating? It's a common problem.

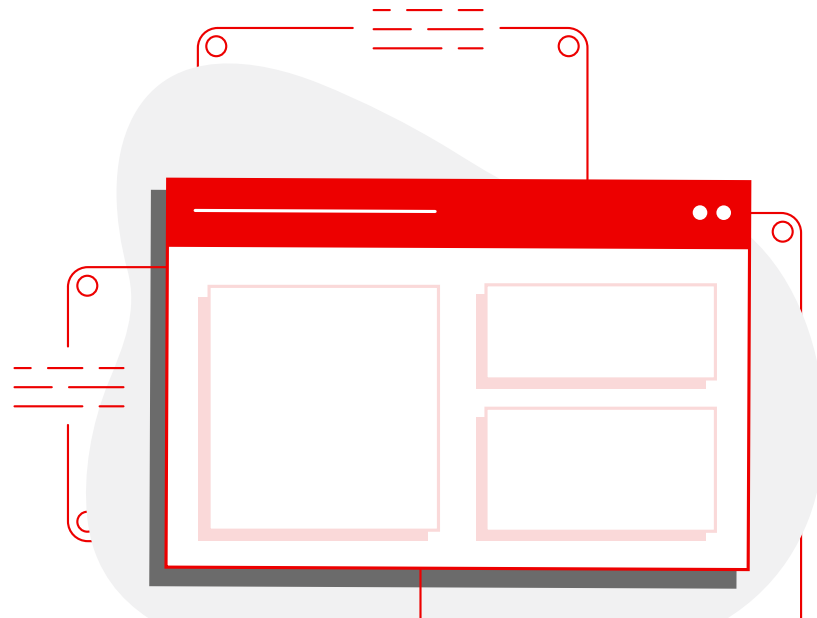
IT operations teams manage intricate IT architectures built on multiple platforms and complex technology layers. Legacy management tools have limitations. They compartmentalize control, use proprietary languages, and do not expand existing use cases. As a result, manual tasks can dominate a team's time and energy, which limits innovation and growth.

Automation in all forms has evolved from being a cost-saving measure into a strategic imperative. Automation helps IT to support infrastructure, applications, networks, containers, and security, from the datacenter to the edge of the network and is critical for managing increased data volume. Automation isn't just an adoption of

new technologies, it also takes a cultural change within the organization to make automation successful.

The implementation of automation is often piecemeal, with individual teams creating pockets of automation within an organization. This may save time and money in the short term for specific teams, but can create inefficiencies of its own if the different automation tools can't talk to each other.

Instead, consider the entire company when planning your approach to automation. Using a platform that allows different IT departments to standardize automation and users to reuse automation in different ways can help you start with small automation projects with the potential to scale when it makes most sense for your company.



What is edge computing?

Edge computing takes place at or near the physical location of either the user or the source of the data. This results in lower latency and saves bandwidth, but can add complexity for applications that require the power of cloud computing.





Adopt an automation-first philosophy

An automation-first approach can help you gain the agility and efficiency required to keep pace in today's dynamic business environment.

Get started with an automation-first approach by:

- Putting value on the ingenuity and creativity of your employees.
- Tasking your employees with solving complex and complicated problems, as opposed to having them do repetitive tasks.
- Reducing friction within your organization.

By automating redundant and mundane tasks, an organization can increase speed and reliability when rolling out new applications and services, present fewer security and compliance risks by lowering the chances of human error, and reducing operating expenses. It also frees IT staff and the budget for more valuable activities.

