O-DU High Sprint 4 Demo

Configurations

- For FDD mode
  - ➢ Numerology = 0
  - ➢ Bandwidth = 20 MHz
- MIB and SIB1 transmission.
- single UE

SCHEDULER LIMITATIONS

- Fixed time domain allocation
- Fixed frequency domain allocation
- Link adaptation is not implemented

MIB

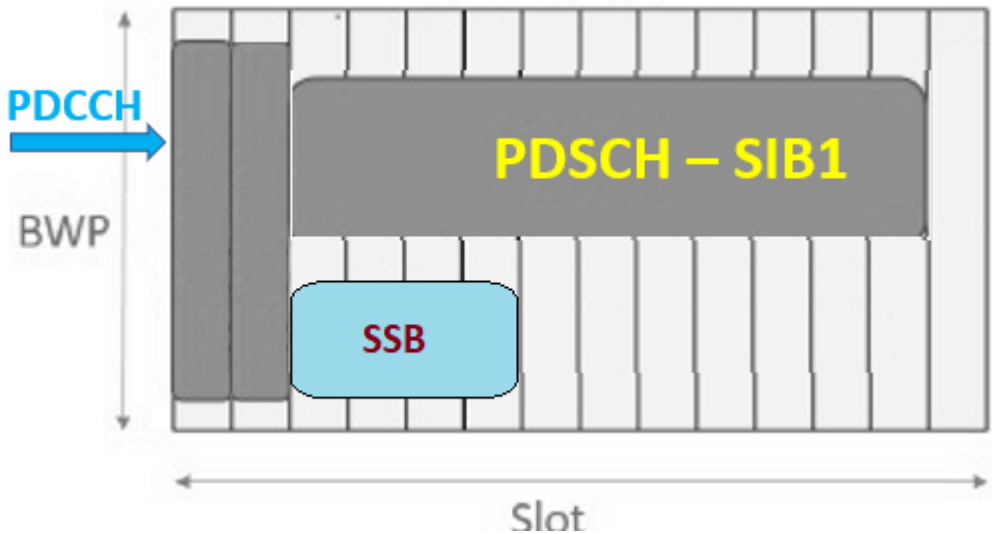
Periodicity:
- New transmission – 80ms
- Repetition – configured to **5**,10,20,40,80ms

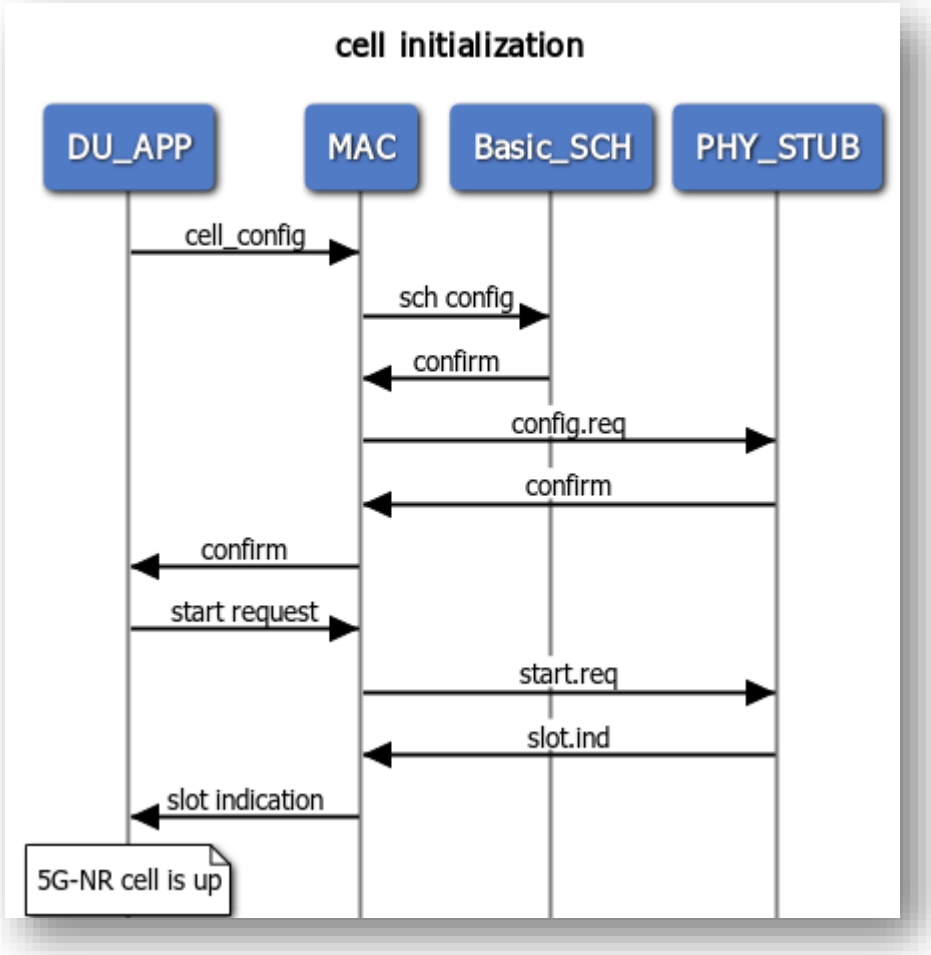
MIB contents:
- systemFrameNumber
- subCarrierSpacingCommon
- ssb-SubcarrierOffset
- dmrs-TypeA-Position
- pdcch-ConfigSIB1
- cellBarred
- intraFreqReselection

