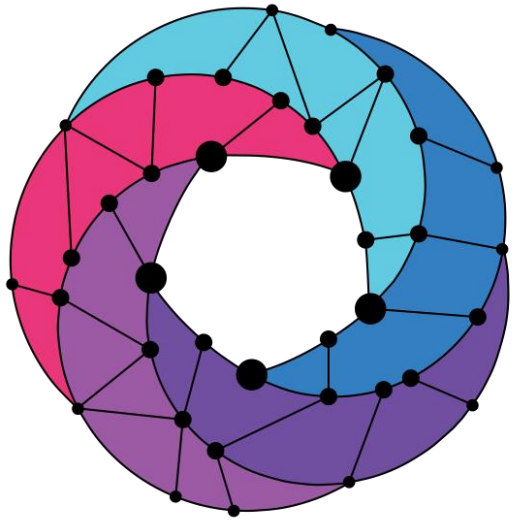


Open Source
MANO

TE-OSM – Carrier Grade Orchestrator

G. Prabhunath (Tata Elxsi)

© ETSI 2019

ETSI

Agenda

- OSM Services and its Classification
- Deployment Architecture
- Components, Features and Services of TE-OSM
- Production Process

© ETSI 2019

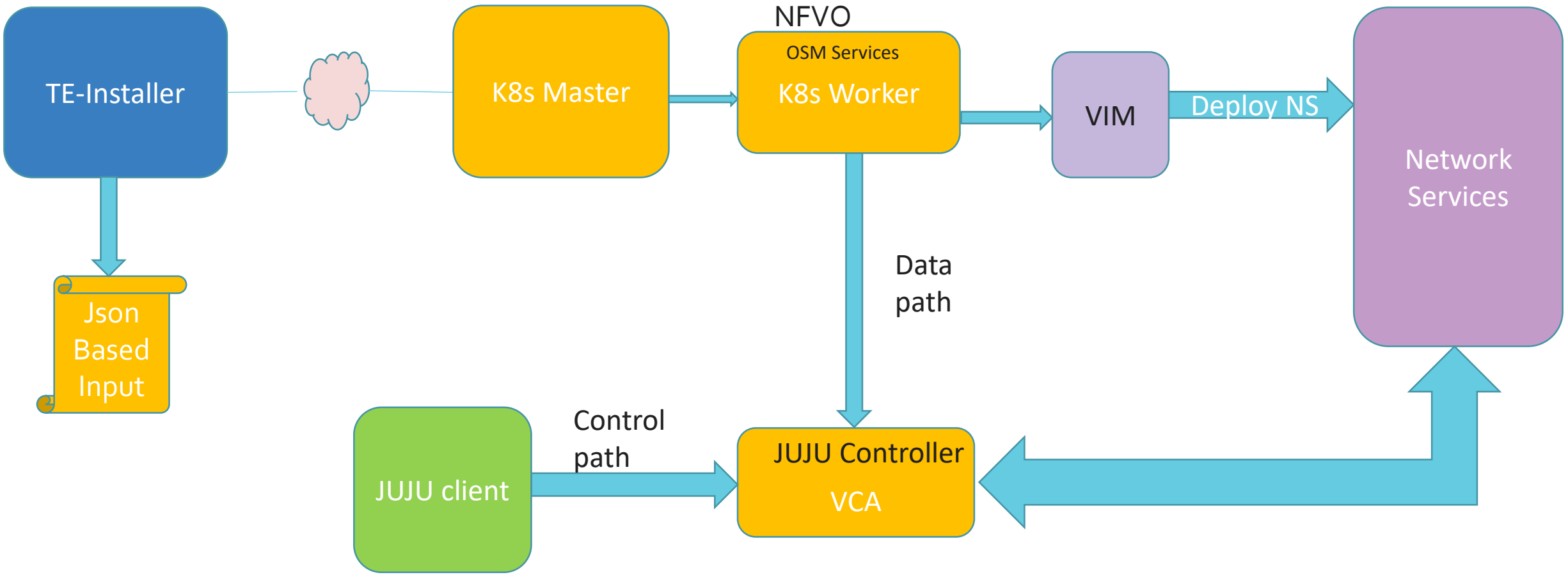
Classification of OSM Services

- Stateless OSM services
  - Light-UI
  - NBI
  - LCM
  - RO
  - MON
  - POL
  - KEYSTONE

