



# 5G Service-Based Architecture (SBA)



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The 5G Core Network has been designed around services that are invoked using a standard API. On the surface, the 5G architecture looks very different from the 4G EPC but on close inspection, you can see the evolution from the 4G architecture to the 5G architecture.

We will look at the forcing driving the evolution of the 5G core (5GC) and look at the different functions that are defined in the 5G architecture.

## Towards the 5G core network architecture

### Evolution from 4G EPC

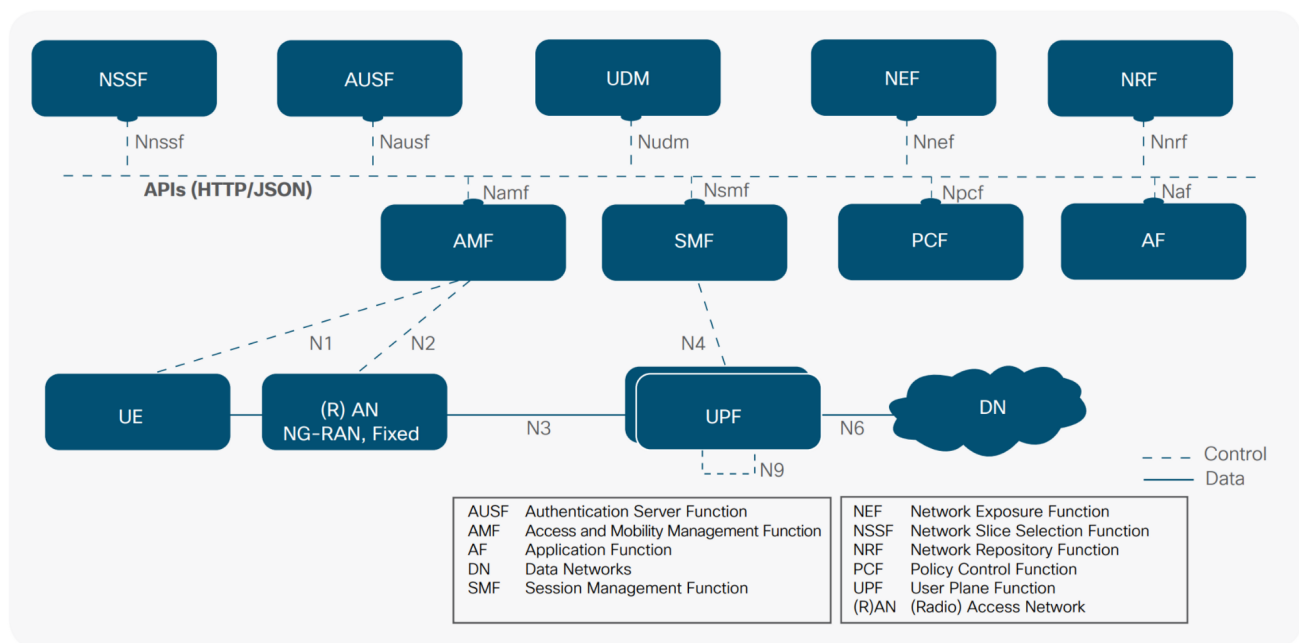
The 5G core has evolved from the 4G EPC in two steps:

- Control and User Plane Separation (CUPS) of the 4G EPC
- Reorganizing the 4G EPC CUPS functions into services

### CUPS

The introduction of control and user plane separation in the

4G EPC is a key step towards the 5G architecture. The 4G EPC



5G System Architecture (credit: Cisco)

## AMF — Access and Mobility Function

The AMF performs most of the functions that the MME performs in a 4G network.

- Terminates the RAN CP interface (N2)
- NAS signaling
- NAS ciphering and integrity protection
- Mobility Management (MM) layer NAS termination
- Session Management (SM) layer NAS forwarding
- Authenticates UE
- Manages the security context
- Registration management.
- Connection management.
- Reachability management.
- Mobility Management.
- Apply mobility related policies from PCF (e.g. mobility restrictions)

AMF role in 5G standalone registration provides a good overview of the AMF functions. *Click on the diagrams below to learn more.*



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