
How to Deploy OAI 5g Core Network?

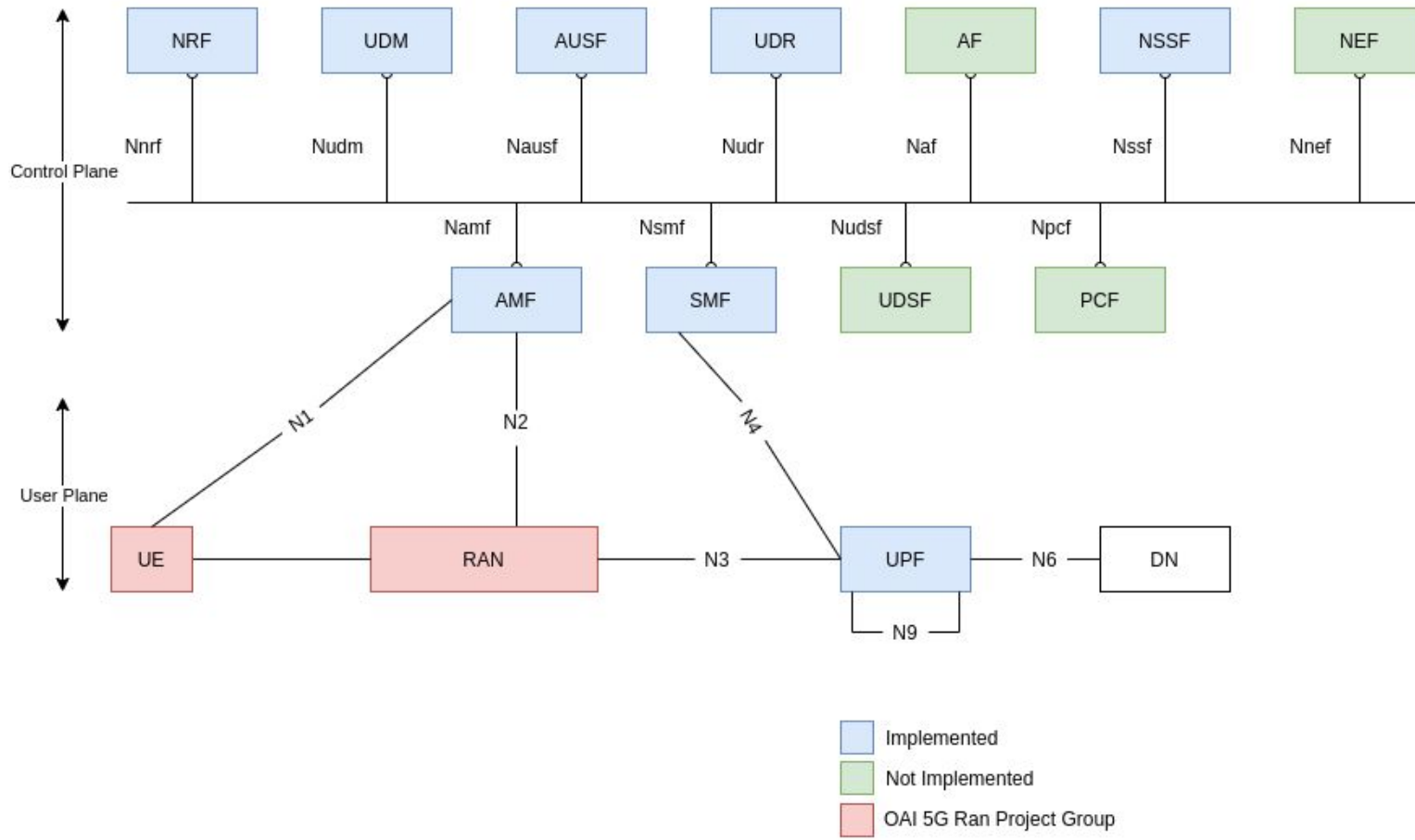


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What Can You Expect From this Lab

