

OISG - Kubernetes & Security



A person is seen from behind, working on a laptop. The background is blurred, creating a bokeh effect with blue and purple lights. The laptop screen shows some text, possibly related to Kubernetes or security.

Arc
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Who Is Arctiq?

DevOps Consulting

- Providing technology services for Open Source Software
- Consulting / implementation / automation
- Enablement workshops
- Ongoing support
- Spread across Canada

Focused on the Community

- Active in the meetup community
- Blogs, fireside chats, events
- Joint solution development with ecosystem partners
- Contributing to OSS projects

Containers & Kubernetes



Container Security - The Good

- Microservices
- Pods need to run on a platform that you can lock down
- Security updates and patches are easier to roll out
- limited open ports

Container Security - The Bad

- So many Microservices
- Complexity
- Visibility

Container Platform Security

Platform Security - DO

- Choose a k8s distribution that is secure like Openshift & OKD
- Control access to the nodes, SSH should be off
- Limit access to resources to stop DOS
- On-boarding process to get services into the cluster
- Have a tooling cluster
- Invest in some security tooling, monitor and alert on security violations

Platform Security - DON'T

- Presume the platform includes all security
- Permit privileged access instead of educating users
- Allow unverified images to run
- Run without a PodSecurityPolicy

Container Development Security

Development Security - DO

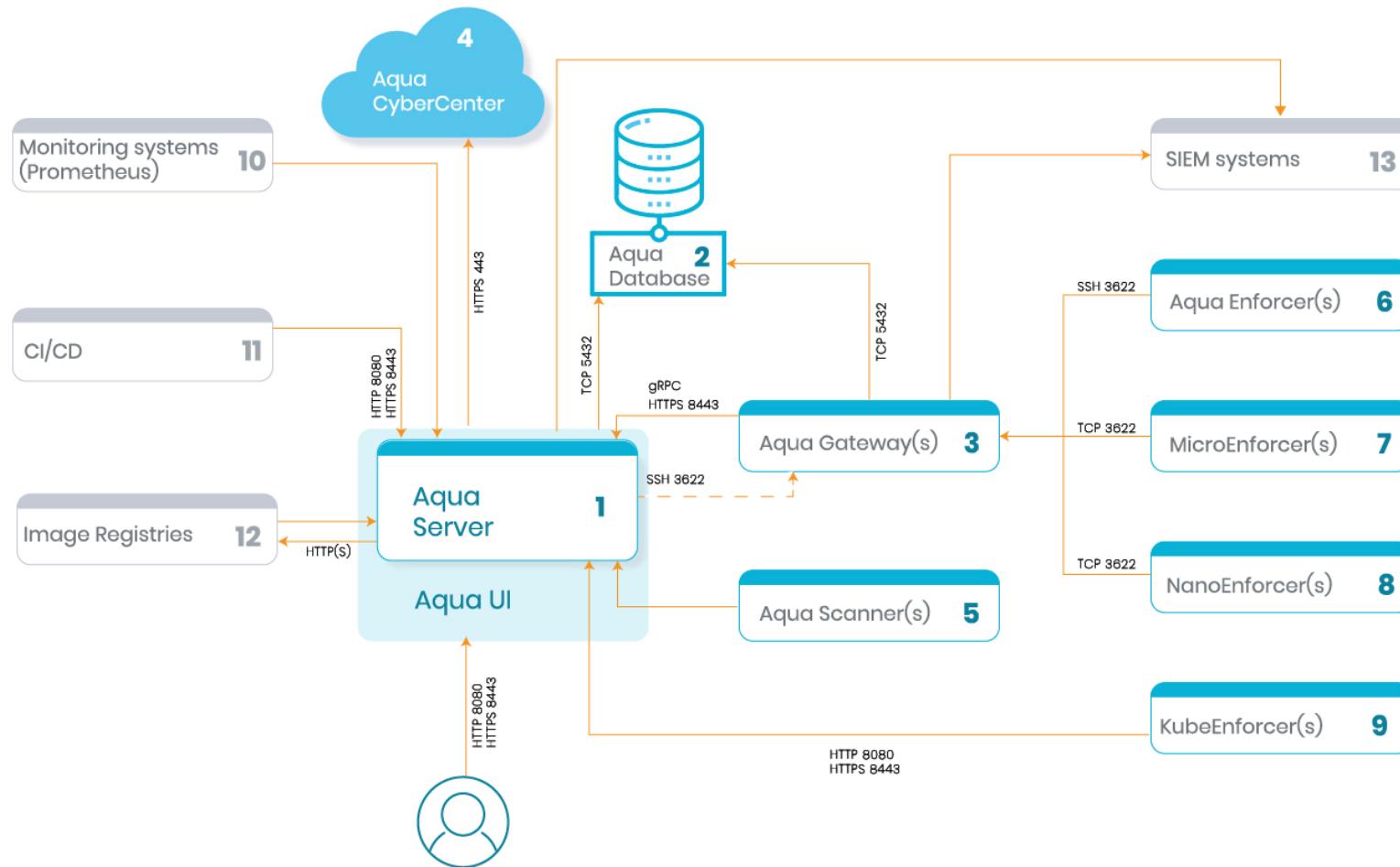
- Use a base image
 - Many community or vendor provided images aren't in alignment with best practices
- Relax security to learn, but tighten to deploy
- Use local tools and automation to pre-scan images
- Document and automate security related configurations
- Share & socialize security related learnings

