

Edge/IoT/5G Security

AccuKnox Introduction for Akraino community



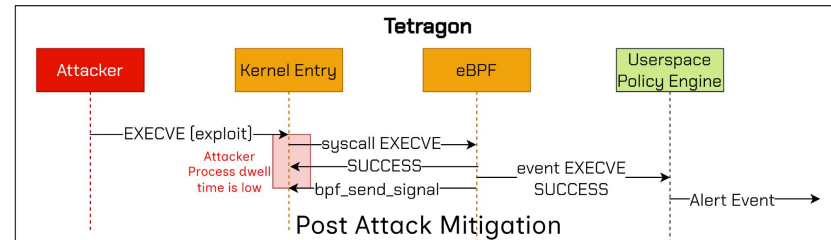
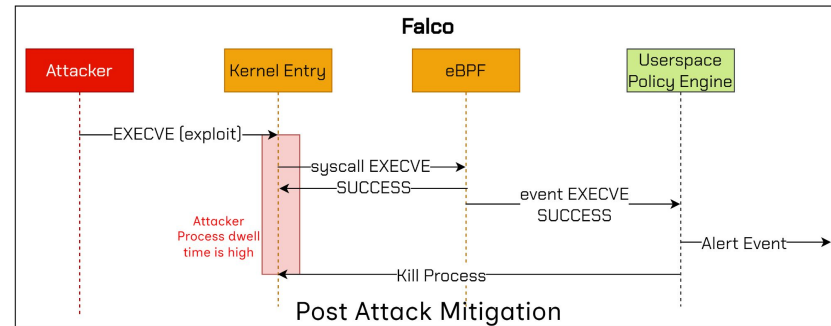
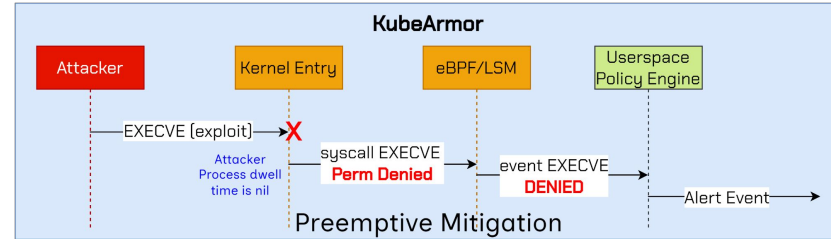
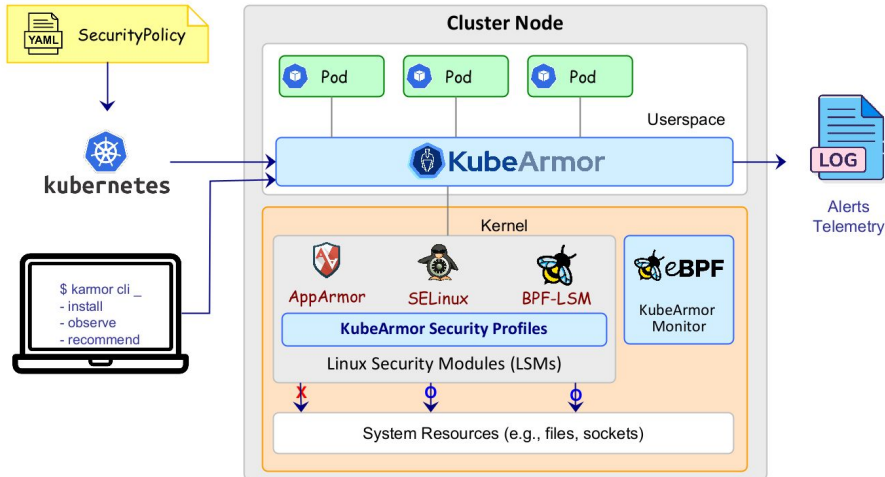
Briefly about AccuKnox

- Zero Trust Enterprise CNAPP
- Lead maintainer for CNCF Project [KubeArmor](#)
 - First preemptive mitigation solution leveraging BPF-LSM
 - KubeArmor/k8tls
 - Check TLS/Certs best practices
 - FIPS 140-3, NIST 800-52 best practices compliance
- Member of [SE-RAN](#)
 - NSF-DOD project
- TSC Member & SIG-Security Chair for LFN Nephio
- TSC member for LF Edge Open Horizon