1. GitLab directory structure of each core network component
2. How to configure and deploy two different flavours of OAI 5G core network
 - Minimalist Functional Core Network (MFCN) Deployment
 - Basic Functional Core Network (BFCN) Deployment
3. How to configure a new user in the user subscription database
4. Understand if the core network is properly configured
5. Understand the logs of each core network function
6. End to end user attach-detach, PDU session establishment and de-establishment using gNBSIM (simulator)
7. (Bonus) Understand the pcaps of attach-detach and pdu session establishment

OAI 5g Core Network Status



GitLab Directory

[AMF](#)

[SMF](#)

[NRF](#)

UPF - [SPGWU](#) and [VPP-UPE](#)

[AUSF](#)

[UDR](#)

[UDM](#)

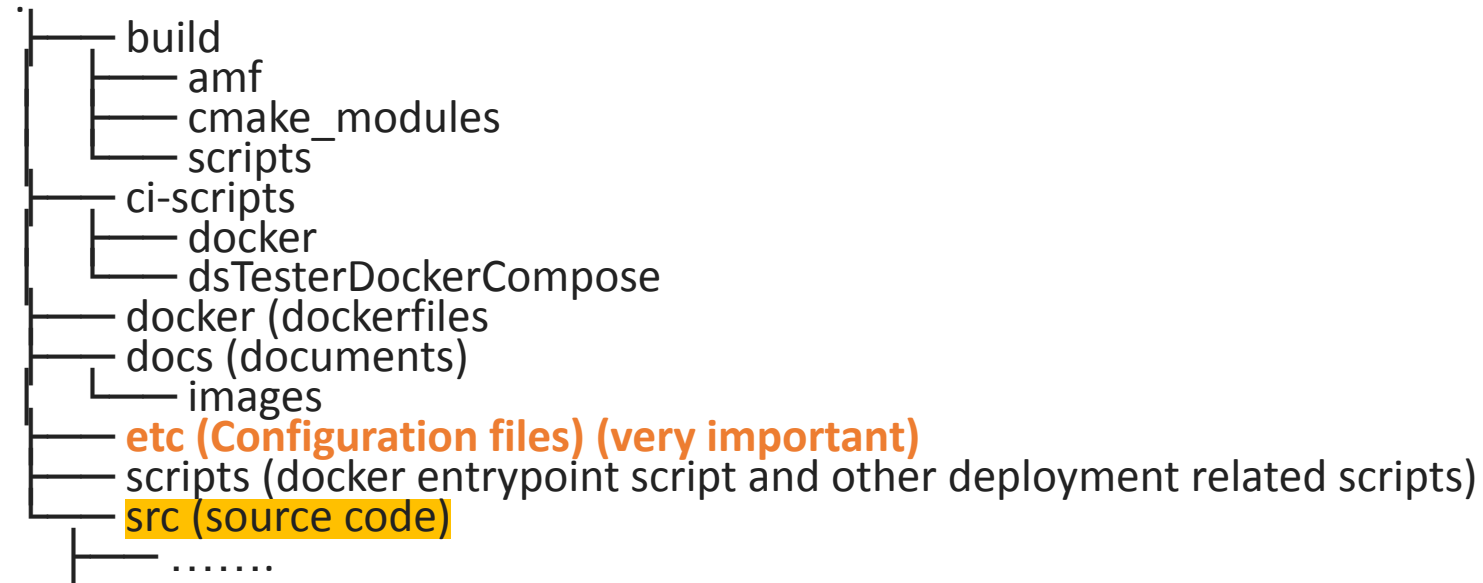
[NSSF](#)

Orchestrators and Operating System Possibilities

- Production grade kubernetes (Openshift), vanilla kubernetes: [helm chart tutorial](#)
- Docker single node deployment using docker-compose : [docker-compose tutorial](#)
- Operating system, Red Hat (UBI8) and Ubuntu 18.04: [Building images tutorial](#) or pull from [docker-hub](#)
 - Develop tag: image is built from develop branch
 - Version tag: image is built from master branch

