UE1+ DS-TT
UE2+ DS-TT
5G-RAN
SMF
UPF+ NW-TT
PCF
TSN AF
1a. PDU Establishment Request
(UE DS-TT Residence time, DS-TT MAC address, Port Management capabilities, destination address)
2. N4 Establishment Request
1b. PDU Establishment Request
(UE DS-TT Residence time, DS-TT MAC address, Port Management capabilities, port-pair)
3. UPF determines port-pairs for UE-UE communication based on the destination address,
4. N4 Establishment Response
(Port # for DS-TT, Port # for NW-TT, Bridge ID, port-pairs)
5. UE1 completes PDU session Establishment procedure as defined in 23.502, 4.3.2.2.1-1
6. UE2 establishes a PDU session as defined in 23.502, 4.3.2.2.1-1
7. SMF reports the port-pair to AF via PCF/NEF
8. AF calculates :
Bridge delay info = UE1-residence time+UE2 residence time+PDR of PDU session (1)+(2)
9. AF provides TSN QoS & TSCAI (DL & UL transmissions)
10. PCC rule for port-pair via Npcf_SMPolicyControl_UpdateNotify (Uplink transmission)
11. PDU Session modification for UE1 DS-TT (Uplink transmission) as in 3GPP 23.502, 4.3.3.2.1
12. PDU Session modification for UE2 DS-TT (Downlink transmission) as in 3GPP 23.502, 4.3.3.2.1