- Stateful OSM Services
  - mongo
  - MySQL
  - Prometheus
  - Kafka
  - ZooKeeper

© ETSI 2019

TE-OSM – Deployment Architecture



© ETSI 2019

TE-OSM

- Components
  - Front-end App
  - K8s Master
  - K8s Slave
  - VCA

- Carrier Grade Services
  - HA of OSM Services
  - HA of DataBases
  - Geo Redundancy
  - Rollback
  - Security
  - Modern UI

- Features
  - Auto Scaling
  - Self-Healing
  - Rolling Update
  - Rollback

© ETSI 2019

General Security Strategy

Docker Security Configurations

- Host Configuration
- Docker Daemon Configuration
- Container Images and Build file
- Container Runtime

Kubernetes Security Configurations

- Master Node Security Configuration
- Worker Node Security Configuration

Ubuntu (18.04) Security Configurations

- File System Configuration
- Services Configuration
- Network Configuration
- Logging and Auditing
- Access, Authentication and Authorization
- System Level Configuration

Ubuntu (18.04) Security Configurations

- SELinux Configuration
- Applying GRSecurity Kernel Patches
- VM/Host Level Firewall (iptables)

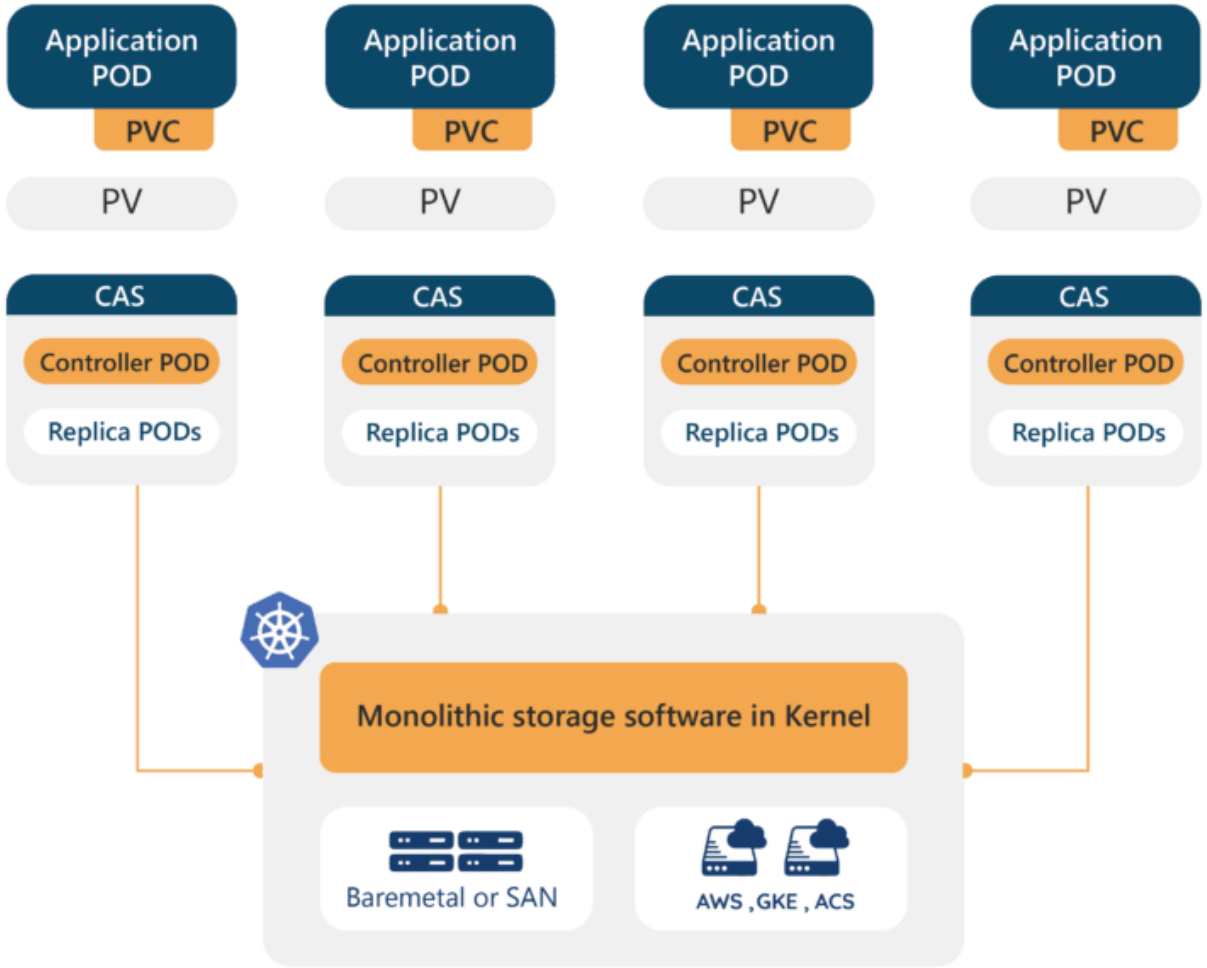
MongoDB Security Configurations

- Operation System Hardening
- Secured Installation
- Authentication
- Access Control
- Auditing and Logging
- File System Permissions
- Data Encryption
- Backup and Disaster recovery

MySQL Security Configurations

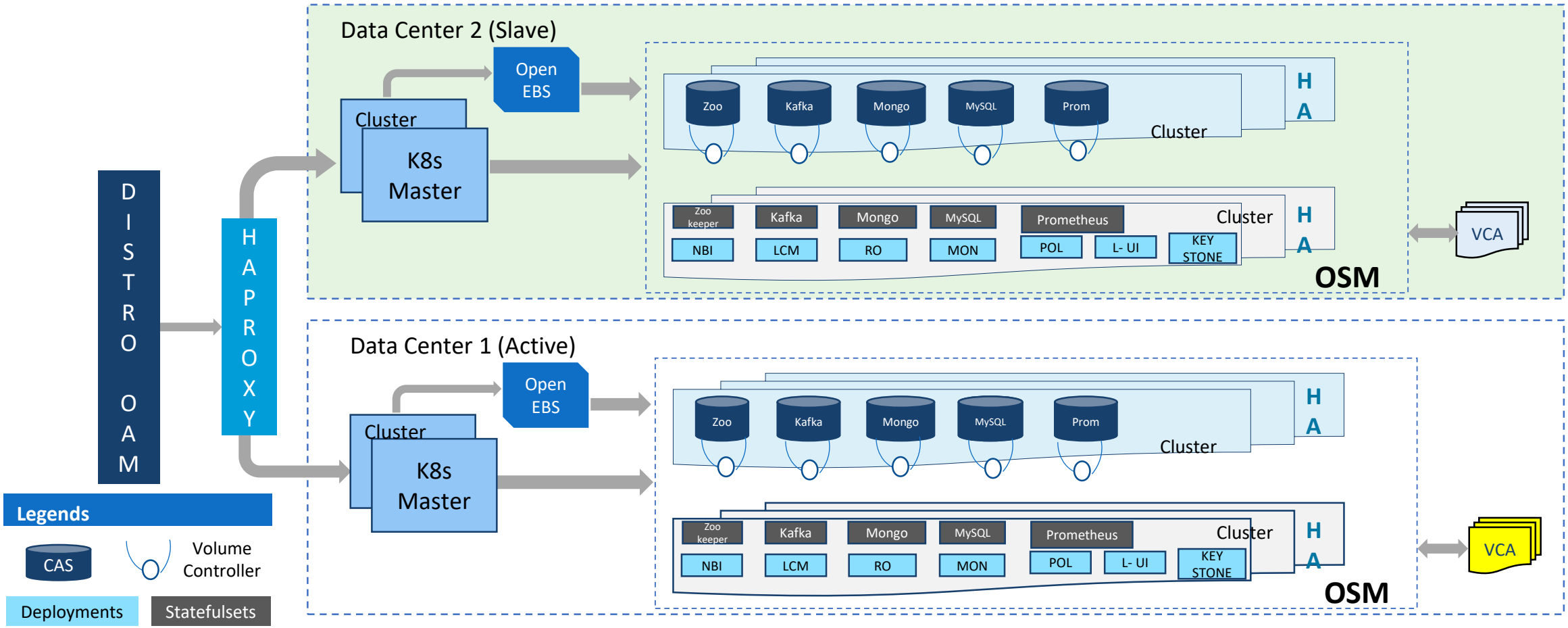
- Operation System Hardening
- Secured Installation
- Authentication
- Access Control
- Auditing and Logging
- File System Permissions
- MySQL Permissions
- Replication
- Backup and Disaster recovery