Ready to learn more?
Read [An IT executive's guide to automation](#)



How Red Hat helps you get started with a solid foundation for automation



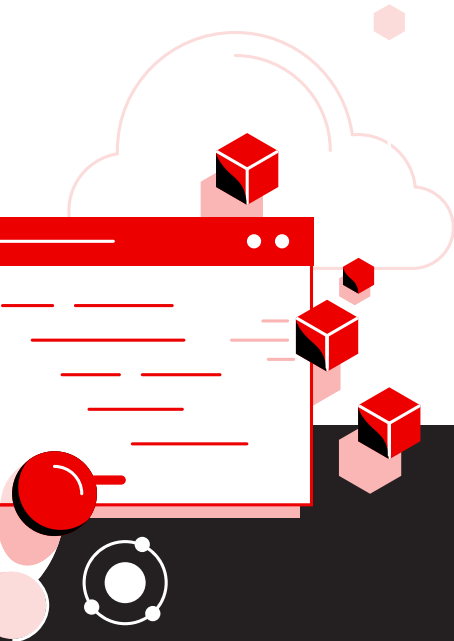
Red Hat Ansible® Automation Platform automates configuration, provisioning, workflow orchestration, application deployment, and life cycle management.

Red Hat Ansible Automation Platform makes automation easier to implement because it uses agentless technology so there's no need for software to run in the background on the machine being managed. And, unlike many other options, Red Hat Ansible Automation Platform helps you to automate across your entire IT infrastructure.

developed and supported by Red Hat partners. These certified collections and modules ensure key solutions are "Ansible enabled" out of the box and allow partners and customers to build Ansible content and playbooks to scale automation across applications, networks, security, cloud, infrastructure, and network edge offerings.

Red Hat and its technology partner ecosystem provide Red Hat Ansible Certified Content to help you build a strategic automation solution with confidence. There are over one hundred Red Hat Ansible Certified Content Collections and thousands of modules

And, partnering with Microsoft, [Red Hat Ansible Automation Platform on Microsoft Azure](#) is a managed option you can purchase with your Azure committed spend, allowing you to use credits you might have already fit into your budget.



Automation with an eye toward security

Automating the application of patches means fewer will be missed or delayed, and vulnerabilities will be closed more quickly and judiciously.

When configuring tens of thousands of edge devices, automation makes sure that each device is tested equally for security vulnerabilities.

Integrating automation into the tools that detect and reduce security threats means that responses can be automatic and don't need to wait for a human reaction.

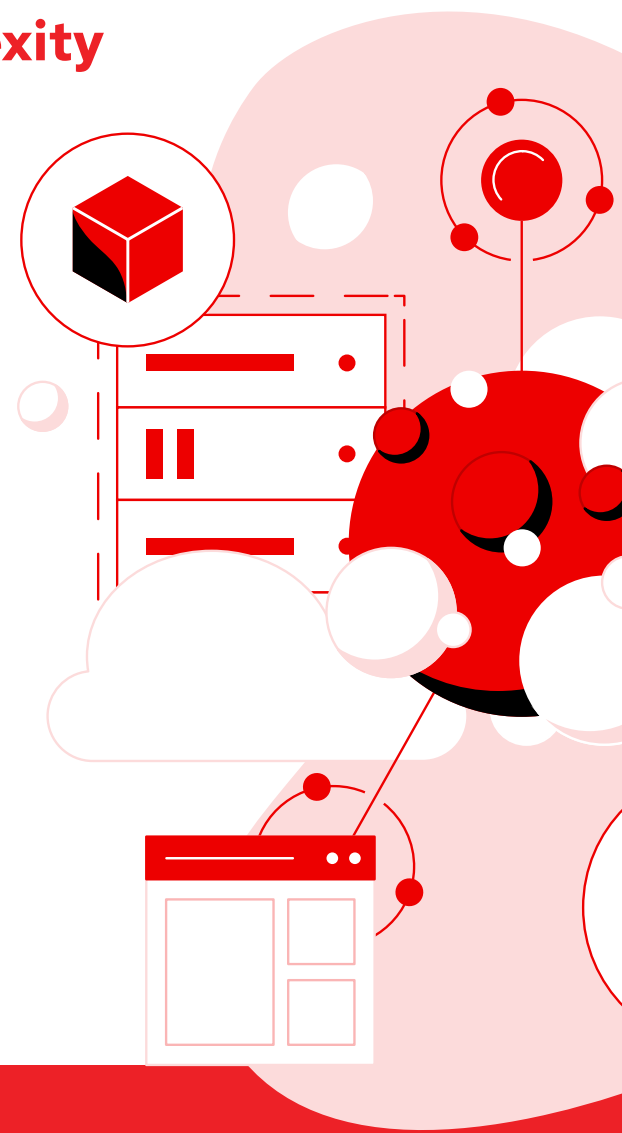
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Find services that help you modernize with less complexity