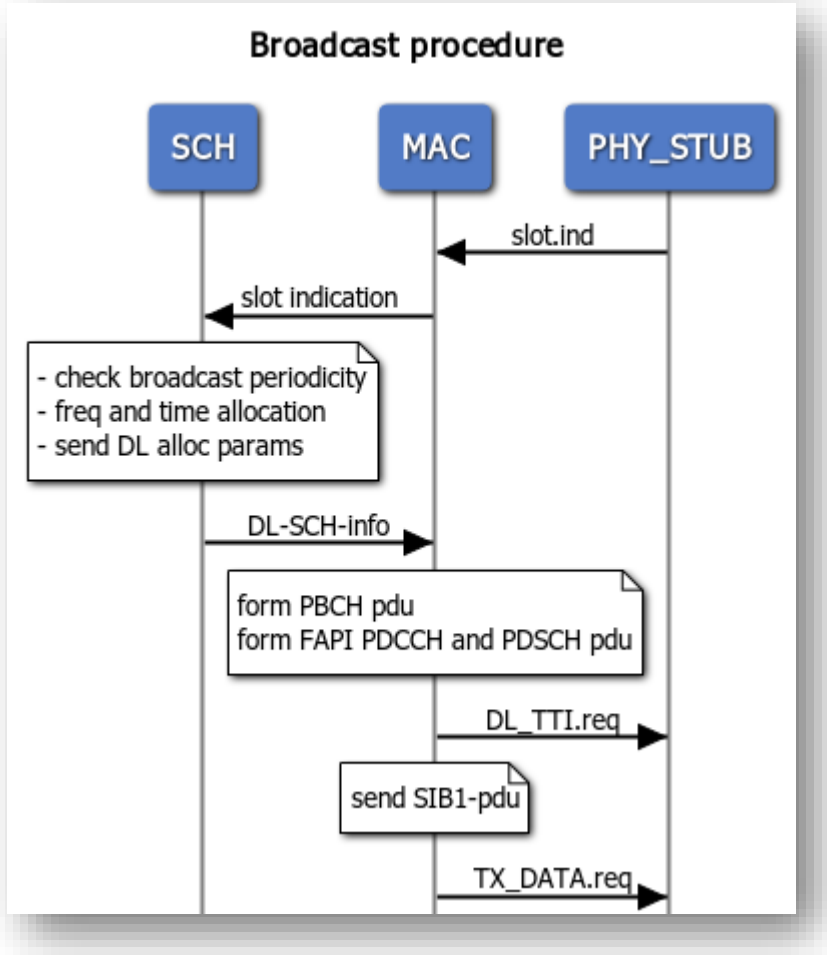
SIB1

Periodicity:
- New transmission – 160ms
- Repetition – configured to 20ms

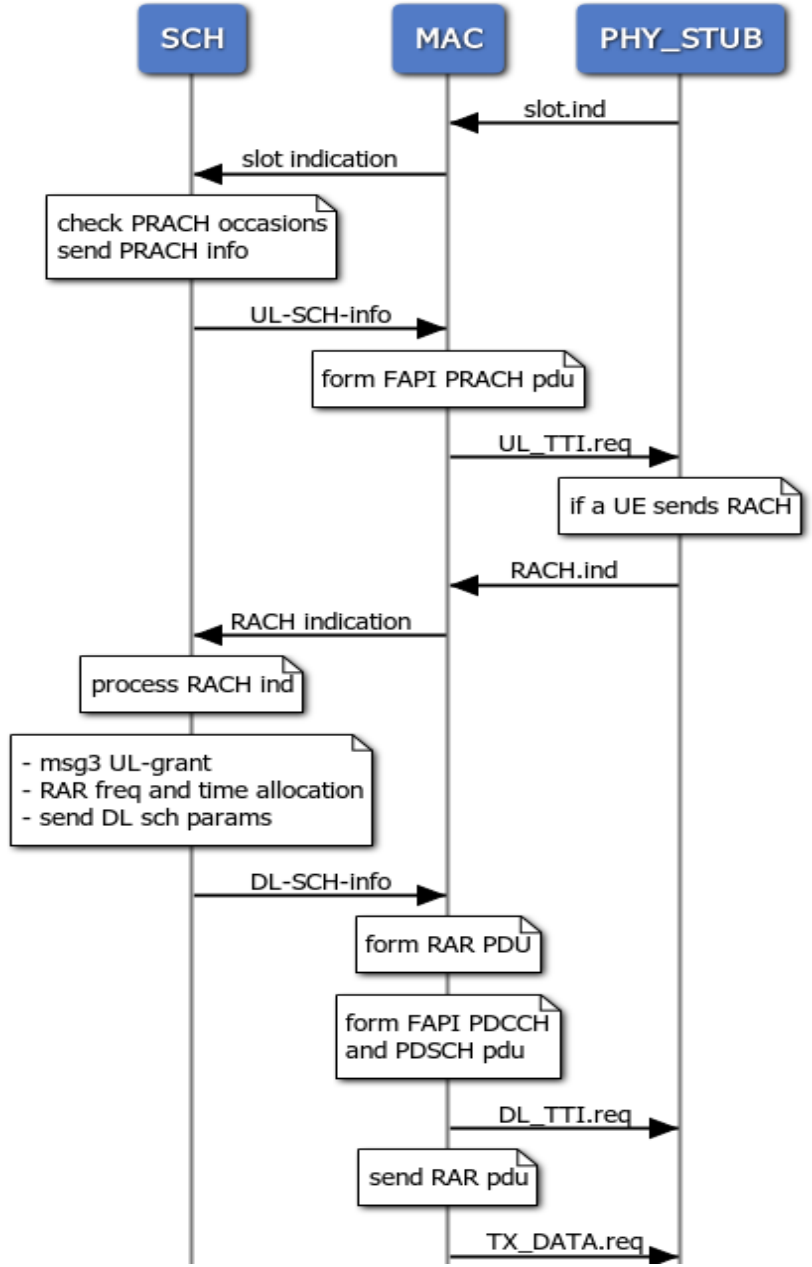
SIB1 contents:
- Cell selection info
- RACH parameters
- Initial BWP
- Scheduling info for other SI ……




cell initialization
DU_APP
MAC
Basic_SCH
PHY_STUB
cell_config
sch config
confirm
config.req
confirm
confirm
start request
start.req
slot.ind
slot indication
5G-NR cell is up

