5G NR NSA Signaling (EN - DC) with EPC Traces

TP00005-V-1701 V0 - S05M03 Ed1

Learning Objectives

Upon completion of this module, you should be able to:

- Explain 5G NR NSA signaling (EN-DC) with EPC by using traces.

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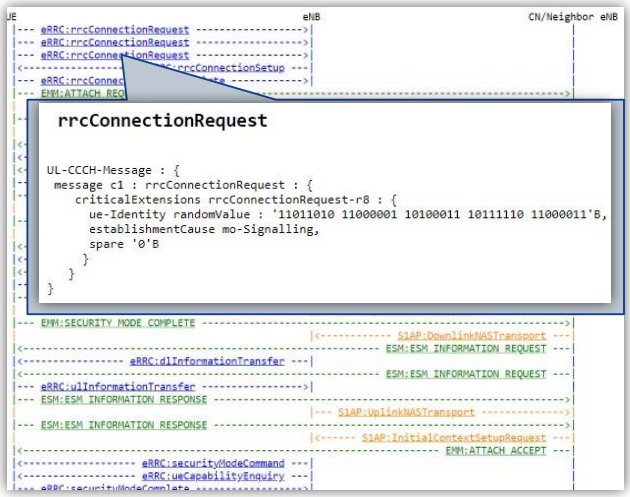
Trace format

This call trace is captured using an internal Nokia tracing tool.
The trace was exported from the tool as a HTML file, that can be opened in a web browser.
By clicking on a message in the trace , a new window is opened with the contents.

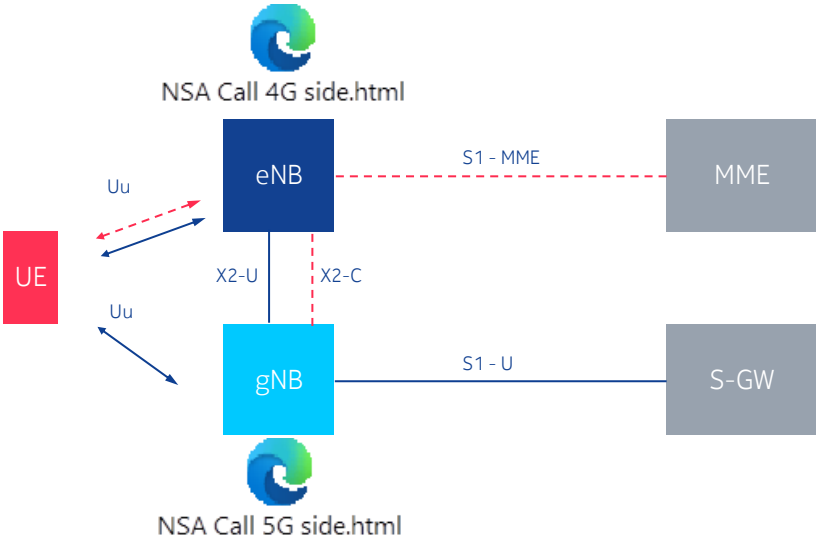
The trainer will provide you with the trace files.



5G NR NSA signaling (EN-DC) with EPC Traces
Trace files

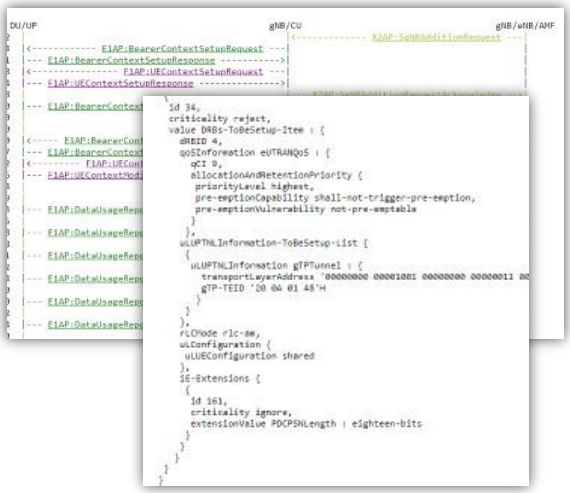
The call trace was captured fron both the eNB and gNB.
The eNB trace contains the RRC, S1-AP and X2-AP messages.

The gNB trace file contains X2-AP, E1-AP and F1-AP messages.



Trace Analysis Exercise
Description

Use the provided trace files to analyse the NSA Call Setup procedure.
Answer the questions presented on further slides.



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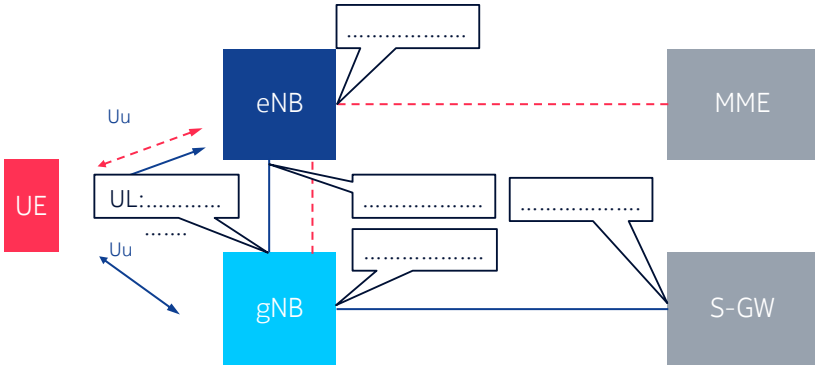
Trace Analysis Exercise
NSA Call procedure questions part 1/3

1. Which UE identity is used in the RRCConncetionRequest message?
2. What is the Logical Channel used to transmit the RRCConncetionRequest ? Which bearer it is associated with?
3. Which bearer is established in RRCConnectionSetup message and what is the RLC mode configured for it?
4. What is the UE identity type in the NAS: Attach Request?
5. Find the parameter with which UE informs the Core Network that it supports Dual Connectivity with New Radio . Which message is it in?
6. Which cyphering and integrity protection algorithms are selected by the CN for the NAS security?
7. What is the EPS bearer identity and the DRB identity for the default EPS bearer?
8. What is the QCI of the default EPS bearer?

Trace Analysis Exercise
NSA Call procedure questions part 2/3

9. Find the IP address assigned to the UE and the APN.

10. Fill in the GTP -U TEIDs:



Trace Analysis Exercise
NSA Call procedure questions part 3/3

11. What is the SSB frequency of the NR cell?
12. What is the values of subcarrier spacing in the NR cell?
13. Was there any data transferred over the LTE air interface before SgNB addition?
14. Which direction are packets transmitted over 5G in this call?
15. What is the gNB logical component that ass igns TEIDs?
16. In which message from the gNB-DU we can find the RRC message that will late be transmitted to the UE?

Wrap-up

In this module we have covered the following items

- Explain 5G NR NSA signaling (EN-DC) with EPC by using traces.