Aqua Security protects a retail giant's containerized applications

"Aqua Security's customers expect the company's solutions to be Red Hat Certified, because it assures them that the combined solution has been tested and validated on Red Hat OpenShift and is supported by both Red Hat and Aqua Security."

Upesh Patel, VP of business development, Aqua Security

Benefits

- Manage risk in the container development pipeline.
- Protect OpenShift application workloads in realtime.
- Comply with data protection and privacy regulations.

"Enterprise customers are building applications at faster and faster speeds leveraging cloud-native technologies. When you start developing at this kind of speed and scale, automating security into the DevOps process and enforcing security controls at runtime are critical to ensure production applications are secure."

Upesh Patel

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Introduction

Aqua Security worked to enable a national retail giant to integrate Red Hat® OpenShift® in all its corporate workflows. Aqua Security provides container security for Red Hat® OpenShift® deployments. The Aqua solution is Red Hat Certified which assures customers that the combined solution has been tested and validated by Red Hat.

Founded in 2015, Aqua Security delivers a purpose-built platform for container and serverless application security that can be deployed on all major public clouds or on-premises and works with all major container orchestrators. Aqua Security has been a partner of Red Hat's for many years with the goal of building the most secure and supportable environment for the Red Hat OpenShift platform.

Aqua can be natively deployed in a Red Hat OpenShift environment by deploying pods, services, and Daemonsets. The platform works as a layer of security that provides image assurance, runtime controls, protection against attacks, as well as visibility and compliance for OpenShift containerized applications.

Enforcing security in a fast-changing environment

One of the largest department store chains in the United States wanted to integrate Red Hat OpenShift in all of its corporate workflows. They wanted to:

- Accelerate application delivery with agile and DevOps methodologies.
- Modernize applications toward microservices that can evolve and scale independently.
- Use IT resources efficiently.

While Linux® containers are inherently open source, they are not readily transparent. The metadata and supporting technologies surrounding containerized applications can easily obscure their inner workings. Kubernetes-scale deployments can oversee tens of thousands, if not hundreds of thousands of production images.

Red Hat OpenShift has built-in security fundamentals, but the customer wanted another layer of assurance that no known vulnerabilities would be introduced into the application, and that malicious activity during runtime would be detected and intercepted.

Automated security across the software lifecycle

The Aqua Cloud Native Security Platform (CSP) is a full-lifecycle security solution for enterprises using Red Hat OpenShift to deploy their cloud-native applications. It offers image assurance, runtime controls, and protection against attacks, as well as granular visibility and compliance for containerized applications. Aqua CSP deploys natively on Red Hat OpenShift, and integrates seamlessly with its registry, management layer and orchestration.

Aqua initially performed a proof-of-concept deployment in the retailer's on-premises Red Hat OpenShift environment and scanned the container images. This allowed the customer to immediately create image assurance policies that set risk-based parameters for what constitutes an acceptable, trusted image. Aqua's runtime protection software agents, Aqua Enforcers, were deployed within Red Hat OpenShift cluster nodes, ensuring that only trusted images would run, preventing any code changes to running containers, and enforcing least-privileges.

Aqua applies security controls at several phases of the application lifecycle in an automated fashion. In addition to scanning images based on an Image Assurance Policy, Aqua provides a security runtime policy that is enforced in all their OpenShift clusters. These controls reduce the risk associated with vulnerabilities in their applications.

As a result, the retailer was able to:

- Easily manage container image vulnerabilities and risks in their CI pipeline;

- Ensure the immutability of containers in runtime to enforce the build-and-redeploy process and prevent code injection into running containers;

- Monitor and protect containers against a variety of attack scenarios based on deep understanding of the containers' normal behavior patterns.

Conclusion

The Aqua CSP enabled this omnichannel retailer to:

- **Manage risk in the container development pipeline.** Aqua continuously scans container images to verify that the DevOps process does not introduce vulnerabilities, bad configurations, or exposed sensitive data into the customer's production environment.

- **Protect OpenShift application workloads in real time.** Aqua uses machine-learning to whitelist intended container behavior and ensure that containers only do what they are supposed to do. Aqua continuously monitors running containers to detect and automatically block unauthorized container activity in real time and protect applications.

- **Comply with data protection and privacy regulations.** Aqua provides a full audit trail of container activity–access attempts, running executables, privilege escalations and more–and produces reports for compliance requirements.

About Aqua Security

Aqua Security helps enterprises secure their cloud native applications from development to production, whether they run containers, serverless or virtual machines. Aqua bridges the gap promoting business agility and accelerating digital transformation. www.aquasec.com/

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.
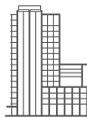
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