The difference between legacy application development and modern application development isn't just in using better and faster versions of the same tools.

It's implementing newer tools and technologies, such as containerization, to make development portable, flexible and agile and then implementing new methodologies, processes, and cultures to maximize the benefits.

However, making these types of agile modern applications isn't simple. It usually requires investing in containerized infrastructure and the specialized skills of the people to manage it. If you have legacy applications designed in old, monolithic styles, transitioning those legacy applications and business processes to modern architectures isn't likely to be straightforward or inexpensive.



To compete and succeed, many businesses rely on a host of digital applications, such as:

Operations software to manage procurement, human resources, customer experience, and other business functions.

Customer-facing software that offers customer self-service and provides an immediate digital experience.

Business intelligence to transform volumes of data into insights to make sound business decisions.

Predictive analytics to use historical data to guide decisions.

Intelligent data services to move, store, transform, respond to, and learn from enterprise data.

Machine learning (ML), where an application learns from the data it sees and makes new discoveries.

Many organizations want to increase application development velocity to build, deploy, run, and update applications and services to stay competitive in a marketplace with ever increasing customer expectations. Moving to a containerized environment can help.

There are numerous tools and services for you to start working in a modern containerized environment. However, not all of them offer the interoperability you need to stay agile in the current competitive marketplace. Look for container and Kubernetes solutions that are built for an open, [hybrid cloud strategy](#), giving you the flexibility to run your applications across environments.

These types of containerized architectures require expertise to run and have high barriers to entry if your focus is more on application development than managing IT infrastructure. However, there are lots of ways to access modern infrastructure, even if your business isn't set up to run the entire stack by itself. That's where a cloud services provider, such as Red Hat Cloud Services, can help.

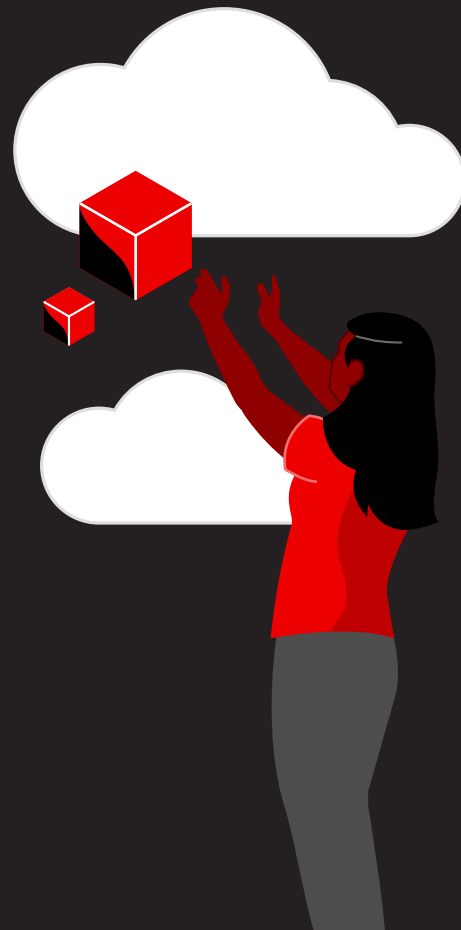


Finding service in the cloud

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

With the right cloud service provider, organizations can mostly forget about the infrastructure aspects of the platform. By giving responsibility for some or all of the management, updating, and maintenance of infrastructure to external system reliability engineers (SREs), then these experts can take responsibility and automate and manage Red Hat Cloud Services solutions, and automate the deployment and management of Red Hat OpenShift clusters, and complementary Red Hat applications and data services so organizations can focus on developing applications promptly and reduce the time and costs associated with managing those applications.

