

Aerial RAN CoLab – OTA K8 Service Management Blueprint

NVIDIA Qualified Service Management Blueprint

ARC-OTA Service Management



ARC k8 Cntrl

loki

Deployment

grafana

Deployment

promtail

Deployment

Prometheus

Deployment

Service ARC UDM

UDM

Deployment

Service ARC AMF

AMF

Deployment

Service ARC AUSF

AUS

Deployment

Service ARC IMS

IMS

Deployment

Service ARC PCF

PCF

Deployment

Service ARC UPF

UPF

Deployment

Service ARC UDM

UDM

Deployment

Service ARC Perf

Perf

Deployment

Deployment ARC 5GC : Helm: ARC 5GC

RRC-1

PDCP-1

RLC-1

MAC-1

cuBB

Container oai-gnb-aerial

Containernv-cuBB

Deployment ARC gNB : Helm: skywave-service-orchestration

ARC-OTA provides Kubernetes for container orchestration. Both single node and multi-node deployment topologies are supported. ARC-OTA uses helm to manage applications

- **Deployment ARC gNB** : The helm chart uses K8 deployment to create pod gNB. The gNB pod contains the containers **nv-cubb** and **oai-gnb-aerial**. Both containers are installed in the same pod to allow the use of shared memory between Layer 1 and Layer 2+. This **helm chart** is available for download from NGC.
- **Deployment ARC 5GC** : The helm-chart is installed on the CN5G server or same physical server as the gNB. This helm chart creates multiple K8 deployments depicted on left. This helm chart is available for download from the OAI GitLab repository

ARC-OTA Service Monitoring feature uses a combination of Grafana, Loki, Promtail and Prometheus. The feature was developed using open-source industry standard tools and it can be extended to specific developer needs

Reference Sterling developer extension <link XX> for additional details