Development Security - DON'T

- Ask for, or expect, security exceptions
- Assume the new technology will ~~get by~~ old security policies
- Create custom images for every new app or build
- Run apps as or containers as root
- Run multiple applications in a container

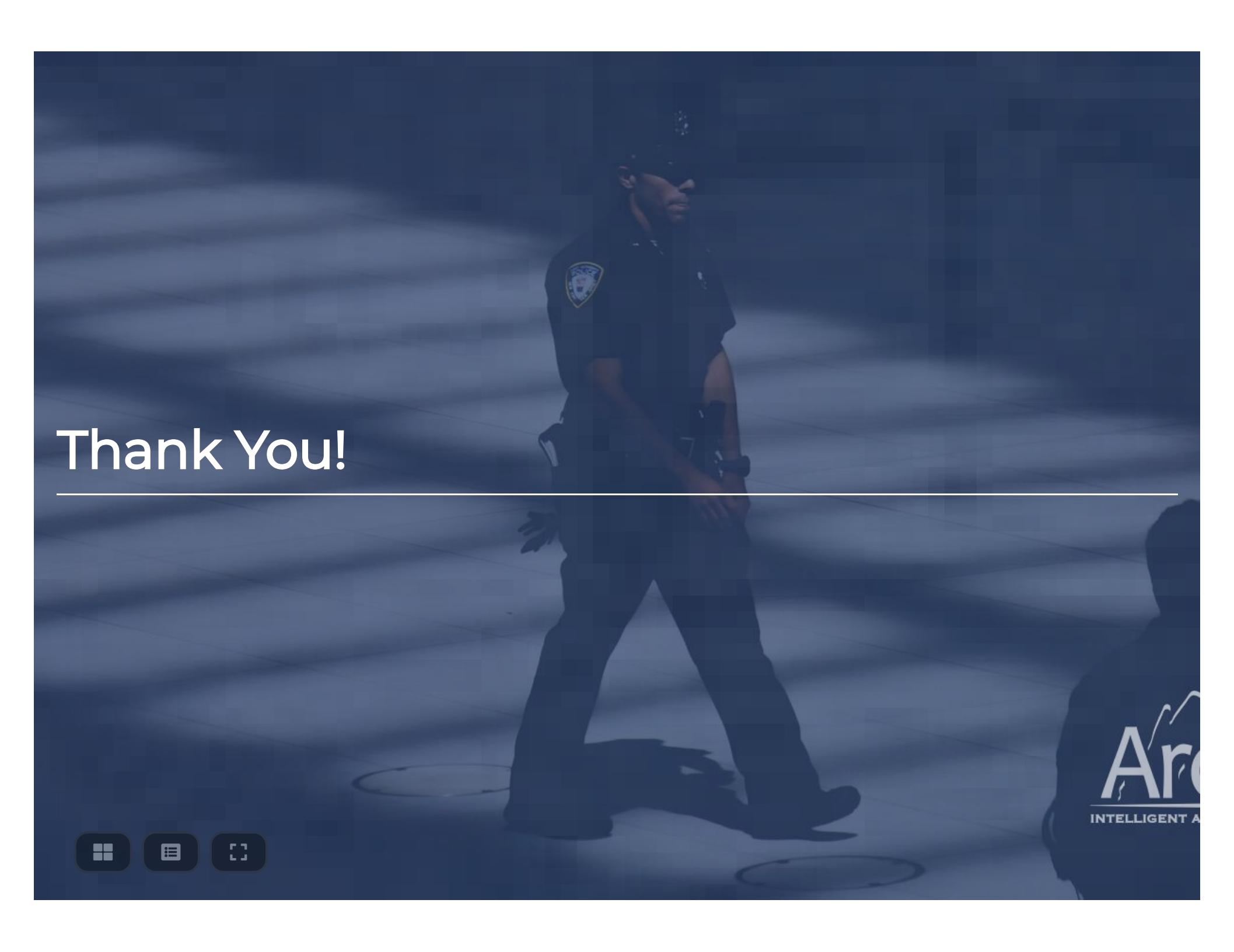
Demo

Aquasec Architecture



Free Resources

- Kube-Scan - Scan your workloads and get a risk score ::
<https://github.com/octarnesec/kube-scan>
- Kube Bench - Checks nodes against CIS k8s benchmark ::
<https://github.com/aquasecurity/kube-bench>
- Kubeaudit - Audit various parts of k8s cluster, provides some fixes :: <https://github.com/Shopify>
- Kube-hunter - Looks for known security issues ::
<https://github.com/aquasecurity/kube-hunter>



A police officer in uniform stands in a dark, modern interior space with a curved ceiling. The officer is positioned in the center-left of the frame, facing right. The background features a large, illuminated circular light fixture on the floor and a curved ceiling with recessed lighting. The overall atmosphere is professional and dramatic.

Thank You!



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