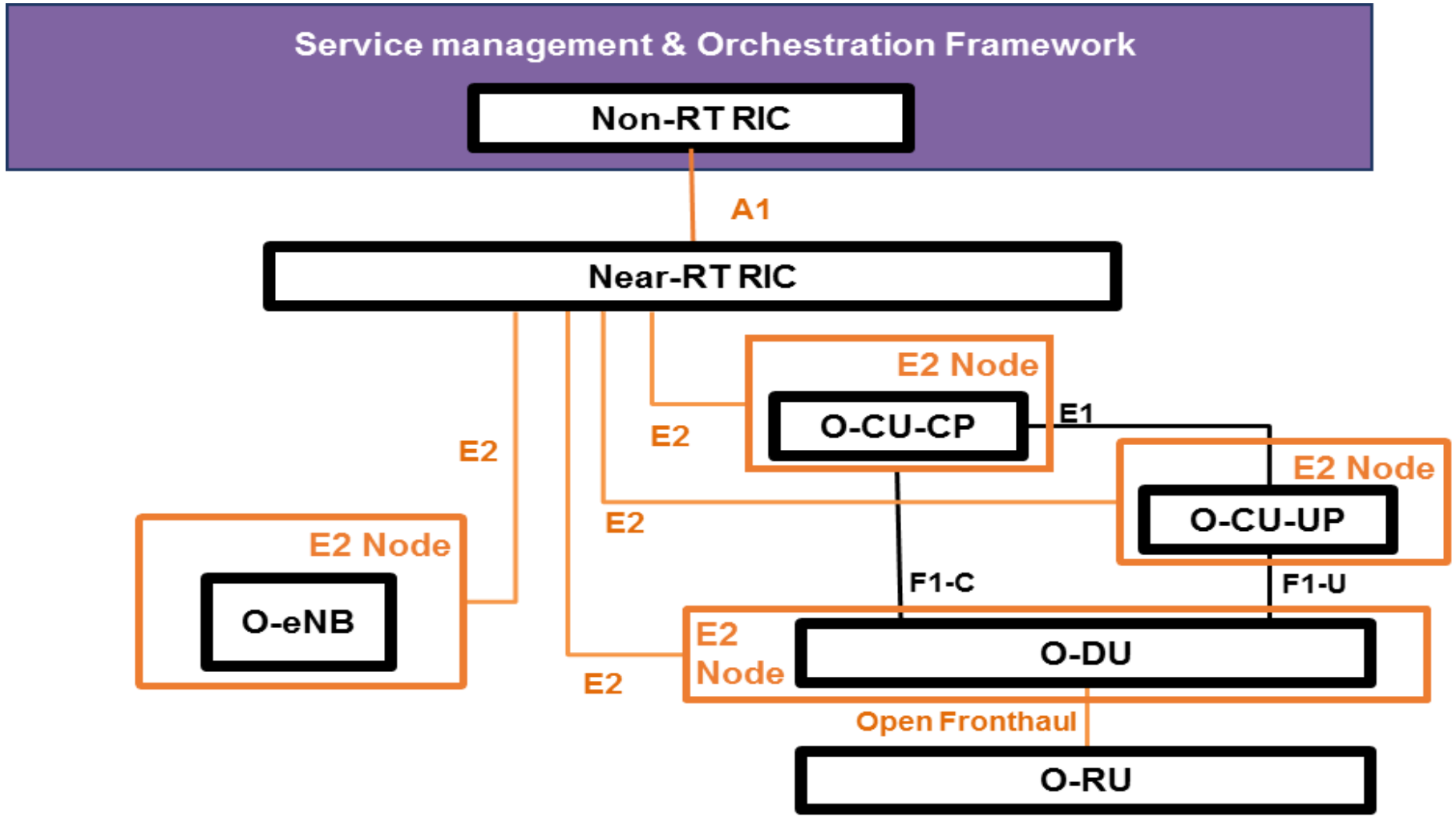

Broadcast procedure
SCH
MAC
PHY_STUB
slot.ind
slot indication
- check broadcast periodicity
- freq and time allocation
- send DL alloc params
DL-SCH-info
form PBCH pdu