Briefly about KubeArmor

- Leverages LSMs
 - (BPF-LSM, AppArmor, SELinux) for workload hardening
- Preemptive Mitigation

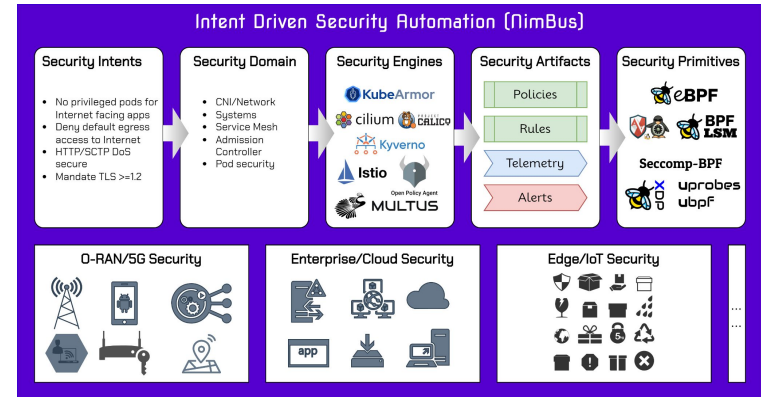
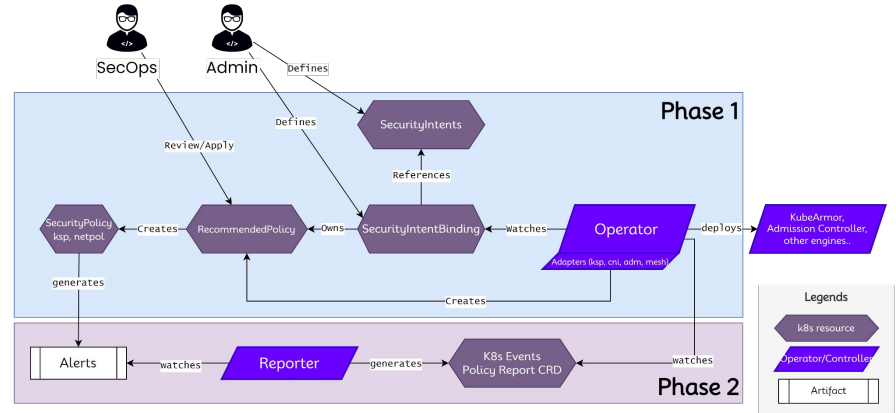


Our work with Nephio Community

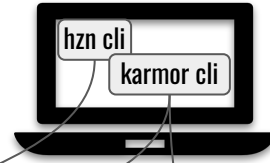
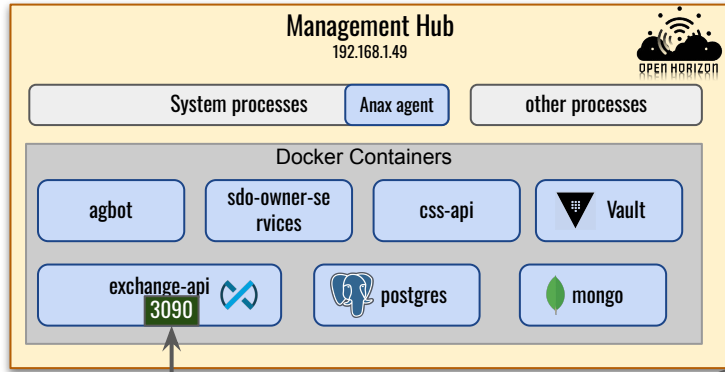
- Executing SIG-Security charter with the community
- Currently working with Nephio O-RAN WG
 - Identity Provisioning for Nephio Workload Clusters
 - Identity provisioning for SMO/O-Cloud entities
- Security deliverables for Nephio R3 release