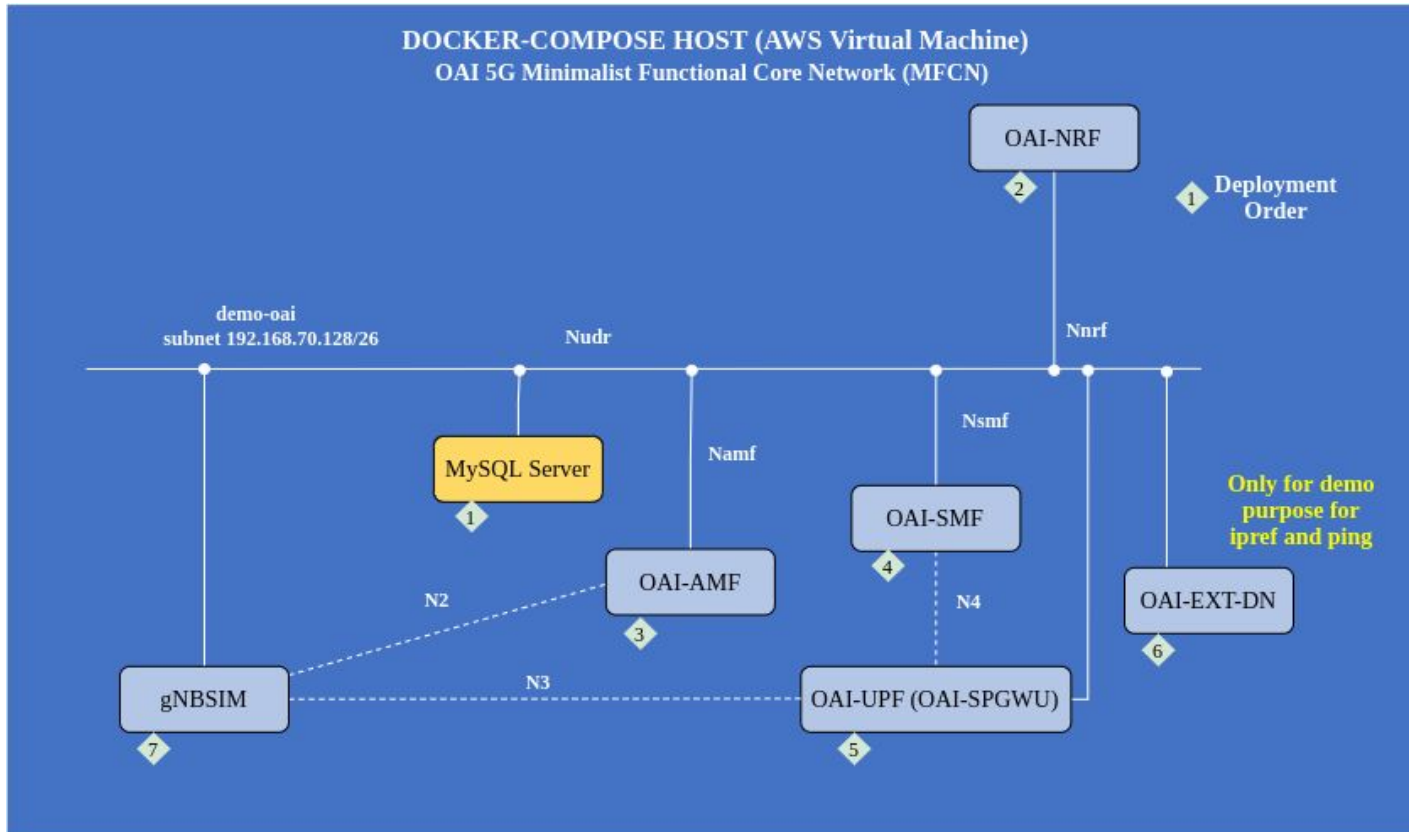
Directory Structure of a Core Network Component

```
$:~/oai/oai-cn5g-amf$ tree -d
```



