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LTE Bearer types

This tutorial section on LTE basics covers following sub topics:

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This page covers LTE bearer types. It include LTE EPS bearer, external bearer, E-RAB, S1 bearer, S5 bearer, S8 bearer, LTE radio bearer etc.

LTE system provides end to end service using the hierarchy of **LTE bearers** shown in the figure.
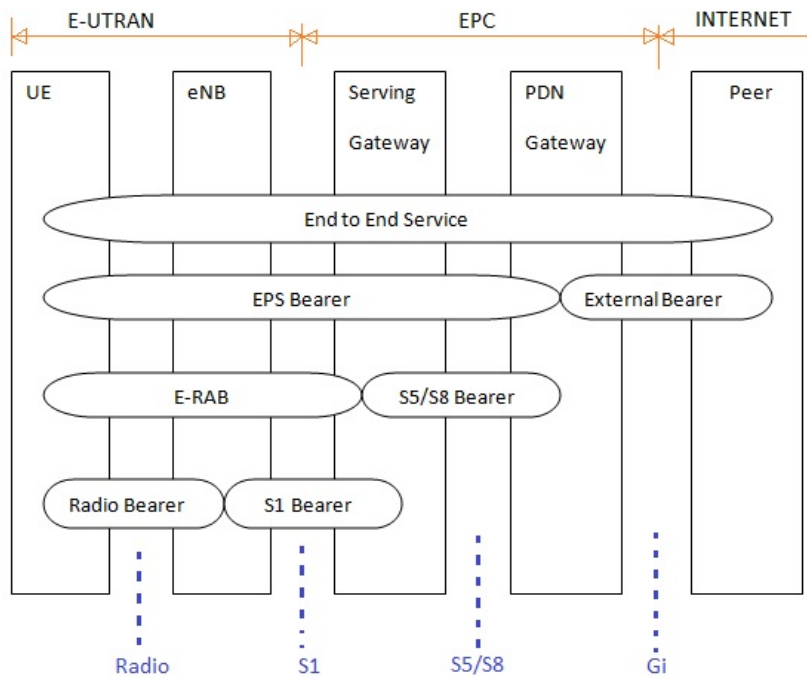
An LTE **EPS bearer** provides user plane connectivity between the UE and PDN gateway. EPS is the short form of Evolved Packet System.

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An initial EPS bearer is established when the UE registers with the network using 'attach procedure'. This EPS bearer is known as default EPS bearer and it is used to provide always on connectivity.

Other EPS bearers can be established to connect to other PDN gateways or to provide different LTE QoS to the same PDN gateway. These EPS bearers are known as dedicated EPS bearers.

All user plane data transferred using the same EPS bearer has the same QoS.

An EPS bearer is generated from a combination of E-UTRAN radio access bearer (E-RAB), **S5 bearer** and **S8 bearer**.

The **S1 bearer** provides connectivity between eNB and Home serving gateway as shown.

The S5 interface provides connectivity between a home serving gateway and a home PDN gateway.

The S8 interface provides roaming connectivity between a visited serving gateway and a home PDN gateway.

The air connectivity between UE and eNB is referred as **radio bearer**.

An E-RAB is generated from a combination of radio bearer and S1 bearer.

LTE Bearer Types: 3GPP reference TS 36.300

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