[Learn more about cloud services.](#)
[Read The Total Economic Impact™ Of Red Hat OpenShift Cloud Services](#)



Finding a cloud services partner is appealing for several important reasons:

It removes pressure on IT operations teams. 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.

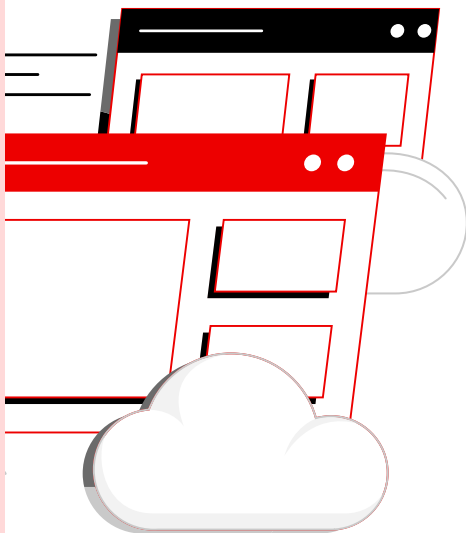
It brings more confidence and reliability. Cloud service providers offer service level agreements (SLA) that shield companies from unexpected costs, ensuring confidence for mission-critical applications.

It can speed application delivery. An ideal cloud service provider lets you start application development right away, with automated provisioning and management, infrastructure that's always up-to-date, without having to do any infrastructure development first.



How Red Hat helps you accelerate application development

If you are looking to modernize your application development, Red Hat OpenShift is a great first step.

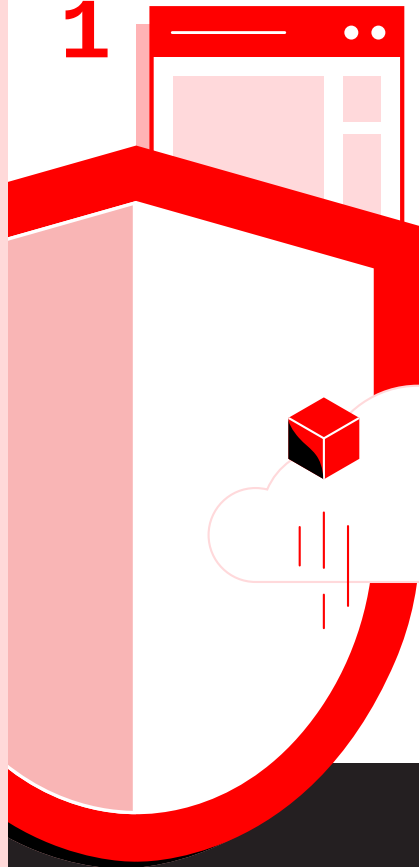


Red Hat OpenShift is an enterprise-ready Kubernetes container platform built for an open hybrid cloud strategy. It provides a consistent application platform to manage hybrid cloud, multicloud, and edge deployments. OpenShift is available in several self-managed options for different types of organizations, or as a part of managed cloud services.

Red Hat Cloud Services includes fully managed cloud services on the largest cloud platforms, supported by an [expert site reliability engineering \(SRE\)](#) team, and management of deployment and daily operations of the clusters. Red Hat Cloud Services also offers a unified experience across all clouds with a managed application platform and applications on multiple public clouds with consistent developer, life cycle, and upgrade support and billing experiences.

If you don't need the full managed package, the Red Hat Application Services portfolio of cloud services and middleware products gives developers, architects, and IT leaders the ability to create, integrate, and automate applications. The portfolio has been engineered together to help develop, implement and run business applications cost-effectively at scale. Red Hat Application Services can run on-site, in the cloud, or within a container platform, such as Red Hat OpenShift.