form FAPI PDCCH and PDSCH pdu
DL_TTI.req
send SIB1-pdu
TX_DATA.req

RACH Procedure



O-DU High Sprint 3 Demo

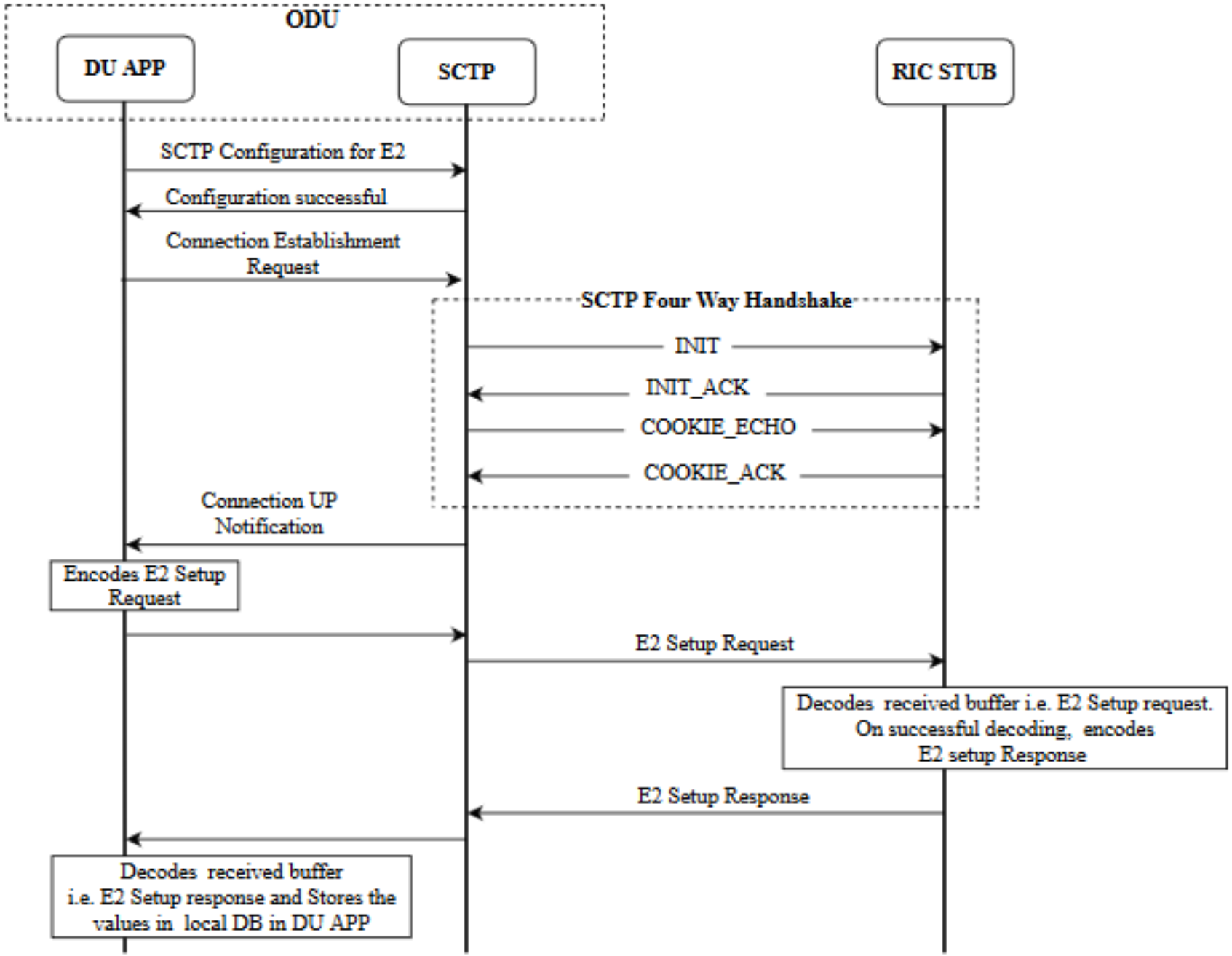
O-RAN Architecture Overview with Near-RT RIC interfaces



