An Enterprise Platform that gets your applications to market faster?

You Bet Your Apps.

It's hard out there.

Operating in a hybrid cloud model is increasingly complex. Customers are more demanding than ever. Cyber criminals have become more cunning, and the competition has never been tougher.

We all know it: the pressure is intense.

To come out on top, your organization needs to be agile. As IT professionals, it's essential to focus on what really matters—solving problems and innovationing quickly.

Enter OpenShift.

So here's the good news: OpenShift is here to simplify life for IT professionals and make the job more enjoyable. OpenShift can boost operational capabilities and IT efficiency to make your organization more successful.

But how?

By taking on the burden of managing your infrastructure and providing a consistent experience across the entire hybrid cloud environment, OpenShift lets you focus on making great apps and getting them to market faster.

With OpenShift, you can modernize your existing apps, and swiftly build and deploy new ones at scale. The process is straightforward and simple. Build apps your way and deploy to any cloud faster than you ever dreamed possible.

What is OpenShift?

An enterprise-ready, turnkey application
development and delivery platform based on
Kubernetes, supporting containers and VM-based
workloads across multiple infrastructure providers.

Huh?

To really understand OpenShift, we have to delve into
a few other concepts.

Let's go back in time about ten years.

The OG Story

Open upon a time, organizations delivered services as tightly coupled, monolithic applications. Over time, public cloud and distributed systems became more common, and organizations began to decompose their applications into functional components with well-defined interfaces. Enter "microservices."

The transition from monolithic to service-oriented architecture is ongoing for many organizations. Microservices allow teams within an organization to deliver services at their own pace, update components independently of each other, and communicate with other services via APIs. If you want zero-downtime upgrades in your system, for example, then you likely need microservices.

Distributed teams and loose coupling between application components is key to moving at a faster pace, however more components and teams means more moving parts and more opportunity for risk, i.e. higher complexity. Thus, as microservices became more abundant, the need to package, distribute, and manage them more effectively became a necessity. While organizations historically deployed services to virtual

machines, even creating virtual machine images to drive speed and reliability, the desire for something faster and more lightweight drove continued innovation.

Software containers have been around for years in different iterations. Containers offer a different approach to virtualization from traditional VMs where all containerized workloads share the same hardware stack. Containers are more portable and resource-efficient than VMs making for faster start-up times and easier scaling. With containers, an artifact can be built and run locally on your laptop, and the same artifact can later be deployed to production. Alongside the rise of microservices, containers made a lot of sense for CI/CD and DevOps.

Until 2013, the challenge with software containers was that no one knew how to build them. The tools to package custom code in a container and distribute that container to another system were not mainstream. Enter Docker. The Docker project made software containers easy for everyone, not just titans like Google. Dockerfiles, container registries, the Docker runtime, and the Docker CLI are key components of the Docker project which

made building, deploying, and running containerized applications much easier.

Now with both microservices and containers on the rise, the initial challenges of microservice development are only increasing. There are more containers than ever before, each with their own environment configurations and dependencies, and the quantity of metadata around application delivery is at an all-time high. Supporting functions such as service discovery, storage, and configuration management are required to run containers at scale.

Fortunately, Google developed a system internally for this exact purpose. They called it Borg, and they decided to release this project to the open-source community under a new name. Kubernetes was introduced in September 2014, along with the Cloud Native Computing Foundation as a governing body.

Kubernetes is a platform for running software containers at production scale. Kubernetes includes all the bells and whistles you require today, as well as everything you may need in the future. Kubernetes is also one of the most successful open-source projects in history.

The Kubernetes ecosystem is vast, and the project itself is a lot like Legos: extensible, pluggable, and open-ended. After its release, many companies sought to build experiences around and integrated with Kubernetes. Visualization add-ons, development and delivery tools, security tools, storage, networking ... the success of Kubernetes created a whole new market, and soon the landscape was filled with different distributions of Kubernetes each with their own opinions and differentiators. However, one distribution stood alone.

OpenShift was one of the first Kubernetes-based platforms and remains one of the strongest. OpenShift is a comprehensive, opinionated combination of leading cloud-native tools layered on top of Kubernetes. OpenShift takes the guess work out of architecting an enterprise-grade Kubernetes platform by packaging and assembling the Legos for you. This allows applications teams and IT operations to stay focused on work that matters, and ultimately deliver applications to production sooner.

