Outline

Introduction

- Goals and Activities

  - Build light-weight slicing management network functions
    - Independent Micro Services
      - ASP (CSMF+NSMF), RAN-NSSMF, CN-NSSMF, TN-NSSMF
      - BSS (Reference Implementation)
    - Cloud native slicing management network functions
    - Integrate with various open source stacks of RAN and Core Network
    - Adhere to 3GPP latest release 18.x specifications
      - TS 28.531 (version: 18.1)
      - TS 28.541 (version: 18.2)
   - Integrate with open source orchestration stack (EMCO)

Software Components

- Slicing Management Network functions

  – Independent Micro Services

    - ASP (CSMF+NSMF), RAN-NSSMF, CN-NSSMF, TN-NSSMF

    - BSS (Reference Implementation)

- Open Source RAN and Core Network stacks

Network Domain	Open Source stack	Version	License Type
RAN	UERANSIM	3.2.6	GPL
CN	Free5gc	3.2.1	Apache

- Open Source orchestration stack **EMCO**

  – Version 22.09

Architecture and Flow
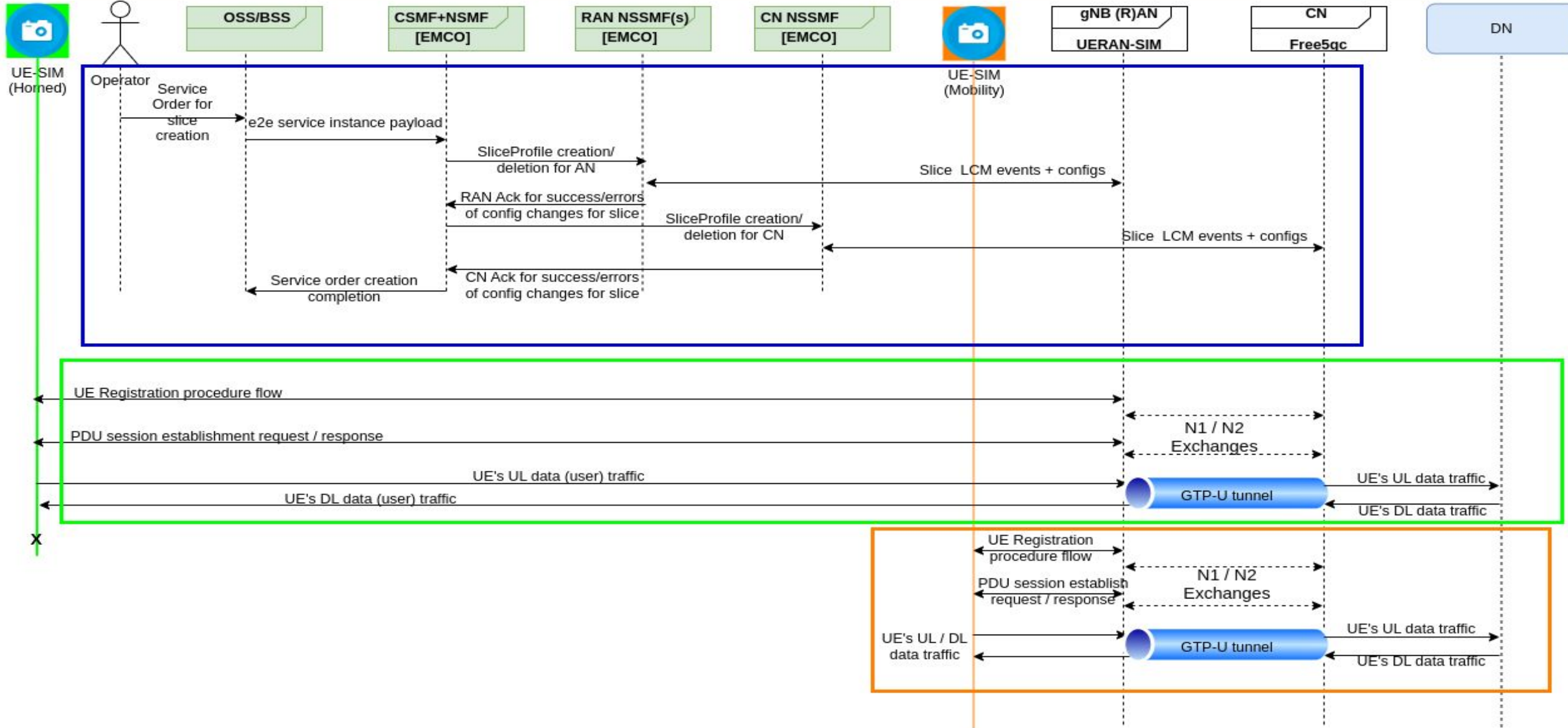
Challenges

- Day-0/N, Configuration change support

  - Free5gc

  - UERANSIM

- Ordering issue of network functions

  - Free5gc vs UERANSIM

- Running separate UE and gNB from UERANSIM

  - For exercising the UE mobility

- Edge Selection

  - Work-in-progress [to identify: correct placement of NF(s) (e.g: UPF and gNB)]