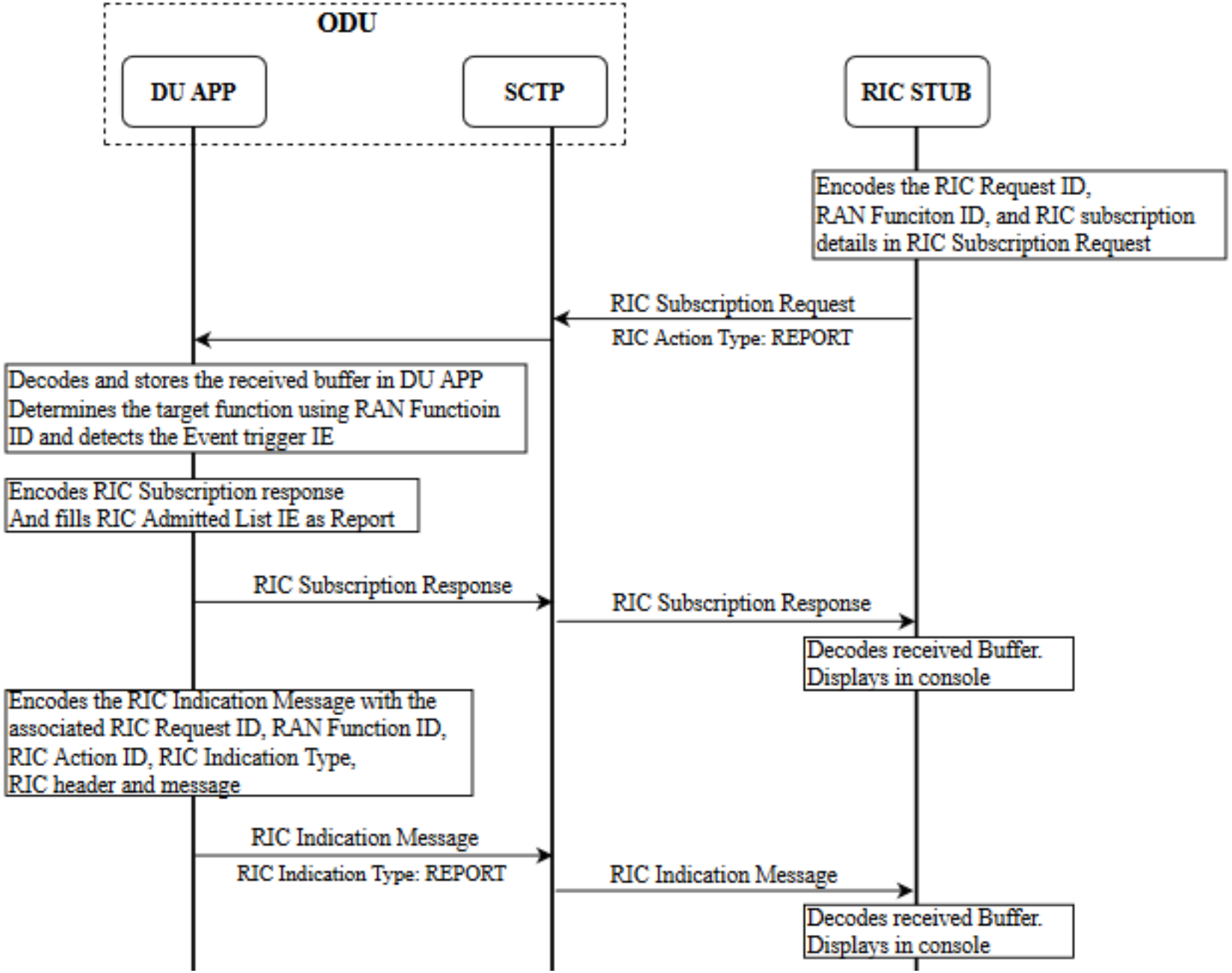
Scope of Demo

- E2 initialization between O-DU and Near RT RIC
  - SCTP four - way handshake
  - E2 Setup Request
  - E2 Setup Response
- Traffic Steering Use-case
  - RIC Subscription Request
  - RIC Subscription Response
  - RIC Indication Message

E2 Initialization



Traffic Steering Use Case



Open Items

