

FIWARE
**Global
Summit**

**From Data
to Value**

OPEN SOURCE
OPEN STANDARDS
OPEN COMMUNITY

Deployment of IAM Components

Recipes for Kubernetes

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Vienna, Austria

12-13 June, 2023

#FIWARESummit



Requirements

- expected load and load-behaviour
 - is growth expected?
 - stable load vs. high/low scenarios
- availability requirements, acceptable downtimes
- latency(per service or through the chain)
- security and privacy
 - encryption at rest or in transition
 - access control
 - GDPR requirements
- costs – how much can we pay for the system?

Why Kubernetes

- standardized abstraction layer and orchestration tool
- support for automated configuration and deployment
- built-in mechanisms to fulfill scale and availability requirements
- broad support for operational tooling, especially:
 - logging
 - monitoring
 - alerting

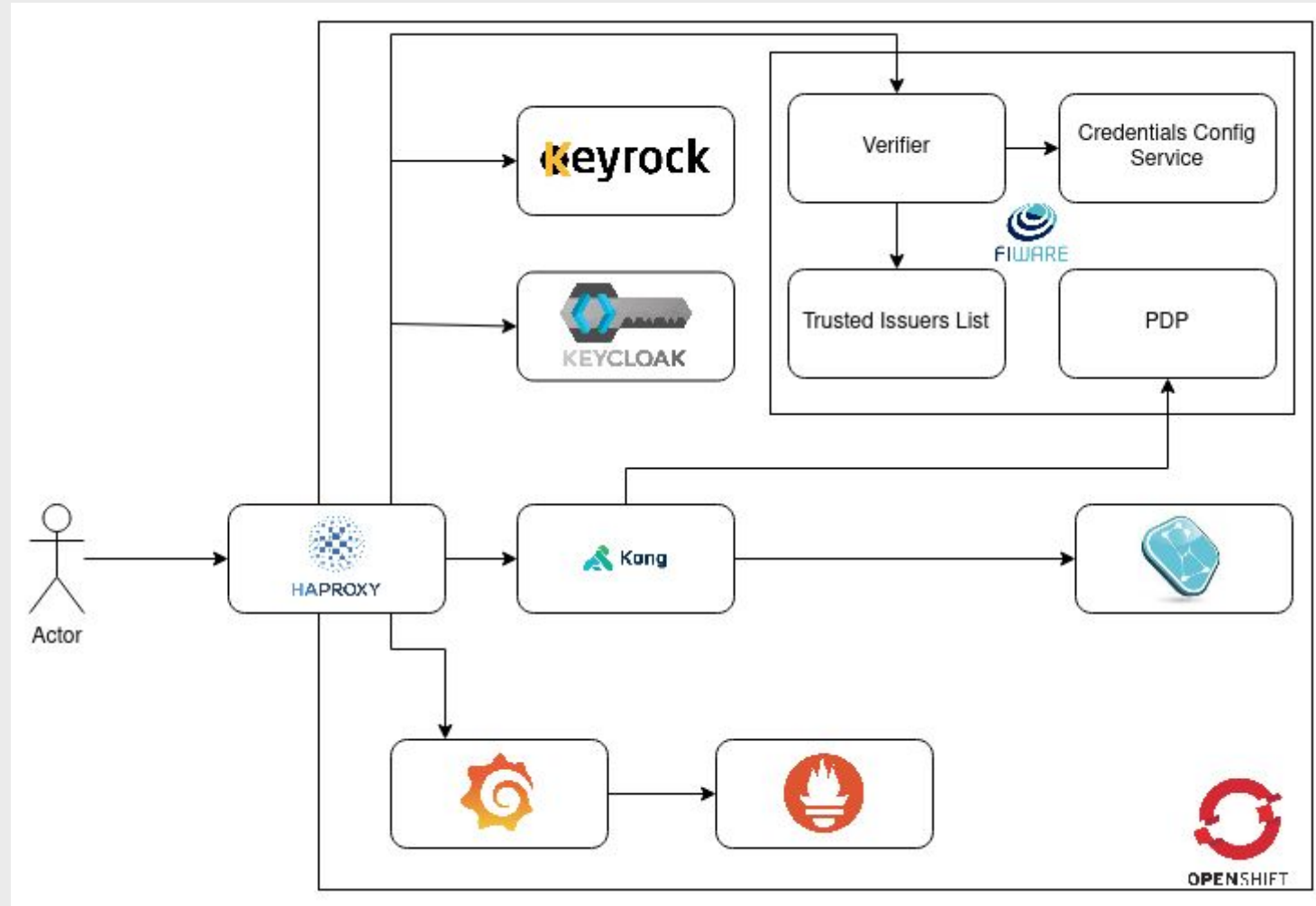
Standardized abstraction layer

- allows us to use the same recipes in different environments
 - Helm-Charts: [FIWARE/helm-charts](https://charts.firmware.io/helm-charts)
 - production-grade recipes for multiple components available
- reuse of already existing, maintained charts, f.e.:
 - Keycloak: <https://charts.bitnami.com/bitnami/keycloak>
 - Kong: <https://charts.konghq.com/kong>
- available on different infrastructure:
 - managed Kubernetes on various Cloud-Providers like AWS
 - self-managed installation On-Premise
 - packaged distributions, f.e. RedHat OpenShift

Automated Configuration

- [Helm](#) or [Kustomize](#) for configuring deployments
- [Operators](#) to automate updates/scaling/etc.
- [GitOps](#) tooling for managing deployments, f.e.:
 - [ArgoCD](#)
 - [Flux](#)

Overview



Operational Tooling

- Ingress – HAProxy as provided by OpenShift
- Logging – [ECK-Operator](#)
- Monitoring
 - Prometheus – [Helm Chart](#) and [FIWARE example](#)
 - Grafana – [Helm Chart](#) and [FIWARE example](#)

- API-Gateway as the central entryptpoint
- can act as PEP -> get decisions from Keyrock/Keycloak/DSBA-PDP...
- provide PDP functionality to enable i4Trust integration
 - [Kong in the i4Trust tutorials](#)

Keycloak

- Identity Management Service
 - provides OIDC integration
 - can act as issuer in VC scenarios
- PDP functionality through Authorization Services
- Keycloak as [Helm Chart](#)
- [Demo installation in FIWARE](#)

- Identity Management Service
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Verifiable Credentials

- Multiple services required:
 - [Verifier](#) to handle verification of Credentials
 - [PDP](#) to decide on requests
 - [Trusted Issuers List](#) to provide information about the credential issuers
 - [Credentials Config Service](#) to provide information about services and their credentials

Demo environment: [DSBA-compliant Data Space based on FIWARE components](#)

The slides: <https://github.com/wistefan/presentations>



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