UE
NG-RAN
AMF
UPF/MPTCP proxy
SMF
PCF
UDM
DN
1. PDU Session Establishment Request (MPTCP)
2. SMF selection supporting MPTCP
3a. Nsmf_PDUSession_CreateSMContext Request
4a-4b. Registration/ Subscription retrieval/
Subscription for updates
5. Nsmf_PDUSession_CreateSMContext Response
6. PDU Session authentication/authorization
7a. PCF selection
7b. Session Management Policy Establishment or Modification
8. UPF selection supporting
MPTCP proxy
9. Session Management Policy Modification
10a. N4 Session Establishment/Modification Request
10b. N4 Session Establishment/Modification Response
11. Namf_Communication_N1N2MessageTransfer (MPTCP proxy address)
12. N2 PDU Session Request (NAS msg - MPTCP proxy address)
13. DRB setup (PDU Session Establishment Accept - MPTCP proxy address)
14. N2 PDU Session Request Ack
First Uplink Data over NG-RAN - Create first MPTCP subflow with MPTCP proxy
15. Nsmf_PDUSession_UpdateSMContext Request
16a. N4 Session Modification Request
16b. N4 Session Modification Response
First Downlink Data - over NG-RAN
17. Nsmf_PDUSession_UpdateSMContext Response
N3IWF
18. Established signalling IPSec SA
19a. N4 Session Establishment/Modification Request
19b. N4 Session Establishment/Modification Response
20. Namf_Communication_N1N2MessageTransfer
21. N2 PDU Session Request (NAS msg)
22. IPSec child SA(s) established
23. PDU Session Establishment Accept
24. N2 PDU Session Request Ack
First Uplink Data over non-3GPP access - Create second MPTCP subflow with MPTCP proxy
25. Nsmf_PDUSession_UpdateSMContext Request
26a. N4 Session Modification Request
26b. N4 Session Modification Response
First Downlink Data – over non-3GPP access
27. Nsmf_PDUSession_UpdateSMContext Response