

The image features two thick, black L-shaped brackets. One is positioned on the left side, with its horizontal bar at the top and its vertical bar extending downwards. The other is on the right side, with its vertical bar at the top and its horizontal bar at the bottom. These brackets frame the central text.

5G NSA ARCHITECTURE

1. What is this Architecture :

1. Leveraging Existing 4G Infrastructure to Facilitate 5G Deployment:

- The initial 5G networks leverage a non-standalone (NSA) architecture.
- NSA 5G utilizes the established 4G LTE infrastructure to provide enhanced mobile broadband and lower latency.

2. Enabling Faster and More Cost-Effective 5G Rollout for Network Operators:

- By building upon their existing and mature 4G networks, operators can reduce deployment costs and optimize resource utilization.
- The NSA approach allows mobile operators to expedite the launch of 5G services.

Key Components:

- 1. Dual Connectivity:** Ability for a 5G device to connect to both 4G and 5G networks simultaneously.
- 2. 4G Core Network:** The Evolved Packet Core (EPC) that provides the control and user plane functions in 4G networks.
- 3. 5G New Radio (NR):** The new radio interface and air interface standard developed for 5G networks.
- 4. eNodeB and gNodeB:** The 4G base station (eNodeB) and the 5G base station (gNodeB) that provide the radio access in their respective networks.

How it works:

1.Control Plane: Handles session management, mobility control, and other signaling functions in the 5G network.

2.User Plane: Responsible for user data processing and forwarding in the 5G network.

3.Anchor Point: Common network nodes that enable seamless mobility across different radio access technologies (2G/3G/4G/5G).

4.Carrier Aggregation: Technique that combines multiple frequency bands to increase overall bandwidth and throughput in 5G networks.