LF
NETWORKING
LFN Developer & Testing Forum

LF NETWORKING

LFN Developer & Testing Forum

EMCO: Orchestration of Magma 5GC/LTE

Rajendra P Mishra (rpmishra@aarnanetworks.com)
Yogendra Pal (yogendra@aarnanetworks.com)
13th Jan 2022

Aarna Networks, Inc

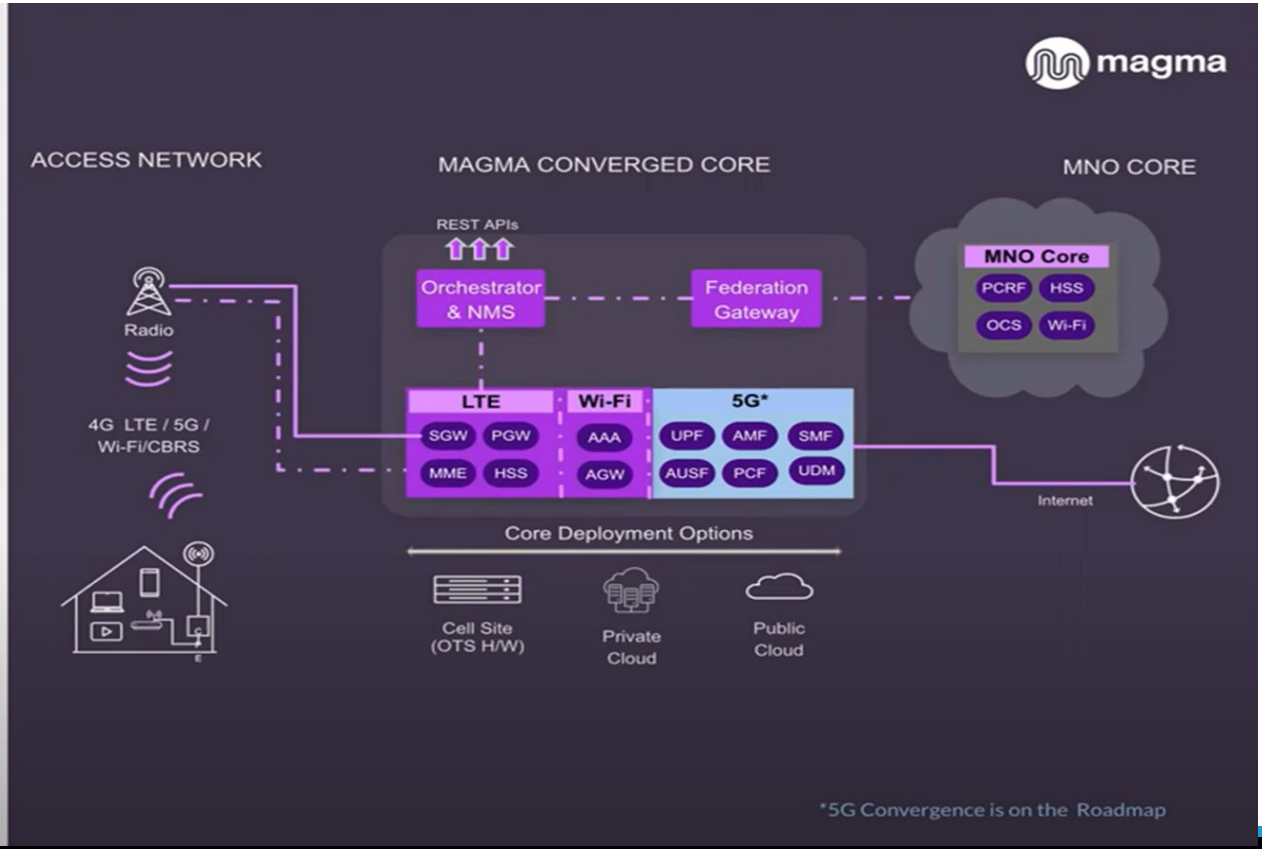
Agenda

- Brief of MAGMA
- Brief on components (EMCO, CDS etc.)
- High level view of Setup
- Demo
  - Orchestration of Magma components
  - Automation
    - Register/Unregister Magma AGW using CDS (CBA)
- Q&A

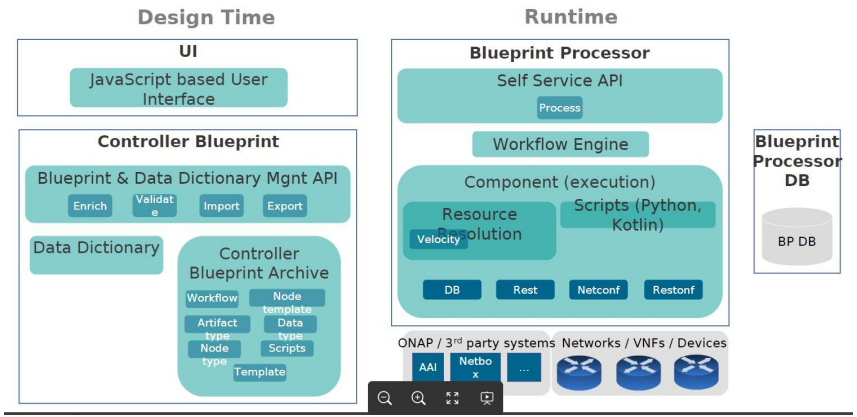
What is Magma ?