1. Port 38482 is being used for E2 interface since this has not been specified.
2. Implementation of only Report RIC Action Type is supported, as per Traffic Steering Use-case.
3. Content of below IEs are not clear in specification:
    - Section 9.2.6, RIC event Trigger definition
    - Section 9.2.16, RIC indication Header
    - Section 9.2.17, RIC Indication Message

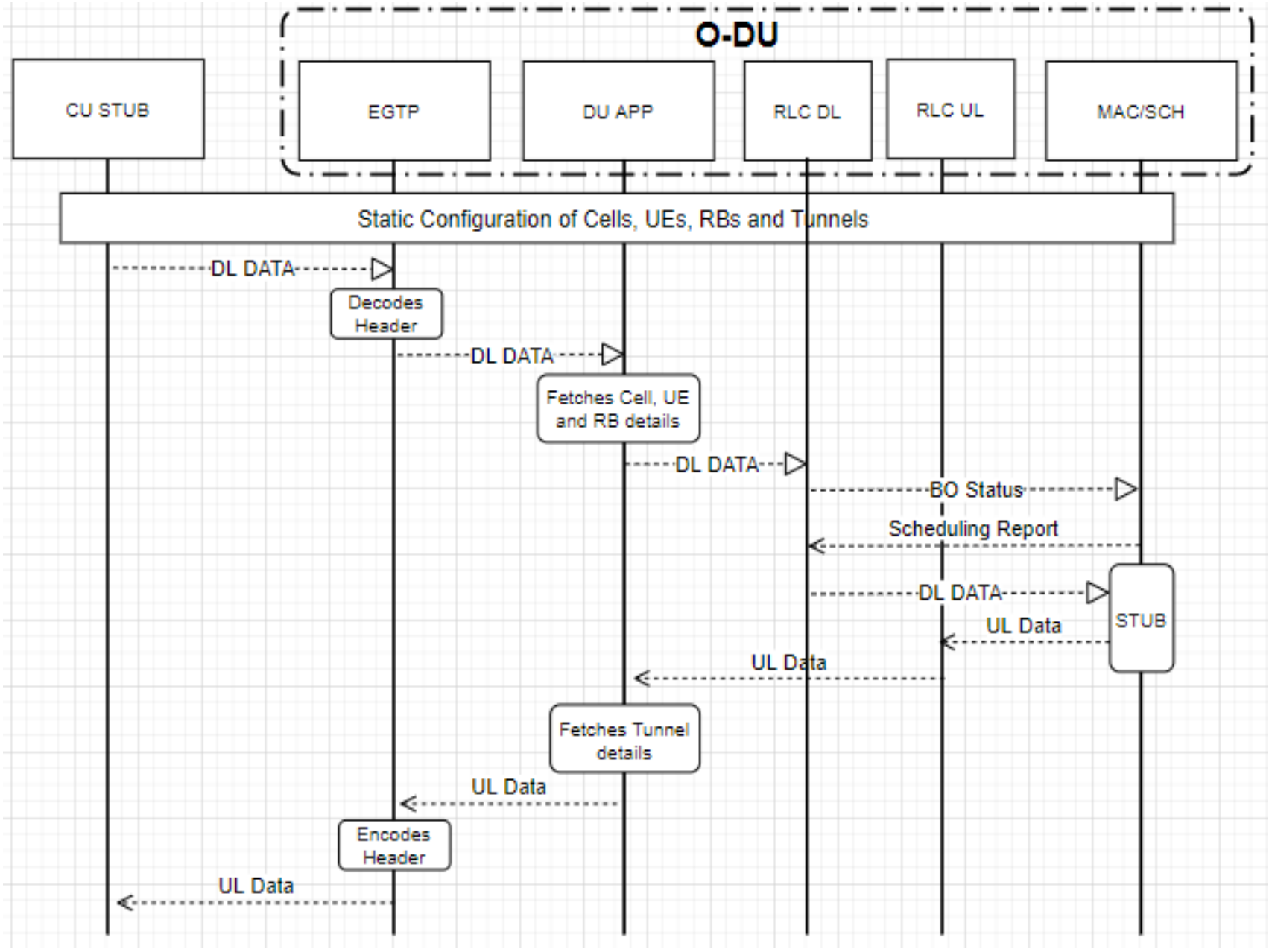
   Spec versions:

   ORAN-WG3.E2AP-v01.00

   ORAN-WG3.E2SM-v01.00
4. Support for periodic reports missing, due to lack of clarity in E2 spec.
5. KPIs reported in RIC indication message are mocked and do not reflect actual values.
6. Disector is not available to show the E2 protocol in wireshark.

O-DU High Sprint 2 Demo

F1-U Data path flow

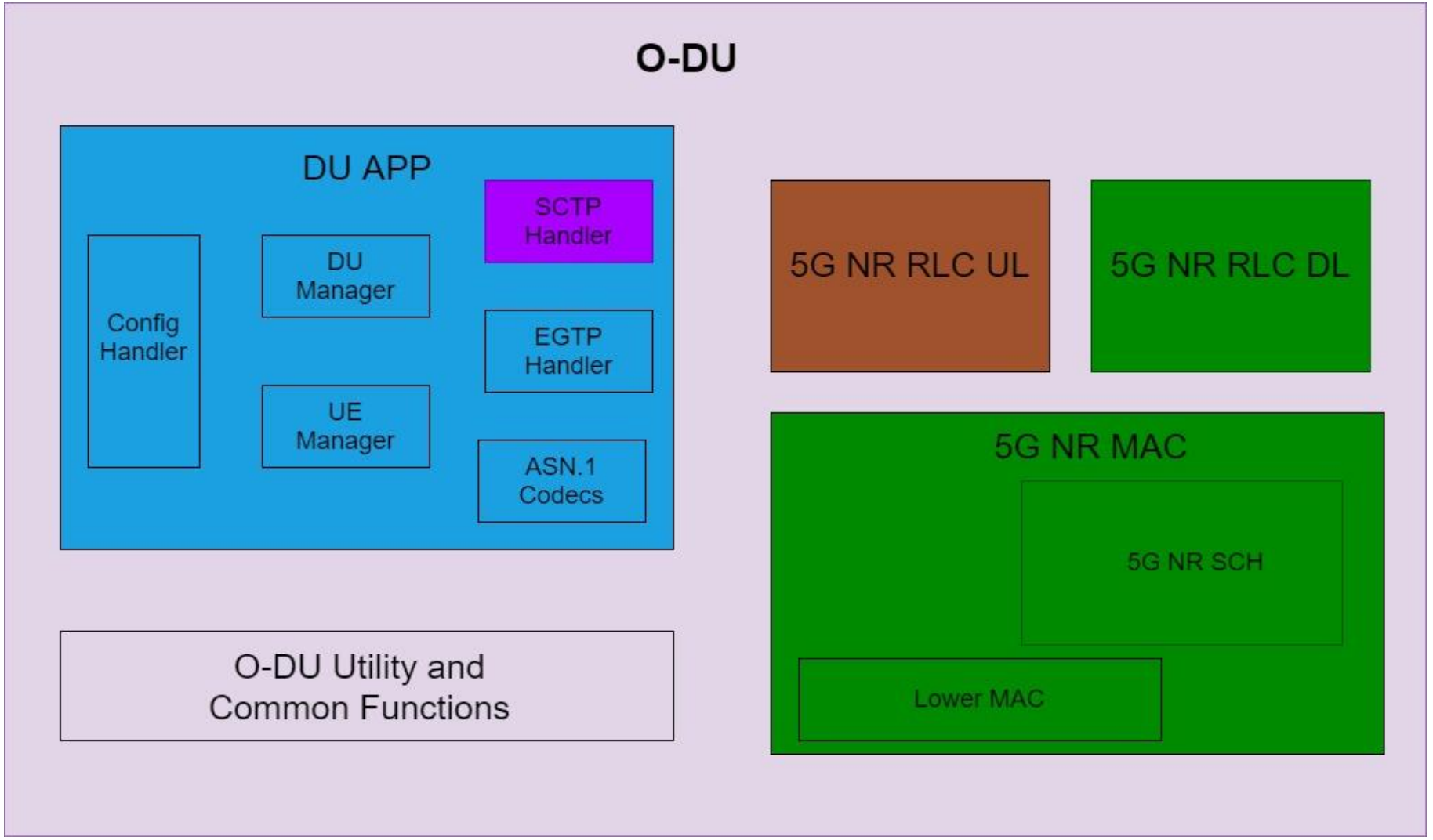


Limitations

- UE, RB and tunnel configurations are static
- DL data path ends at MAC Stub
- UL data is triggered from MAC Stub
- UL Data is pumped from stub only when a DL data received
- SDU segmentation/reassembly at RLC is not presented in this demo