Test Setup & Demo

Network Deployment Architecture and Topology
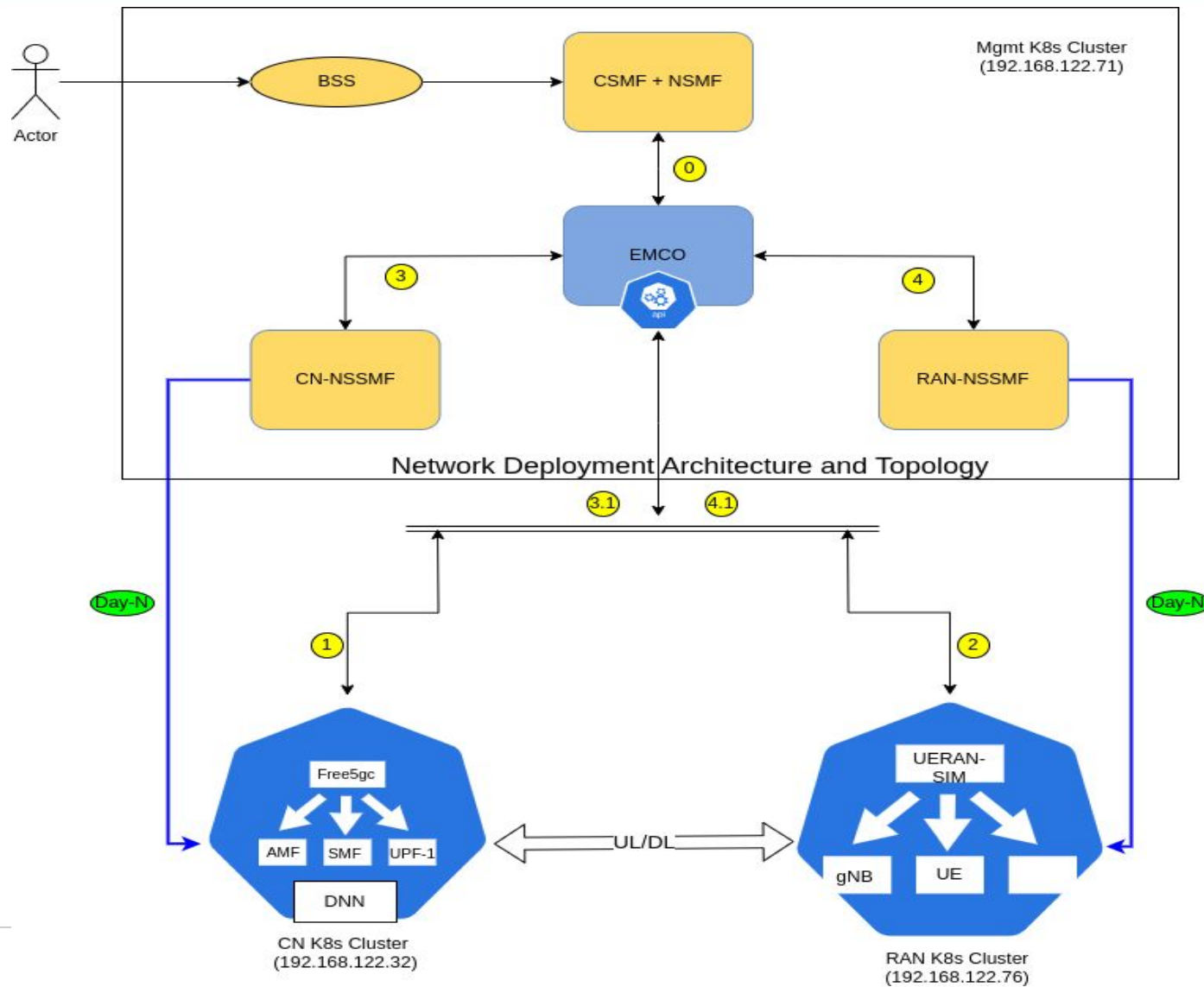
Next Steps...

- Open to integrate with various open source stacks

    - For Core Network

        - SD-CORE

        - OAI

    - For Radio Access Network

        - OAI

        - O-RAN SMO

- Use case: Integrate with Edge Placement and Site selection scenario

    - Open for Interop and Integration with closed stacks

        - Vendors ??

- Use case: Integration with Nephio

Q&A

Thank You!