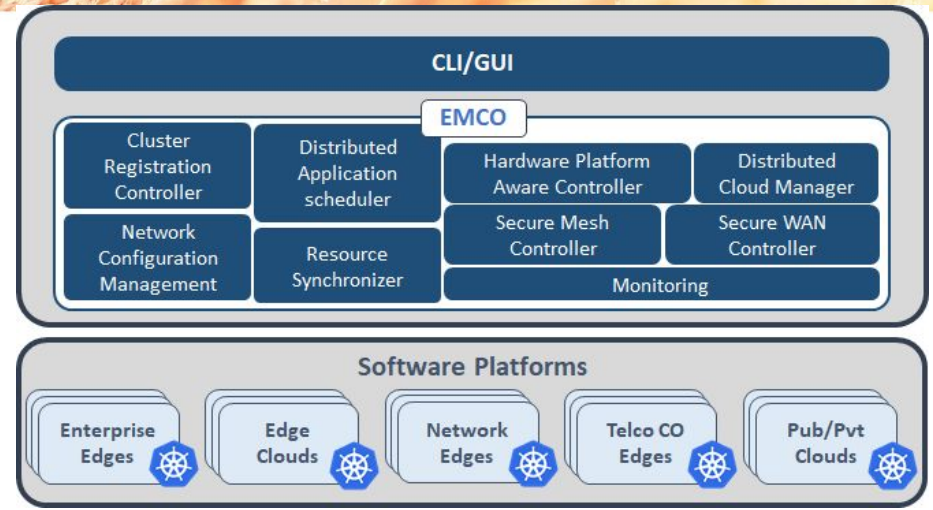
Introducing Magma

- Hyper Scalable & Distributed Core
- Highly Available
- Open Source with Permissive Licensing
- Cloud Native, CUPS, Containerized
- Vendor / Transport Agnostic
- Local Break-out for Internet Traffic
- MNO Core Integration
- Remote Configuration & Lifecycle Management using REST APIs
- "All access" Convergence
  - LTE, Wi-Fi, P-LTE, 5G

