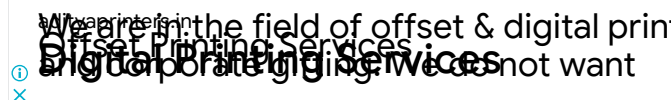


LTE Quick Reference

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Default vs Dedicated EPS Bearer

In many cases, we get confused by the role of Default EPS Bearer and Dedicated EPS Bearer. I think the best way to clear the confusion would be to understand the detailed information elements (parameters) defining these two bearers.

First take a look at the decoded message for Default EPS Bearer and Dedicated EPS Bearer.

Default EPS Bearer	Dedicated EPS Bearer
Activate default EPS bearer context request <ul style="list-style-type: none"> EPS bearer identity <ul style="list-style-type: none"> EPS bearer identity value: EPS bearer identity value 5 EPS session management protocol discriminator Procedure transaction identity Activate default EPS bearer context request message identity <ul style="list-style-type: none"> Message type: C1 EPS QoS <ul style="list-style-type: none"> Octet1 <ul style="list-style-type: none"> Length of EPS quality of service contents: 1 Octet2 <ul style="list-style-type: none"> QCI: QCI 9 Access point name <ul style="list-style-type: none"> Octet1 <ul style="list-style-type: none"> Length of access point name contents: 16 Octet2-Octet1 01 <ul style="list-style-type: none"> Access point name value: 037777707616E726974737503636F6D PDN address <ul style="list-style-type: none"> Octet1 <ul style="list-style-type: none"> Length of PDN address contents: 5 Octet2 <ul style="list-style-type: none"> spare: 0 PDN type value: IPv4 Octet3-14 <ul style="list-style-type: none"> PDN address information: C0A801E7 	Activate dedicated EPS bearer context request <ul style="list-style-type: none"> EPS bearer identity <ul style="list-style-type: none"> EPS bearer identity value: EPS bearer identity value 6 EPS session management protocol discriminator <ul style="list-style-type: none"> Protocol discriminator: 2 Procedure transaction identity Activate dedicated EPS bearer context request message i... Spare half octet Linked EPS bearer identity <ul style="list-style-type: none"> Linked EPS bearer identity value: EPS bearer identity value 5 EPS QoS <ul style="list-style-type: none"> Octet1 <ul style="list-style-type: none"> Length of EPS quality of service contents: 9 Octet2 <ul style="list-style-type: none"> QCI: QCI 4 TFT <ul style="list-style-type: none"> Octet1 <ul style="list-style-type: none"> Length of traffic flow template IE: 6 Octet2 <ul style="list-style-type: none"> TFT operation code: Create new TFT E bit: parameters list is not included Number of packet filters: 1 Octet3-Octet256 <ul style="list-style-type: none"> Packet filter listParameters list: 3100023011

Let me give a couple of questions to help you understand the behaviour of these two bearers.

What are the information that Default EPS has but Dedicated EPS bearer does not ?

The answer is "APN Name" and "PDN type/PDN Address".

Then What kind of PDN address does Dedicated EPS Bearer will use ?

The answer is "Dedicated EPS Bearer uses the PDN address of Default EPS Bearer it is linked to".

Then how a Dedicated EPS Bearer knows which Default EPS Bearer it is linked to ?

The answer is that it is via a information element called "Linked EPS Bearer Identity" (See the arrow shown in the picture above)

What are the information that both Default EPS Bearer and Dedicated EPS Bearer has ?

The answer is "QCI".

Can Default EPS Bearer and Dedicated EPS Bearer can have the same QCI value ?

The answer is "No, they must have different QCI value".

What is the relation between Default EPS Bearer and an APN ?

The answer is "there is one-to-one relationship between them. One Default EPS Bearer is allocated for one APN.