Key differences
between open-source Kubernetes and OpenShift include:

- Integrated tooling: OpenShift includes logging and monitoring, integration with corporate identity, a robust web interface, and additional development productivity tools out of the box. No assembly required.

- Support for containers and virtual machines: OpenShift allows management of both containerized workloads and virtual machines from a single console via the OpenShift Virtualization operator.

- Hardened security: OpenShift addresses the dangers of insecure containers and provides guardrails to protect application teams and the organization.

- Operator Hub: Independent software vendors and the community will certify their applications for OpenShift and publish operators to a catalog to ease installation and usage.

- Enterprise support: OpenShift is a commercially supported platform.

For organizations running Kubernetes in multiple locations, OpenShift offers a consistent, capability-rich experience across clouds that is rivaled by no other.

OpenShift Services: The Core Plus More!

Red Hat OpenShift Container Platform (OCP) is the core platform: a production-ready platform specially designed for companies operating in multiple clouds. OpenShift streamlines the management of infrastructure and applications, accelerates developer productivity, and runs natively on any cloud or on-premises.

OCP provides a foundation to build and deploy cloud-native applications at scale, including Service Mesh, CI/CD, GitOps, and more.

Red Hat OpenShift Cloud Services, namely **Red Hat OpenShift Service on AWS (ROSA) and Azure Red Hat OpenShift (ARO), are hosted** and fully managed offerings of the core platform which run on your private cloud infrastructure.

And finally, there's **Red Hat OpenShift AI**, an operator geared for AI development and model hosting which allows data scientists to explore data, develop and train models, and deploy them for consumption with ease.

Top 8 Reasons
to Choose Red Hat OpenShift

1. It's fast. A study by Forrester found it sped up app dev by 65% by the second year it was used. Also, if you're implementing containers or Kubernetes technology, it will decrease time to value.

2. It's easy. Red Hat OpenShift makes it easier to deploy and move apps. It makes installs and upgrades a breeze. Simply put, it was built for ease of use.

3. It's flexible. Use Red Hat OpenShift on-premises or in the cloud—any cloud. Manage it yourself or have it managed by experts in the cloud. Use it however it works for you, and change your mind if you want. It's OK—it works the same anywhere you decide to run it.

4. It's efficient. With built-in workflows including automated container builds, CI/CD, and application deployments, the platform supports the entire lifecycle. You can innovate faster and stay ahead of the competition. A recent Forrester study shows it increased operational efficiency by up to 50%.

5. It's powerful. Red Hat OpenShift supports the most demanding workloads from AI/ML to the edge and beyond. Analytics? Edge? GenAI and LLM? No problem.

6. Fully managed cloud services. OpenShift is available as a first-party cloud service - e.g., Red Hat OpenShift on AWS (ROSA) and Azure Red Hat OpenShift (ARO). These first-party cloud services are managed and supported 24x7 by a team of global site reliability engineers (SREs) that manage the OpenShift infrastructure and daily operations. A recent Forrester study shows developers reclaimed 20% of their time by reducing infrastructure maintenance work.

7. It's supported. If you're a customer, OpenShift and all the associated tools are supported, whether by Red Hat or another member of its extensive ecosystem.

8. It's a market leader. OpenShift is the leading Kubernetes-powered hybrid cloud application platform in the industry. Gartner places OpenShift in the 2023 Magic Quadrant for both container management[1] and DevOps platforms.[2] Forrester agrees, naming OpenShift a 2023 leader in multi-cloud platforms in the Forrester Wave.[3]

8 Benefits of Red Hat OpenShift

OpenShift offers many benefits. You can:

1 **Look like an expert from power on.**

All that expertise is built into the platform. So actually, you'll be an expert without realizing it at first. Then later on you'll just be an expert.

2 **Get to value fast.**

Forrester reports it speeds up application development by up to 65% in the second year of use.

3 **Be more productive.**

The platform has built-in workflows for things like container builds and deployments, monitoring, and logging. Teams can innovate faster, and give you a leg up on the competition—unless they have OpenShift too. Then you have to type faster.

4 **Focus on what's important.**

Red Hat OpenShift helps to ease IT burden and toil with automation. This allows administrators to implement new features, test new technologies, and focus on core business initiatives.

5 **Do installs and upgrades much more easily.**

OpenShift cluster upgrades can be accomplished easily with a just few clicks.

