

Red Hat OpenShift Service On AWS Enables Innovation And Agility For Modern Business

March 2024

Applications are essential to the digital operations of modern business. Cloud nativity is emerging as a business requirement across many industries for several reasons. The increased need to deploy and run apps in the cloud has demanded more automation, applications require scalability, and software stability is becoming increasingly important. The intersection of cloud and containerization creates a unique opportunity for increased business agility as cloud infrastructure supports development and deployment of containerized applications at scale. By consuming a multicloud container development platform as a managed service on a public cloud, organizations calibrate how much complexity their platform teams accept to aid innovation efforts.¹

Red Hat OpenShift Service on Amazon Web Services (AWS) (ROSA) is a jointly offered application platform with Red Hat and AWS that includes integrated developer and operational tools to accelerate application delivery. With ROSA, organizations can have a jointly managed, enterprise-grade application platform and efficiently build, deploy, and manage containerized applications in AWS Cloud. This solution simplifies application development and deployment as Red Hat and AWS manage the underlying platform, empowering business users to adopt Kubernetes faster and focus on creating innovative applications.

To better understand the benefits, costs, and risks associated with Red Hat OpenShift cloud services, Red Hat commissioned Forrester Consulting to interview 11 decision-makers and conduct a Total Economic Impact™ (TEI) study.² This abstract will



Reduction in infrastructure management effort
50%



Reduction in development time
65%

focus on the use of ROSA and its value to organizations.

INVESTMENT DRIVERS

Prior to Red Hat OpenShift Service on AWS, the interviewees' organizations struggled with common challenges, including:

- **Limited time and resources.** At a high level, many interviewees were on a cloud transformation journey to help innovation efforts. However, interviewees said that having to dedicate developer time to platform and resource management resulted in missed opportunities for higher-value innovation and delivery of new technologies that would drive business forward. In that way, interviewees targeted an application development platform as a managed service in the public cloud to drive innovation efforts without having to dedicate internal resource time to implementation and ongoing management of the



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application platform. In addition, they struggled with building custom applications and sought a partner to help personalize their services. With the implementation of Red Hat OpenShift, a product owner of container platforms at a financial organization said that they hoped to “show the business what AWS and OpenShift could do together.”

- **Monolithic nature of systems.** Interviewed decision-makers were plagued with poor quality, prolonged release cycles, and downtime. Furthermore, the operational overhead to maintain and upgrade the architecture was too costly and time-consuming. A solutions architect in education indicated that they hoped to move to a container solution to reduce technical debt and migrate applications faster.
- **Lack of flexibility and scalability.** Interviewees found that their incumbent systems were not future-proof. They described looking for a solution that could adapt to their organizations’ specific business needs and change over time. A big aspect of enabling flexibility and scalability was decoupling applications from backend mainframes. In this way, interviewees also hoped to provide better data consistency and higher application reliability as well.

RED HAT OPENSIFT FEATURES

Interviewees found the following attributes of Red Hat OpenShift Service on AWS to be particularly beneficial for their organizations:

- **Comprehensive application platform.** Red Hat OpenShift integrates DevOps services and tooling, such as runtimes, build tools, pipelines, monitoring, service mesh, and more. Developers can start projects quickly and focus on their code. These comprehensive capabilities allow developers to build and deploy applications in a self-service, on-demand environment without worrying about underlying operations or infrastructure management. A product owner of

container platform at a financial organization cited the benefit offered by the deployment pipeline that OpenShift built, saying, “We don’t have to reinvent the wheel every time we want to build and deploy pipeline.”

“If you look at how [Red Hat OpenShift] is designed and implemented, out of the box you get security features, such as for access control. So, you do not have to worry about implementing something new if you are a developer today.”

*Product owner of container solutions,
financial*

- **Consistent experience across the hybrid cloud.** Red Hat OpenShift provides a consistent infrastructure and application experience regardless of deployment location. Deploying OpenShift on the AWS Cloud as a managed cloud service enables organizations to quickly deploy business-critical applications and scale in tandem with business growth. Furthermore, the solution allows for maximization of data and IT investments.

ROSA provides users with a cloud-native service that is jointly engineered and operated with AWS, and optimized for performance, scalability, and security across the hybrid cloud. Interviewees noted that Red Hat OpenShift cloud services allowed flexibility and portability that ensured business continuity and a consistent experience across the hybrid cloud. The IT infrastructure manager in logistics said, “We can keep our infrastructure running in different sites, which is helpful for our disaster recovery strategy.” The IT infrastructure manager in logistics said, “[We looked for] the capability to add and remove capacity depending on demand — something

that can grow when our business grows or reduce capacity when it's not needed.”

- **Jointly managed, native solution with AWS.** Red Hat and Amazon work together to provide joint production-grade support for ROSA customers with a 99.95% uptime service-level agreement (SLA). Red Hat Site Reliability Engineers (SREs) install, manage, maintain, and upgrade the ROSA deployment. This rich combination of services reduces operational complexity, therefore reducing operational costs, increasing speed to market and allowing organizations to focus on business-critical needs. While this eases the day-to-day operational burden on IT infrastructure and security teams, it also reduces the risk of losing skill sets through turnover and the like. A product owner of container solutions at a financial organization detailed: “We switched to ROSA because in the future, we might not have the knowledge required to manage cluster setups in-house. Especially in some of the regions we operate in.”
- **Developer innovation empowerment.** ROSA allows developers to build and deploy applications in an on-demand environment without worrying about underlying operations or infrastructure. The platform also features integrated tooling, including a robust portfolio of AWS services and build and automation tools, which can be leveraged to accelerate development and improve efficiency.

