mojaloop
foundation

PI-23 Review

Support for On-Premises: Progress Assessment

Jan 2024
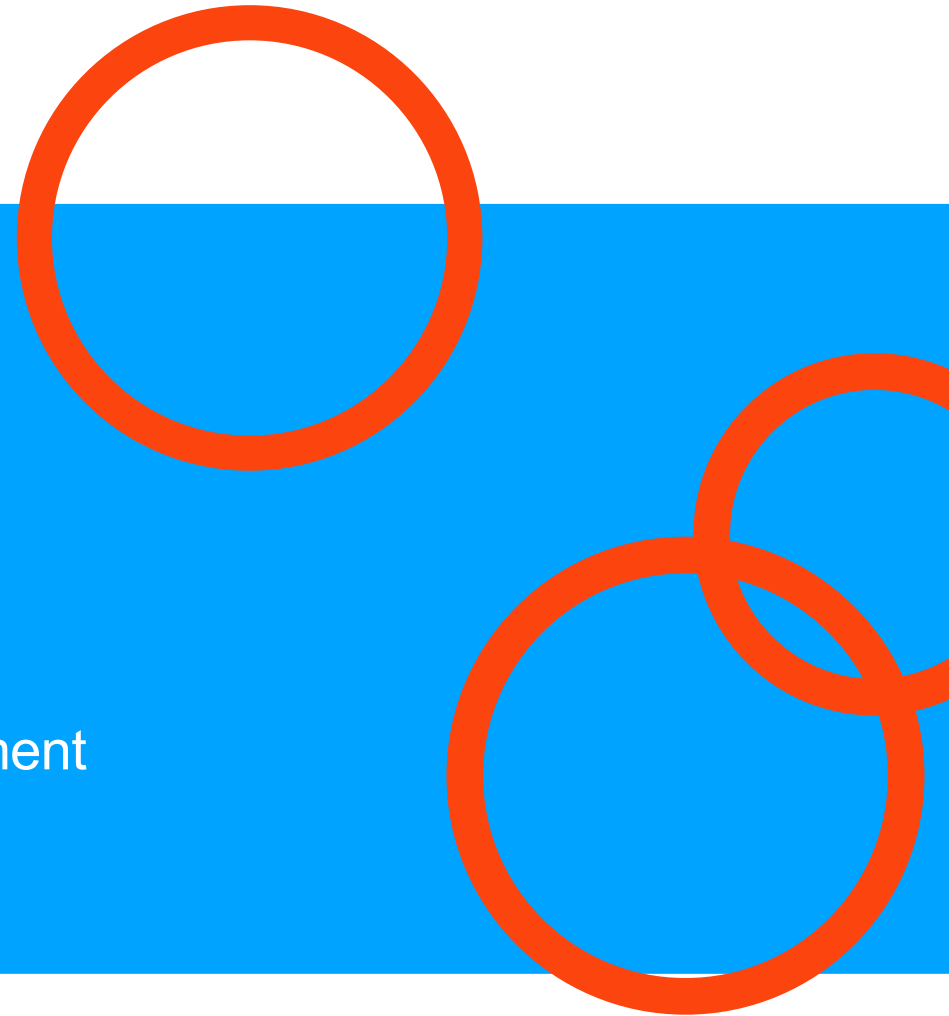
Workstream Update

Workstream Name:	Support for On-Prem
Roadmap Pillar:	Pillar 1: Make adoption easier
Lead:	James Bush
Workstream Objectives:	Design and Build Infrastructure as Code (IaC) in order to provide an reproducible and automated manner to provision the infrastructure and application layers of a Mojaloop switch running on Kubernetes, on bare metal, that includes security elements supporting mTLS, JWS, and OAuth.
Progress Against Objectives:	1. Bare metal Mojaloop installation supported (with some caveats) 2. Documentation created and being iterated
Anticipated Progress by PI End:	A full, production quality Mojaloop deployed via IaC on a bare metal cluster with no external dependencies. Stretch goal: Performance characterisation against various node spec levels
Roadblocks:	Resource limitations: Committed resources from community and adopters
Support Needed:	Short term: Terraform, Ansible, Kubernetes expertise, "willing to learn" engineers Longer term: Critical thought from adopter teams, architecture assistance from data center domain experts

Workstream History

For reasons of efficiency, cost minimisation and convenience, much of the Mojaloop software development and testing process has been performed in public cloud infrastructure targeting cloud-native architecture.

Current and upcoming Mojaloop operating environments require private data centre infrastructure.

Efforts continue to optimise the Mojaloop deployment and maintenance processes for private data centre scenarios.

Workstream Objectives

To make the process of deploying and maintaining Mojaloop switch software in private data centres reliable, quick, easy and cheap.

- Enable starting small to minimise initial capex but with cheap unit cost to add capacity as traffic grows
- No license fee technology in the tool set
- Facilitate "carrier grade" security, reliability and resilience
- Support well known, tried and tested infrastructure patterns

On Premises Workstream PI-23 Highlights

- Secure OS layer (Kairos immutable Linux) tests ongoing:

  - Adopter testing in progress (kairos + HELM install)

- Self-serve IaC install documentation produced and being iterated

  - Passed to adopter for testing

- On-Premises monitoring stack added

  - Cluster and application metrics and health

  - Default dashboards

- Istio gateway replacing WSO2 done (Keycloak and Ory stack IAM)

- Outstanding work item to eliminate last few remaining control centre AWS dependencies

  - Enables air-gapped on-premise deployment

  - Contributions needed to complete

On Prem Workstream Update

Next steps:

- Remove last remaining AWS dependencies from IaC control centre
- Continue to iterate installation and maintenance documentation
- Continue to support in-progress deployment in Rwanda

Reach out to participate

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