

FS_ATSSSLite study item

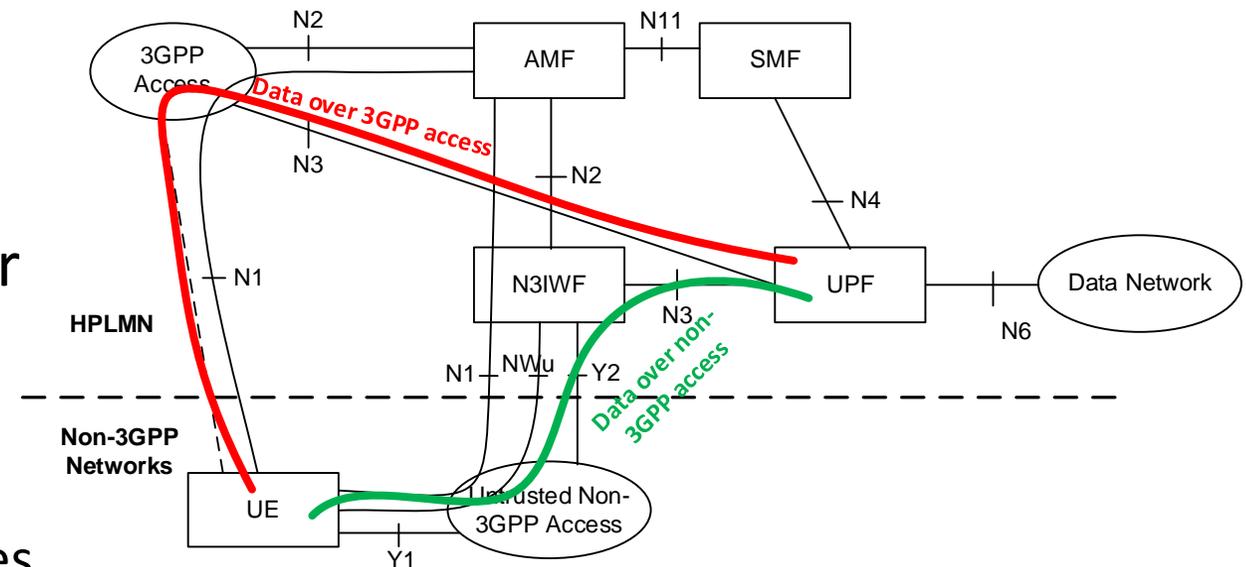
proposal: supporting material

Lightweight Access Aggregation and Steering of Wi-Fi in 5GC

Qualcomm Incorporated

Motivation: limitations of ATSSS

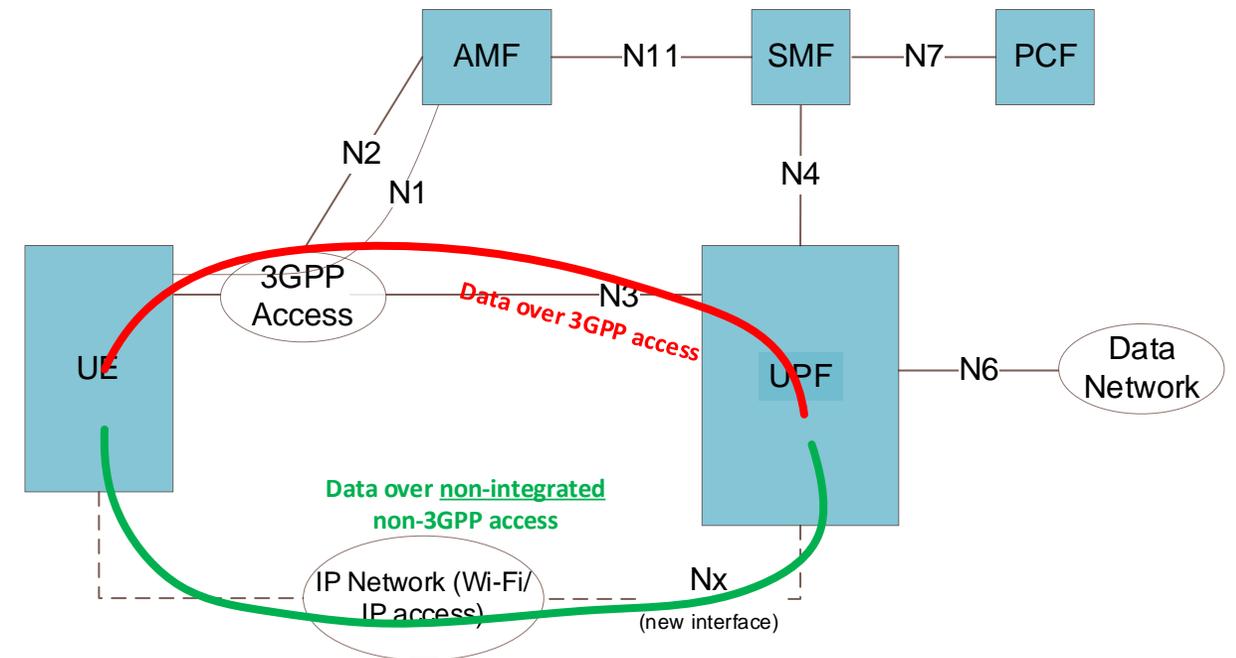
- Requires support for (un)trusted connectivity of integrated Wi-Fi to 5GC
- Commercial deployments of TNGF/N3IWF are very limited
- Value of N3IWF beyond support for voice over Wi-Fi (e.g., for general internet access) is questionable
 - this would effectively be an ePDG connected to 5G core
 - it would face hardware capacity issues due to large increase of traffic volume (from, e.g., 20-50 Kbps per UE for VoWiFi to possible 100s of Mbps for internet traffic) with questionable RoI