O-DU High Sprint 1 Demo

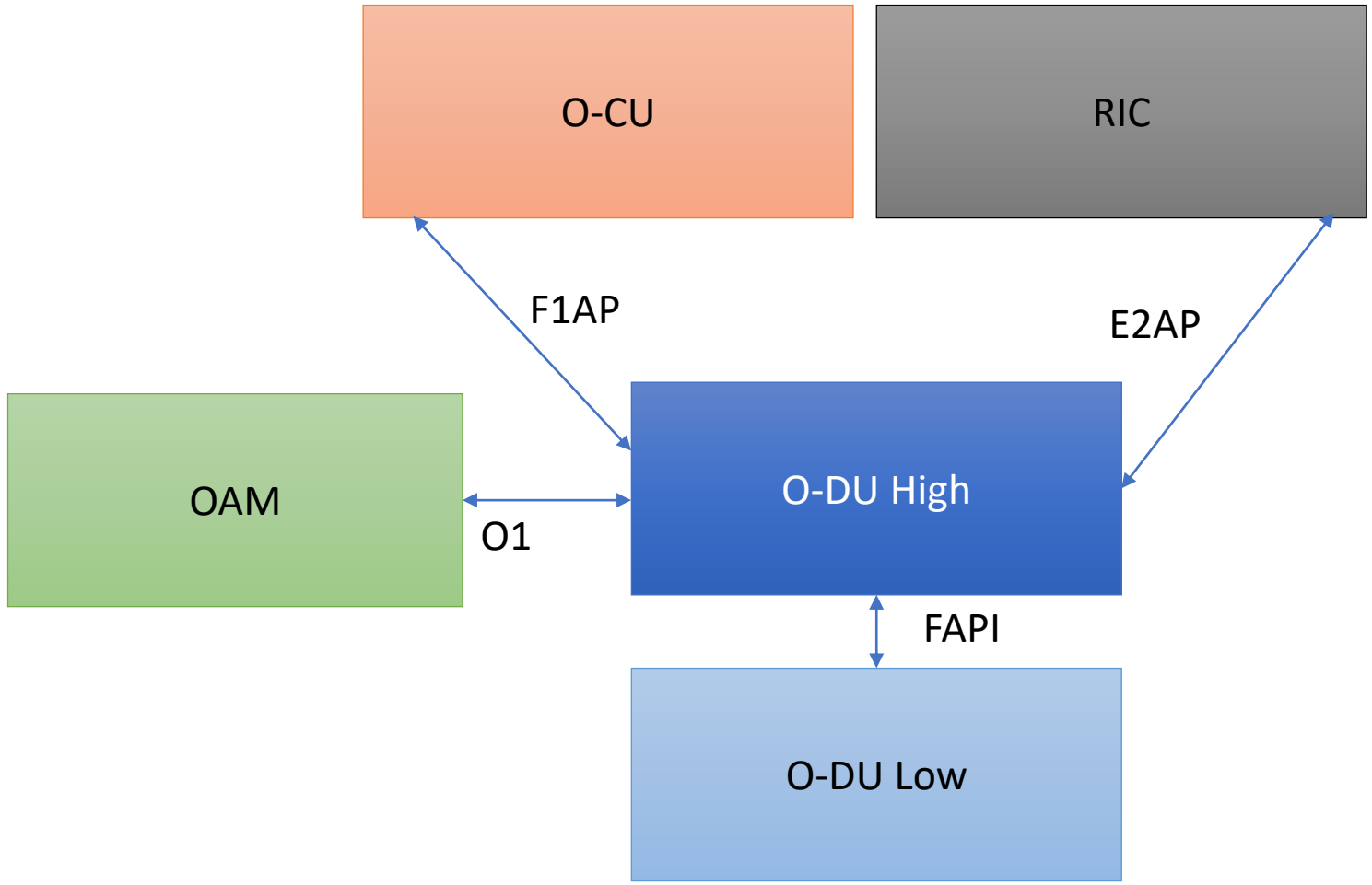
O-DU High Architecture



O-DU High Sprint 1 Demo

F1-C interface demonstration of following messages:

- F1AP Setup Request
- F1AP Setup Response
- GND DU Configuration Update
- GNB DU Configuration Update Ack



Thank You