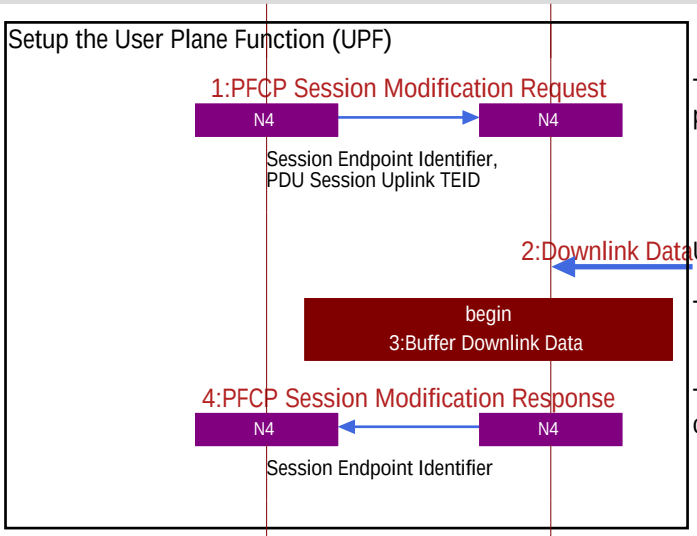
UPF Interactions: 5G Standalone Access Registration

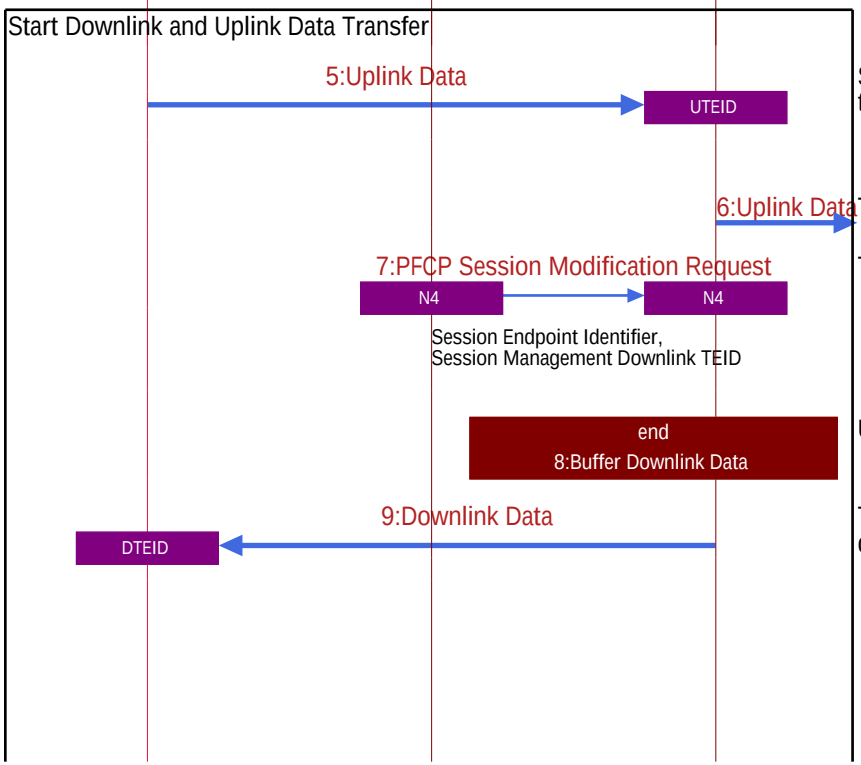


The Packet Forwarding Control Protocol (PFCP) is used between the SMF control plane and the UPF data plane. The Session Modification is signaled to the data plane.

UPF has started receiving data destined to the UE.

The UPF needs to buffer the data as the PDU session has not been established at the gNB and the UE.

The UPF data plane responds back to the SMF control plane after the session modification has been completed.



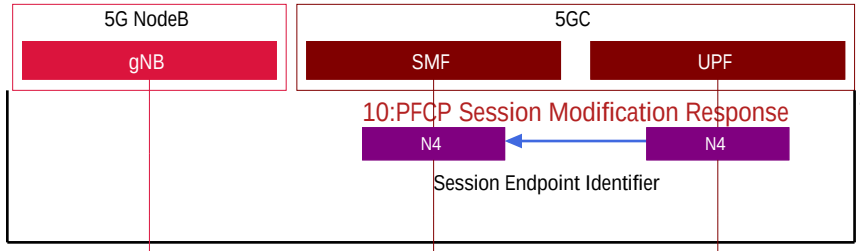
Since the uplink path has been setup completely, the UE starts sending data. The gNB sends the UE data to the Uplink TEID.

The UPF starts sending the data to the Internet.

The SMF control plane signals session updates to the UPF data plane.

UPF can stop the data buffering as a downlink path has been setup.

The UPF sends the buffered data to the gNB using the Downlink TEID for the PDU session. All new downlink data also takes the same path.



The UPF data plane responds back to SMF control plane.