ATSSS requires either N3IWF or TNGF to work

Motivation: proposition

- Hence the need for supporting a solution for non-integrated Wi-Fi-based traffic aggregation/steering/switching that...
 - does not require N3IWF support
 - achieves some targets of ATSSS (e.g., traffic aggregation)
 - enables initial deployment with limited CAPEX



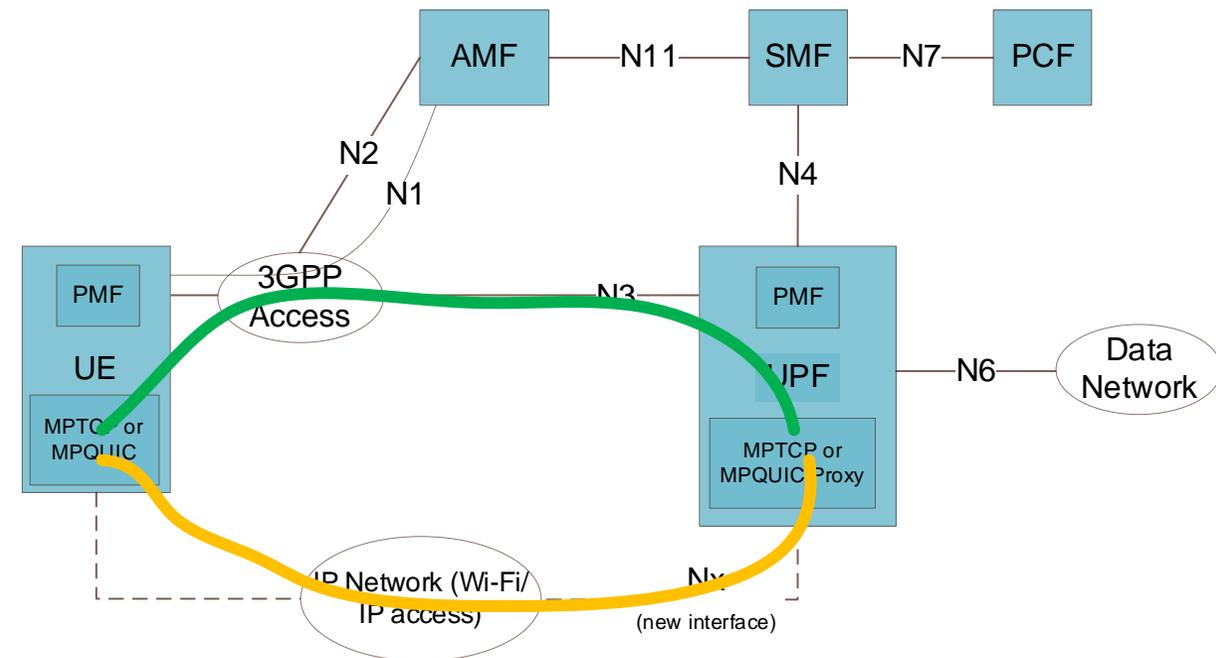
Main objectives



- Define new architecture for Lightweight Access Aggregation and Steering of Wi-Fi in 5GC **not based on TNGF/N3IWF**
- Introduce concept of **Non-Integrated Aggregated PDU Session** based on re-usage of IETF RFC (e.g., MPQUIC/MPTCP)
 - Extend PDU session establishment/modification to support new type of PDU Session
 - Extend usage of rules to instruct UE on how to use the NIA PDU Session
 - Focus on how to load balance traffic. Other modes, e.g., redundant steering, may be considered.
 - Configuration of proxy functionality in PSA UPF
- Focus on non-GBR traffic (for simplicity)

Example architecture

- Proxy works via N3 and Nx
- MASQUE H3 proxy (UDP over H3)
- No control plane (N1/N2) for Wi-Fi access
- Non-integrated aggregated PDU Session



Thank you!