

2) Core Network (Backbone Network)

→ It is a telecommunication network's core part, which offers numerous services to the customers who are interconnected by the access network.

→ Its key function is to direct telephone calls over the public-switched telephone network (PSTN).

→ Also known as Backbone network

→ It is a central conduit designed to transfer network traffic at high speeds.

→ It focus on optimizing the performance and reliability of long distance and large-scale data communications.

→ They connect WAN (Wide-Area Networks) and LAN (Local Area Networks) altogether.

→ 'Backbone' is often used in enterprise network solutions rather than core network, network services providers mostly use the term core network.

→ 4G LTE (Long Term Evolution), core network are known as evolved packet core (EPC).

Working

In general, core networks follows this functionalities,

i) Aggregation

Core nodes deliver the highest level of aggregation in a service provider network (SPN).

ii) Call Control / Switching

It determines the further course of a call as per the call signalling processing.

iii) Charging

Core network equipment can manage the processing and collection of charging the data produced by different network nodes.

iv) Service invocation

The core network carries out the service invocation task for its subscribers.

v) Gateways

In core network, gateways find usage in accessing other networks.

* Subscriber database → (also house the subscriber's database)

* Operations & maintenance →
(Support systems to build up and provision the core network nodes.)

Types of bus Networks

i) Collapsed backbone (or) Inverted backbone

[connection back to a central point linked to the collapsed backbone network].

ii) Distributed ~~set~~ backbone

[contains multiple connectivity devices linked to a range of central connectivity devices]

iii) Serial backbone

[contains at least two ~~inter~~-working devices interlinked by a single cable in a daisy-chain style].

iv) Parallel backbone

[It utilises a central node (or) connection point and costlier than other backbone networks].