

Containers and Kubernetes Security Consulting

Transforming Security in the Cloud-Native Era

The explosive growth of containers and Kubernetes, alongside micro-services architectures and CI/CD practices, is resulting in increasingly dynamic app environments wherein both the code and the container-centric infrastructure on which it runs changes constantly. Securing kubernetes clusters running such apps with access to sensitive data brings an expansive set of challenges.

Founded in Silicon Valley by world-class cloud and security experts, CloudDefense offers flexible services engagements to help organizations of all sizes effectively address their Cloud-native security and compliance challenges. We leverage our real-world Kubernetes experiences to offer a holistic security approach that optimizes coverage, cost and agility. Our vendor-neutral services empower Dev, Security and Ops teams to truly simplify and strengthen security.

Kubernetes Security Challenges



DATA SHEET



The CloudDefense Difference

EXPERTISE:

We have been intimately involved with Kubernetes' ecosystem and security from its early days. Our team of certified experts in Kubernetes and Cloud security comes from reputed technology companies such as Cisco, Citrix, Palo Alto Networks and Oracle, where they led and contributed code to commercial and open source cloud and security projects, and authored a leading book on cloud security.

HOLISTIC SECURITY:

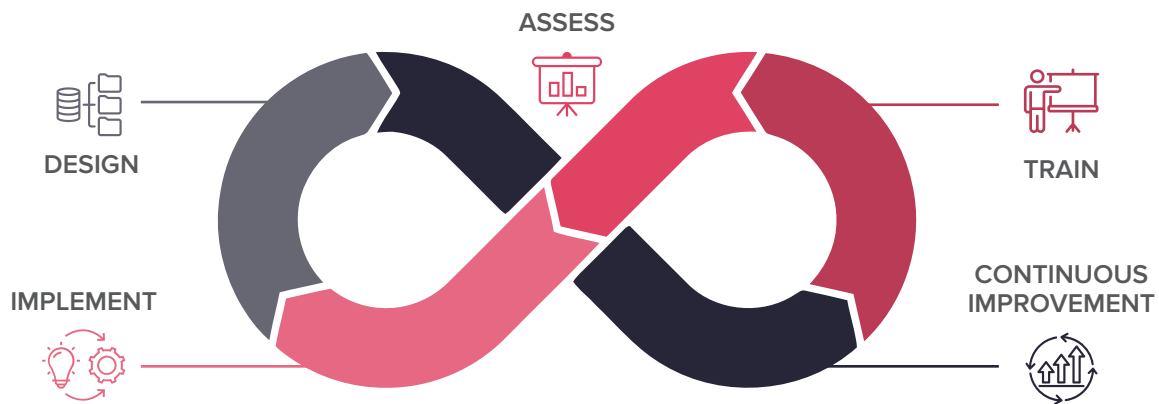
Our team has experience in securing a variety of Kubernetes deployment architectures - cloud, or on-premise, via upstream, packaged, or managed Kubernetes - and application types. We approach Kubernetes security, not just as a silo by itself, but more holistically, in conjunction with related areas such as Cloud infrastructure security and DevSecOps to deliver optimized security protection, without compromising agility.

TRUSTED PARTNER:

We leverage our research and real-world production experiences to help clients cut through the marketing fog. Based on your industry and target security architecture, we provide independent recommendations for the most appropriate open and closed source tools and technologies. Through our expertise, neutrality and dedicated focus, we strive to be your go-to security advisor and trusted partner.



Engagement Model



Kubernetes Security: Example Services

1. NETWORK VISIBILITY AND POLICY CONTROL

Monitor and control app-level communications between ephemeral containers/pods, as well as with external systems. Learn dependencies, protect databases, and enable compliance capabilities

2. IDENTITY MANAGEMENT AND ACCESS CONTROL

Integrate Kubernetes with existing enterprise Identity management systems. Deploy Role Based Access Controls with principles of least privileges which is key to limiting the blast radius in the event of compromised credentials

3. ENCRYPTION AT REST AND IN-MOTION

Encrypt Secrets by default, and for large datasets, deploy advanced encryption with performance, scale and key management. Ensure enterprise-grade encryption for all internal and external cluster communications

4. RUN-TIME SECURITY

Continuously scan for anomalies in the behavior of pods versus their baseline behavior model. Leverage Kubernetes Pod Security Profiles and scheduling/ placement algorithms to shrink pod attack surface at runtime.

5. IMAGE SECURITY AND TRUST

Image security involves automated vulnerability scanning of container images, and securely storing images in an access-controlled repository. Mandatory multi-party signing of an image before allowing it to run in production, boosts trust in the image

6. SECURING ADJACENT SYSTEMS

The security of kubernetes clusters is intricately linked to adjacent systems:

1. CI/CD pipeline to cluster
2. Centralized Logging and Monitoring
3. Service Mesh
4. Public and Private Cloud infra

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We were guided every step of the way by CloudDefense's Kubernetes expertise, starting from an in-depth assessment and workshop to design and deployment”

CISO,
Global Service Provider

CloudDefense Services



DEVSECOPS



KUBERNETES SECURITY



CLOUD SECURITY



About CloudDefense:

CloudDefense brings together world-class expertise and focused products to simplify and strengthen security for private, public and hybrid clouds. The company was founded by industry experts who have successfully led open-source and proprietary cloud and security projects, and authored a leading book on cloud security. We have helped organizations, ranging from young startups to service providers and Fortune 500 enterprises, securely adopt Cloud, DevOps and Micro-services while lowering cost and complexity.

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