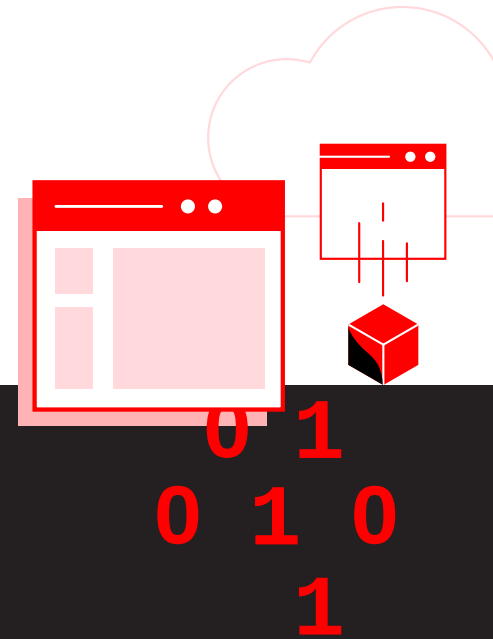
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All of this is supported by Red Hat's partner ecosystem, providing software solutions certified on Red Hat OpenShift giving customers flexibility to deploy applications across any environment, confidence that their workloads are secure and supported, and automation at scale.

Red Hat's partner ecosystem also includes more than 150 Red Hat OpenShift certified operators that allow customers agility, simplicity, and reliability in deploying applications, improving time-to-value, by using components that have been pre-tested on Red Hat OpenShift.

Additionally, managed versions of Red Hat OpenShift are available on AWS (Red Hat OpenShift on AWS) and Azure (Azure Red Hat OpenShift), which can be purchased on their respective marketplace using marketplace credits.



Cloud services with an eye toward security

Many cloud services have experts who take the responsibility of updating and patching infrastructure.

Patches and updates happen on a regular schedule alongside continuous monitoring.

Since the cloud services are strongly integrated with one another, there are fewer places where vulnerabilities can crop up.

Make your IT organization a key contributor to increased growth

So what is the critical path?

The first step is knowing that it's easier to get started than you might think. There are a plethora of tools and services available for your organization, and enterprise-grade solutions can save you both time and money by allowing your teams to focus on your business while experts or automation manages some or all of your IT infrastructure and deployment.

Know also that if you choose Red Hat solutions, there are thousands of partners across the Red Hat partner ecosystem that interface fluidly, so you don't need to drop the tools you already use and services you already enjoy, as they likely work alongside Red Hat.



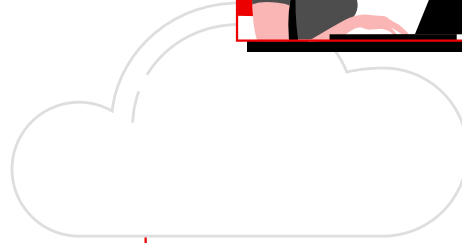
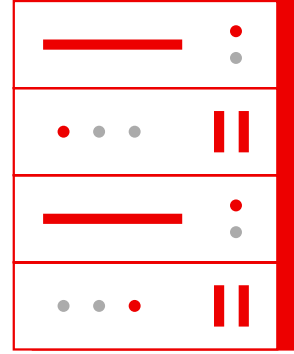
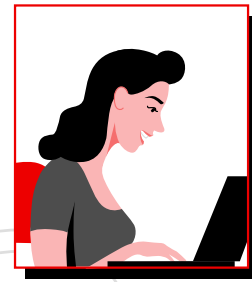


Do more with Red Hat

Open more possibilities for your IT organization.

Find out how [Red Hat and open source](#) can bring stability, security, and innovation to your business.

Learn more about our [IT solutions](#) and [talk to a Red Hatter](#).



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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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