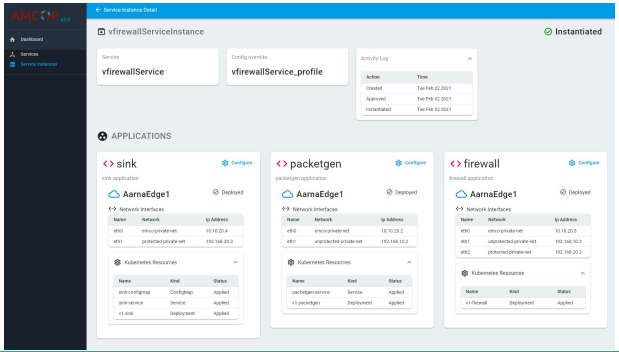


Components Used



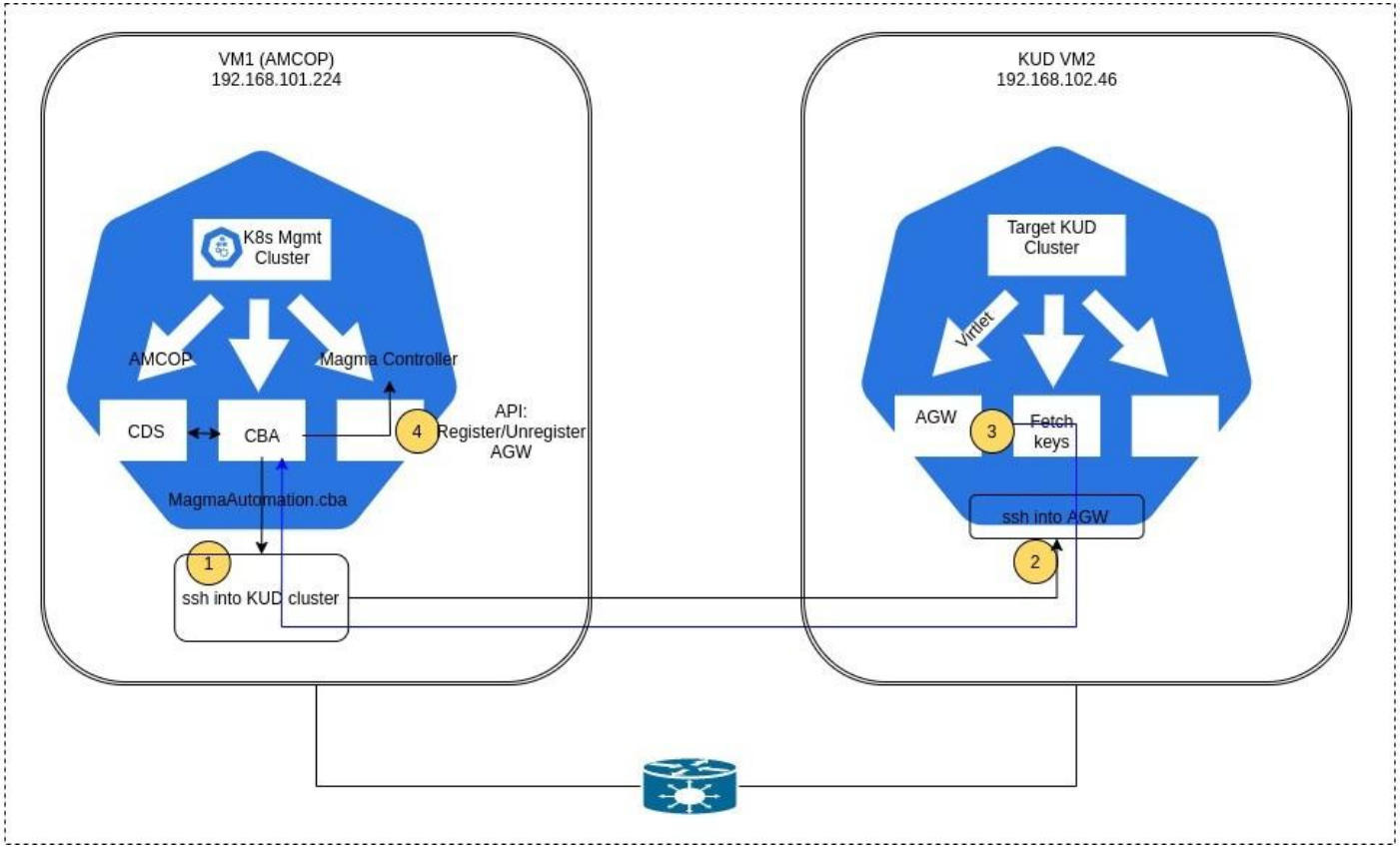


- EMCO used for orchestration
- EMCO GUI for the frontend of EMCO
- CDS for DAY *n* configuration



Deployment Setup on Two K8 Clusters

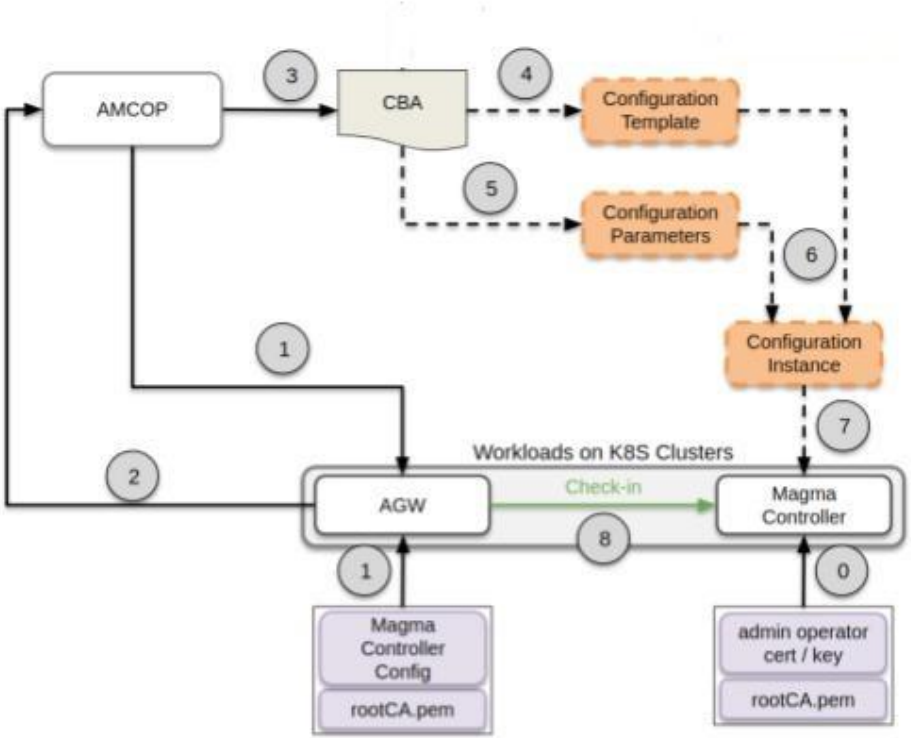
- Two K8 clusters
- K8s Mgmt cluster to deploy EMCO, CDS & Magma Controller
- Target KUD cluster for Magma AGW



Magma AGW Registration / Configuration

0. Create a CBA and provision Magma Controller using AMCOP (EMCO UI) .
1. Provision AGW virtlet with required config and certs
2. Get HW ID and Challenge Key (USING CDS)
3. Trigger CBA
4. Config assign
5. Config deploy
6. Merge of config template and parameters forming AGW registration instance
7. Configure Magma Controller using the Rest Interface
8. Access Gateway Check-in into Magma Controller and initiates bootstrap process.

Connection between Magma Controller and AGW establishes



Demo

- Orchestration of Magma components using EMCO UI
- Automation
  - Register/Unregister Magma AGW using CDS (CBA)

Thank You !!