Nimbus: Intent Driven Security Automation

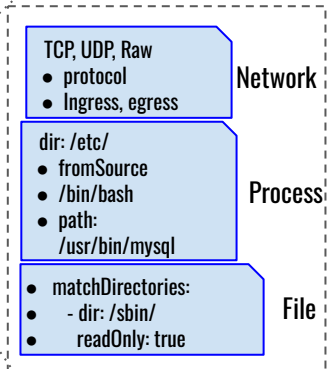
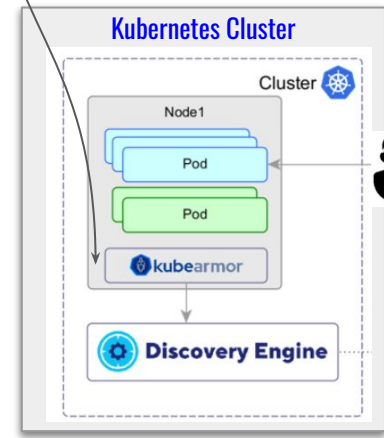
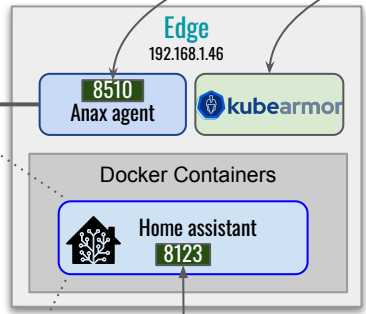
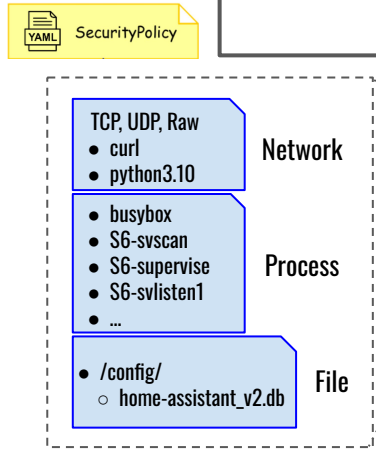
- User specifies the security intent and the k8s operator figures out the best implementation method available given the deployment
- [Security Intents store](#)
- [Nimbus k8s operator](#)



Our work with LF Edge Open Horizon

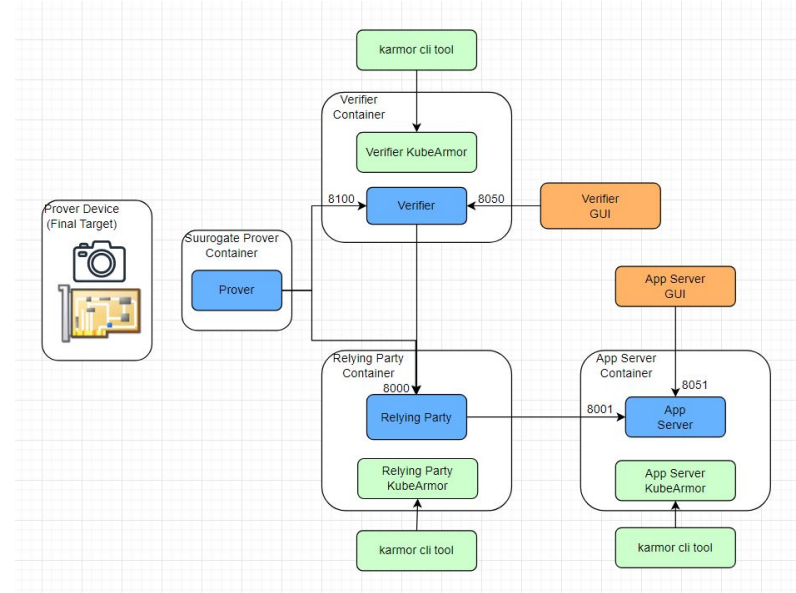


- ✓ App Behaviour Visibility & Network Graph
- ✓ Workload Hardening based on Standard best practices
- ✓ Zero Trust Least Permissive Posture



5G-SBP

- Demonstrate 5G SBP Use Case
 - Remote Attestation Use Case
 - IoT Device Security and Authn, where SEDIMENT RA Verifier and Relying Party are containerized and deployed with KubeArmor providing visibility and protection policies.



Summary & Questions

- Why are we here?
- Any other similar efforts in LF Edge/Akraino in security?
- Community testbed efforts?

References

- NSF & DOD
 - 5gsec.com
 - [5G Security Award to AccuKnox](#)
 - Projects
 - [Nimbus](#)
 - [Security Blueprints/Intents store](#)
- LF Edge Open Horizon
 - [Integration details, service integration](#)
 - Runtime Security [Demo details](#)
- [5G SBP work](#)

 KubeArmor K8TLS CLOUD NATIVE
SANDBOX MITRE | FiGHT™ intel
SMART
EDGE