6 **Easily manage everything.**

You can see everything and manage it all via a single pane of glass.

7 **Have better visibility into applications and infrastructure.**

OpenShift's web console is incredibly feature-rich and allows organizations to extend the platform to more users. The OpenShift console is user-friendly and offers different views for administrators and developers to navigate the platform.

8 **Role Based Access Control (RBAC).**

You can secure accounts to ensure individuals or groups do not have unauthorized access to resources. Red Hat OpenShift allows for fine grained permissions to enhance security and provide peace of mind.

5 OpenShift Use Cases

1 **Develop and deploy apps faster.**

Delight your customers and confound your competitors as you quickly churn out great apps!

2 **Secure your environment.**

OpenShift raises the security posture of your organization by ensuring workloads are built and run securely.

3 **Enable self-service within confines and guardrails.**

Balance control and governance with developer empowerment. Unleash your developers on OpenShift.

4 **Run on-demand development environments.**

Leverage the flexibility to instantly provision and deploy tailored dev environments as needed, allowing teams to streamline workflows and accelerate project timelines without the constraints of fixed environments.

5 **Enable CI/CD.**

Implementing CI/CD practices empowers your dev teams to automatically integrate code changes and deploy them to prod environments, resulting in significant improvements in deployment frequency, reducing risks of bugs, and enhancing overall software quality.

4 Success Tips for Red Hat OpenShift

Start small
Don't try to boil the ocean at first.

Work with an app in mind
Pick an app or two that are representative of your business and try to containerize and deploy them to OpenShift. Over time, you will realize the value of OpenShift and what it can do.

Select apps you and your organization care about, not apps at the end of their useful life where it's not worth the effort to migrate. Stateless, Linux-based apps are a good place to start.

Scale out once you get your feet under you
After you've learned what you and OpenShift can accomplish together, begin to expand and do more with the platform.

Focus on time to value, not lowest cost
If you are considering Kubernetes, OpenShift may seem expensive. However, Kubernetes alone is not enough. It's like buying an engine, but you need a car. You still need to procure other parts AND assemble, test, and tune the car yourself. Additionally, you are on the hook for support. OpenShift is like a fully assembled vehicle WITH support. It may appear to cost more at the start, but in reality it matches your needs and allows you to start delivering tangible business value.

Did you know?

- OpenShift is now available as a first-party service on AWS (ROSA) and Azure (ARO).
- OpenShift Virtualization allows you to run VMs alongside containers.
- OpenShift can support containers, serverless, VMs, Windows, Linux and more with integrated developer services.

References

1 Gartner: Magic Quadrant for Container Management, September 2023
2 Gartner: Magic Quadrant for DevOps Platforms, June 2023
3 Forrester: The Forrester Wave™: MultiCloud Container Platforms, 2024
4 The Total Economic Impact™ Of Red Hat OpenShift Cloud Services
5 Gartner Top Technology Trends, 2022
6 Red Hat: Modernize application delivery with cloud services

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Murad Korejo is an Architect and Engineering Manager at Presidio with nearly two decades of experience. Murad has exposure to a wide array of platforms, tools and disciplines including AWS and Azure, Kubernetes & OpenShift, CI/CD, secrets management, and infrastructure automation. At Presidio, Murad is a leader in the DevOps group and supports sales and delivery across the larger team.

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About Presidio & Red Hat

PRESIDIO + RED HAT = APPLICATION MODERNIZATION STRATEGISTS

Presidio and Red Hat share a vision of DevOps as being more than the sum of its parts. It is the interpretation of technology, practices, and principles that help IT people focus on successfully overcoming business challenges – not just the tools we use to do so. Fortunately, along with this vision, Red Hat is also a leading open-source technology provider that makes open-source software safe and responsible to use in the enterprise. From operating systems to hybrid cloud, to automation and management tools, to container-based platforms, the Red Hat portfolio of technology fits Presidio's app modernization strategy like a glove. Presidio uses Red Hat platforms and development tools to provide agility for our clients in a climate of accelerating business demands.

About Presidio

We are a Global Digital Services and Solutions Provider delivering customers the secure cloud environments that form the backbone of digital transformation. We guide you from initial assessments, strategy and consulting—to implementation and deployment—to managed services that run IT for you, topped off with a suite of flexible financing and consumption options to simplify procurement. Our services experts are thinkers and doers focused on accelerating business outcomes for customers in all industries. Visit: presidio.com