45 directories

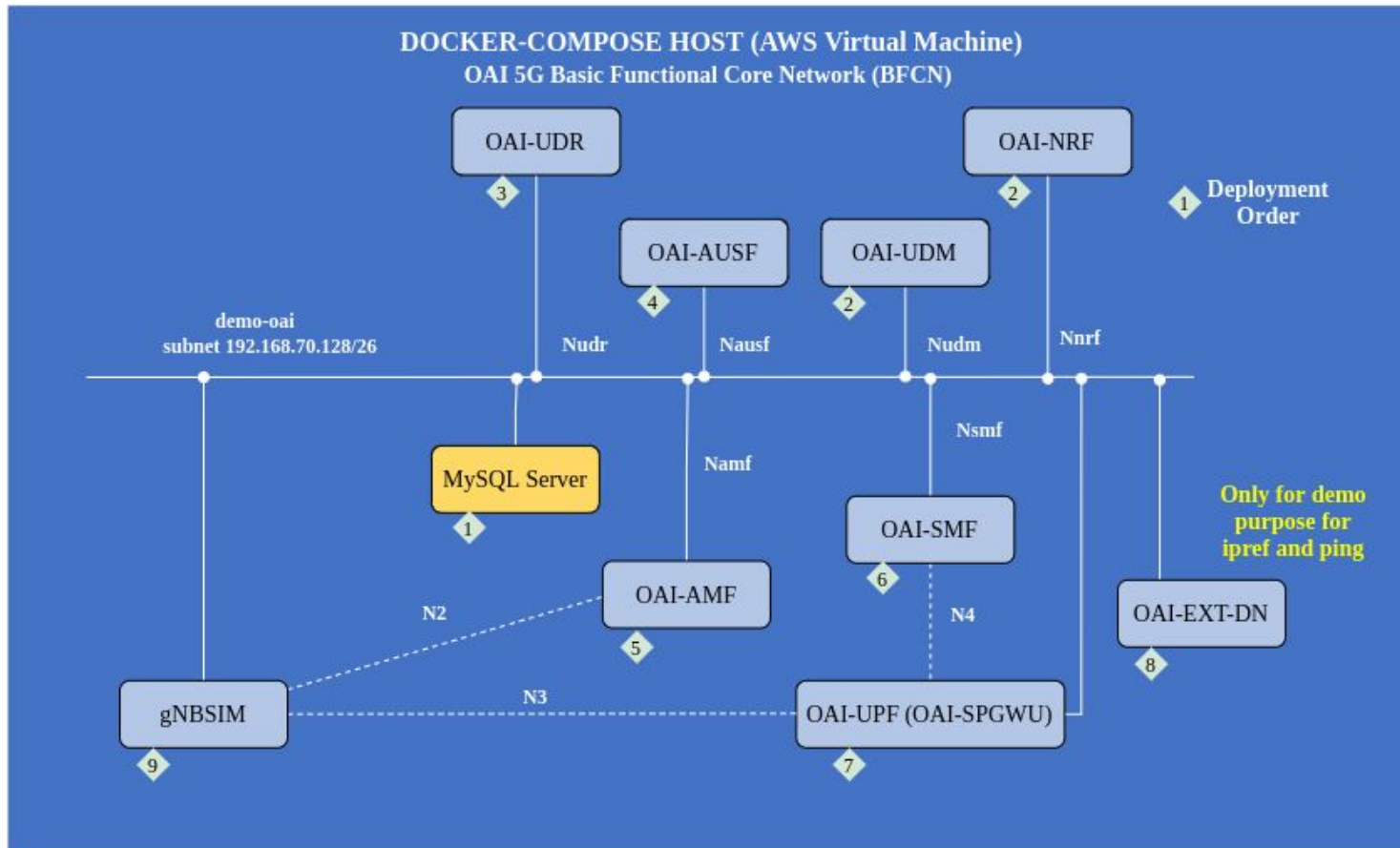
How to Deploy a Mini OAI-5G Core Network



Prerequisite

- You should be familiar docker command
- Login to the virtual machine using the userID and private key provided in the email.
- Read the instruction set provided in the email

How to Deploy a Basic OAI-5G Core Network



Prerequisite

- You should be familiar docker command
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Extra Slides

Cloud-native oriented FQDN/service exposure feature

- In cloud native environment there should not be static ip-addresses but the traditional deployment methods were highly based on static ip-addresses of the component.
- Network functions can consume the services of other network functions using NRF or using FQDN/service name (kubernetes or docker-compose).
- When NRF is used it is possible to provide static ip-address of NRF or FQDN/service name of NRF.
- This feature removes the dependency on static ip-address and increase the availability of a network functions if load balancing can be used.
- Example [configuration of AMF](#)