KEY RESULTS

The following results are based on a composite organization as modeled in the full study.

Increased development velocity. Before investing in ROSA, interviewees’ organizations used applications that were large, burdensome, and expensive to manage. Interviewed decision-makers shared that implementing ROSA’s microservices- and container-based architecture allowed their

organizations’ application development and testing process to be much faster, such as by spinning up environments faster. A product owner of container platforms at a financial organization stated, “With Red Hat OpenShift, we do not have to wait for teams to provision VMs, so the lead time for development timelines goes from three months to 5 minutes.” The time savings opened time in their developers’ day that could be recouped for further productivity.

“All the services we are using from AWS on OpenShift are all security-flavored, such as encryption in transit or rest, or vulnerability scanning. It alleviates the responsibility for the developer and allows them to sleep well at night.”

Product owner, container solutions, financial

- **Development time reduced by 70%.** Using Red Hat OpenShift Service on AWS provides access to integrated tools and continuous integration/continuous delivery (CI/CD) pipelines that help modernize development approaches and streamline application development and deployment. Such features lend themselves to a 60% reduction in development time for the composite organization in Year 1, 65% in Year 2, and 70% in Year 3. Additionally, interviewees cited both faster developer onboarding and trusted underlying data sources as contributing factors to development velocity. A solutions architect in higher education estimated that developer onboarding times reduced from 10 days down to two to three days due to easier access control. As a result, their organization could bring on new resources and move developers around from team to team as needed to meet capacity and business needs.

Streamlined application delivery management.

Beyond slowing down the development process, legacy environments also required developers to procure new environments manually, which could take weeks and involve multiple stakeholders. With Red Hat OpenShift Service on AWS, developers no longer needed to allocate time for infrastructure maintenance work and repurposed that time for more productive work supporting application development. AWS and Red Hat manage all aspects of the cloud-based container environment. Additionally, the self-service internal developer platform allows teams to consume best practices without onboarding applications and developers, resulting in faster and more efficient delivery.

- **Developers recouped 20% of their time.** In their previous environment, interviewees noted that infrastructure maintenance work could consume a significant amount of a developer's time. The director for operations and infrastructure in telecom explained: "Previously, developers had to build the instances themselves. It would probably be a fifth of developer time [dedicated for infrastructure maintenance]". The project coordinator in higher education said, "[With Red Hat OpenShift Service on AWS], developers can now spend more time with customers trying to figure out what they need."

Additionally, interviewees felt less pressure to hire hard-to-find resources when they needed to expand and scale. A product owner of container platforms at a financial organization noted: "From a company perspective, to find people who are firm with Kubernetes or OpenShift is not easy where we are. [With Red Hat OpenShift], we can transfer some responsibility to get the cluster up and running to the vendor. In the future, we might not have the knowledge in-house, but we can spin up more clusters in more countries without having to hire experts in those geographical

locations. It allows us the ability to scale without adding hard-to-find resources to our team."

Improved operational efficiency. In addition to recouping developer time that was previously spent on infrastructure maintenance work, using ROSA also allowed interviewed decision-makers to repurpose full-time DevOps staff that were responsible for managing the infrastructure. The interviewees' organizations reduced costly downtime and maintained reliability with managed upgrades, patching, and threat monitoring and remediation. A solutions architect in education described the value of deploying ROSA specifically, stating, "We estimated that without ROSA, we would have had to spend 20% of our time for one to two weeks scheduling backups every time an update was required. With ROSA, we are still involved in upgrades, but now it is a click of a button, and we do not have to worry about backups and recovery points."

- **Infrastructure management effort reduced by 50%.** With ROSA, the interviewees' organizations did not have to allocate as many DevOps staff to maintain the environment for application development. The director in telecom said: "Before [Red Hat OpenShift Service on AWS,] we had 10 to 12 team members with the right experience managing infrastructure. Of the 10 to 12, three or four stayed doing what they were doing while the other team members took on lead positions within their application owners' teams." The project coordinator in higher education added, "We reassigned 25% of people out of operations and into development." A product owner of container platforms at a financial organization reduced operational FTE by up to 70%, from between eight to 10 FTEs down to 3 FTEs. Even with the reduction in dedicated resources, organizations experienced less downtime and timeouts for applications. The same interviewee stated, "We are no longer experiencing timeouts."

TOTAL ECONOMIC IMPACT ANALYSIS

For more information, download the full study: "[The Total Economic Impact™ of Red Hat OpenShift Cloud Services](#)," a commissioned study conducted by Forrester Consulting on behalf of Red Hat, February 2024.

STUDY FINDINGS

Forrester interviewed 11 decision-makers at organizations with experience using Red Hat OpenShift cloud services and combined the results into a three-year composite organization financial analysis. Risk-adjusted present value (PV) quantified benefits include:

- Improved development velocity worth more than \$1.5 million.
- Reduced infrastructure management worth more than \$2.1 million.
- Improved operational efficiency worth more than \$1.3 million.



Return on investment (ROI)

468%



Net present value (NPV)

\$4.08 million

Appendix A: Endnotes

¹ "Getting Started With Kubernetes," Forrester Research, Inc., January 24, 2023.

² Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

DISCLOSURES

The reader should be aware of the following:

- The study is commissioned by Red Hat and delivered by Forrester Consulting. It is not meant to be a competitive analysis.
- Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in Red Hat OpenShift.
- Red Hat reviewed and provided feedback to Forrester. Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning.
- Red Hat provided the customer names for the interviews but did not participate in the interviews.

ABOUT TEI

Total Economic Impact™ (TEI) is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders. The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility.

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