

OAI in the cloud: NFV modelling, composition and chaining in cloudified 5G systems.

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Abstract:

OpenAirInterface (OAI), <http://www.openairinterface.org> is standard-compliant open source implementation of a subset of Release 10 LTE for eNB, UE, MSS, HSS, SGW and PGW on standard Linux-based computing equipment for both x86 and ARM architectures. It can be used with standard RF laboratory equipment (i.e. USRP, BladeRF, SoDeRa, etc) to allow for real-time interoperation with commercial devices. OpenAirInterface Software Alliance (OSA) furthers OpenAirInterface software for implementing future 3GPP releases towards 5G. The Alliance offers a very rich ecosystem of its community allowing rapid prototyping of 3GPP compliant and non-compliant use cases. OSA has several 5G strategic areas and one of them relates to furthering Cloud-RAN, SDN, NFV research. To that end, we have already implemented Remote Radio Head (RRH) Gateway that connects with eNB via Ethernet and we are also exploring JuJu Charms as a service modelling tool to deploy OAI in cloud environments, for example (OpenStack, etc). The main goal of this presentation is to present overview OpenAirInterface and its integration aspects with JuJu Charms. We believe that leveraging JuJu with OpNFV JOID project can be used to seamlessly deploy OAI in OpNFV environment. In particular, we demonstrate how to build, deploy, provision, and dispose various service topologies for LTE-LTE-A using the OpenAirInterface 5G platform orchestrated by Canonical JuJu framework. Service instances can be efficiently scaled in/out overtime to meet the workload demand.

Blueprint of CRAN NFV Service Template

