Open Source MANO

TE-OSM — Carrier Grade Orchestrator
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Agenda

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

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

• Stateful OSM Services
  • mongo
  • MySQL
  • Prometheus
  • Kafka
  • ZooKeeper
TE-OSM – Deployment Architecture

- TE-Installer
- K8s Master
- NFVO
- OSM Services
- K8s Worker
- VIM
- Deploy NS
- Network Services
- JUJU Controller
- VCA
- JUJU client
- Control path
- Data path

Json Based Input
TE-OSM

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

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

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

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

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

Ubuntu (18.04) Security Configurations
- SELinux Configuration
- Applying GRSecurity Kernel Patches
- VM/Host Level Firewall (iptables)

MySQL Security Configurations
- Operation System Hardening
- Secured Installation
- Authentication
- Access Control
- Auditing and Logging
- File System Permissions
- Data Encryption
- Backup and Disaster recovery
openEBS - Architecture

Application POD
PVC
PV
CAS
Controller POD
Replica PODs

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Replica PODs

Monolithic storage software in Kernel

Baremetal or SAN
AWS, GKE, ACS
TE-OSM – DataCenter Deployment

Data Center 1 (Active)

Data Center 2 (Slave)

Clusters

Open EBS

K8s Master

Legend:

- CAS
- Volume Controller
- Deployments
- Statefulsets
Continuous Delivery
THANKS