openEBS - Architecture



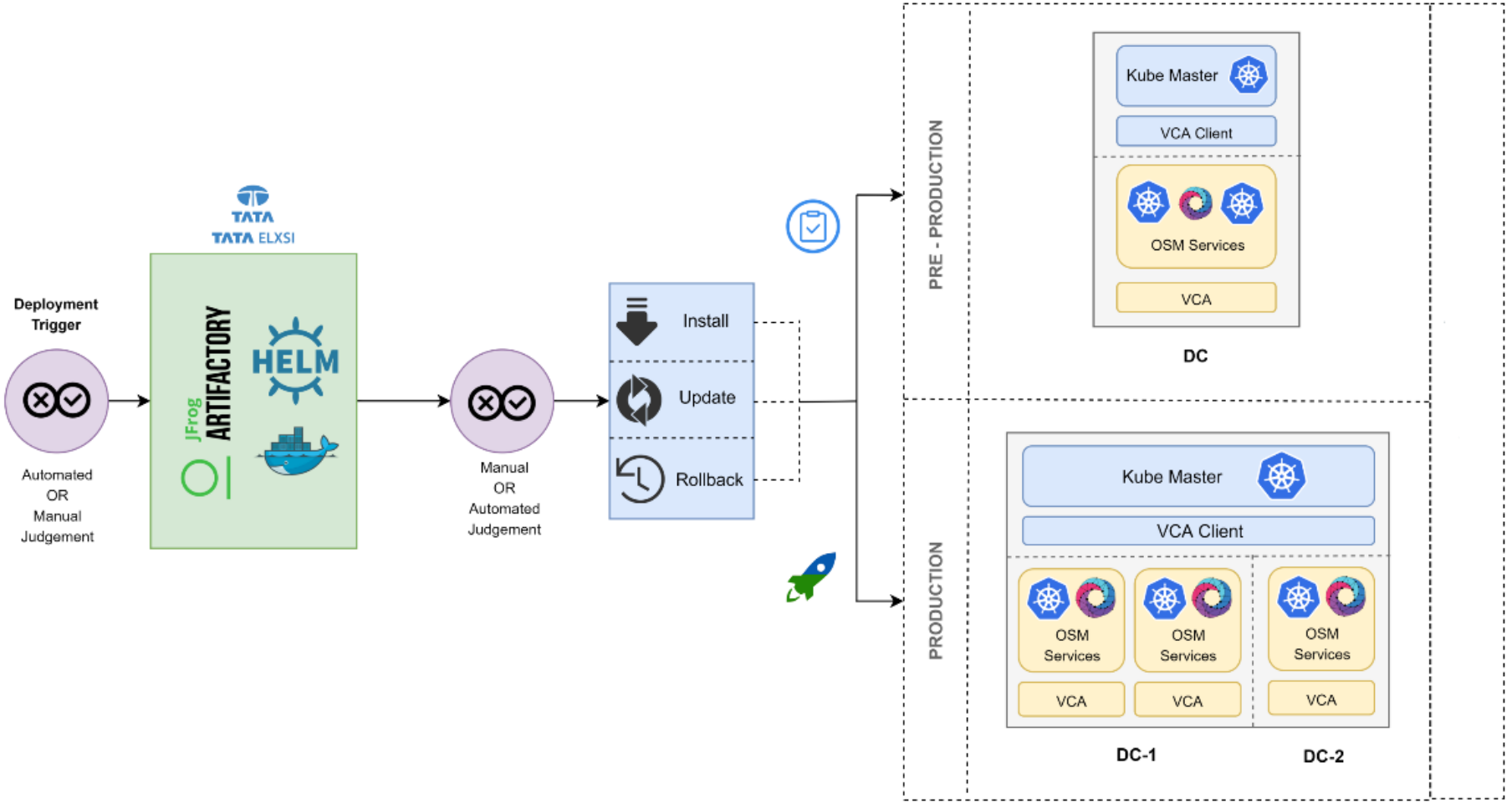
© ETSI 2019

TE-OSM – DataCenter Deployment



© ETSI 2019

Continuous Delivery



© ETSI 2019

Open Source MANO

THANKS

© ETSI 2019