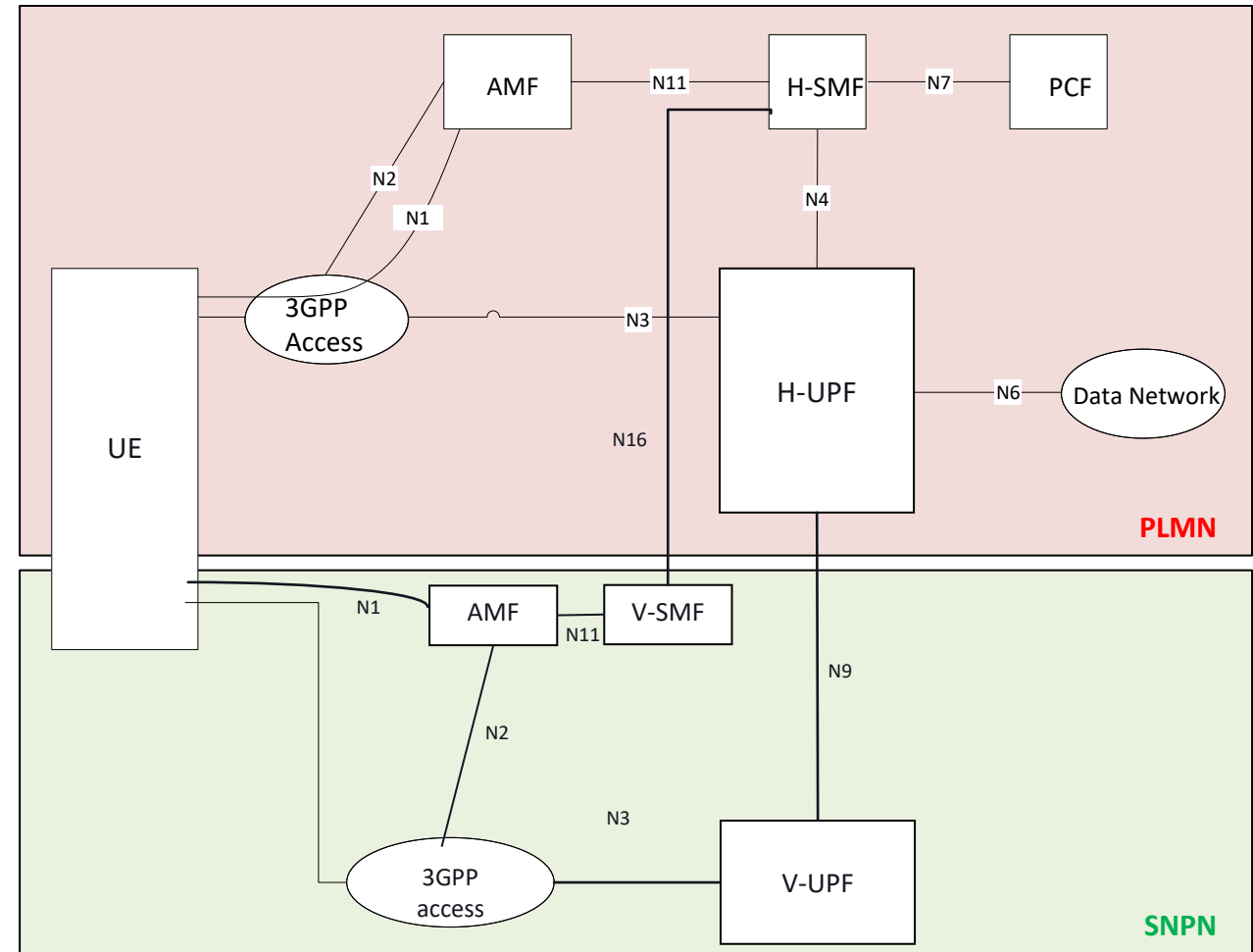


FS_ATSSS_Ph3:
Dual 3GPP access for
PLMN + SNPN and
PLMN + PLMN

S2-2108960

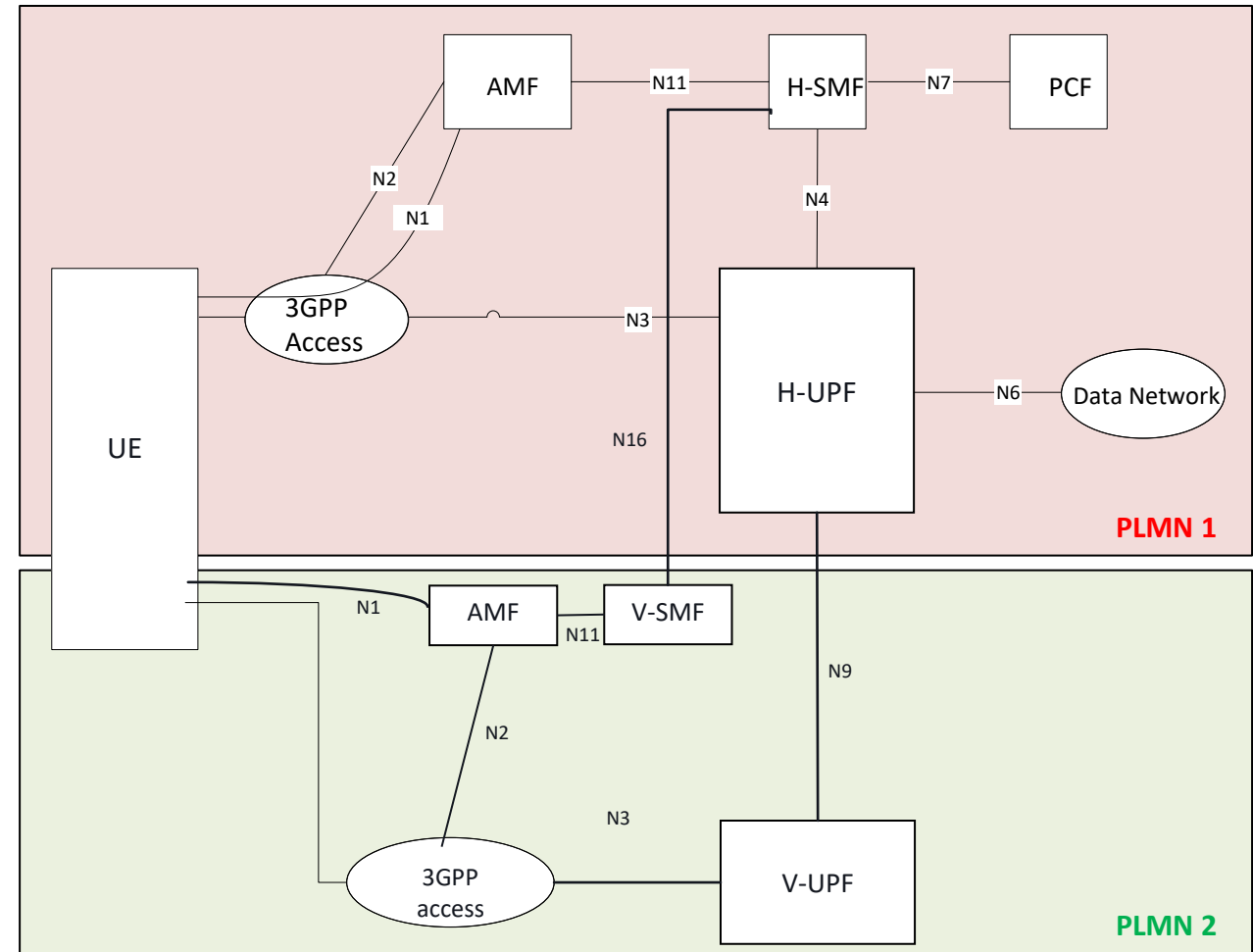
PLMN + SNPN: Assumptions

- UE has two 3GPP radio modules
- A **common, single subscription to PLMN and SNPN** is already supported by existing specs. (e.g., credential holder for SNPN is PLMN)
- A certain location is covered by PLMN and by SNPN
 - In similar fashion of PLMN and WiFi provides overlapping coverage today
- Dual coverage could be permanent (e.g., in a stadium), or temporary (e.g., a moving vehicle like train, cruise ship, or plane at a stop/stopover)



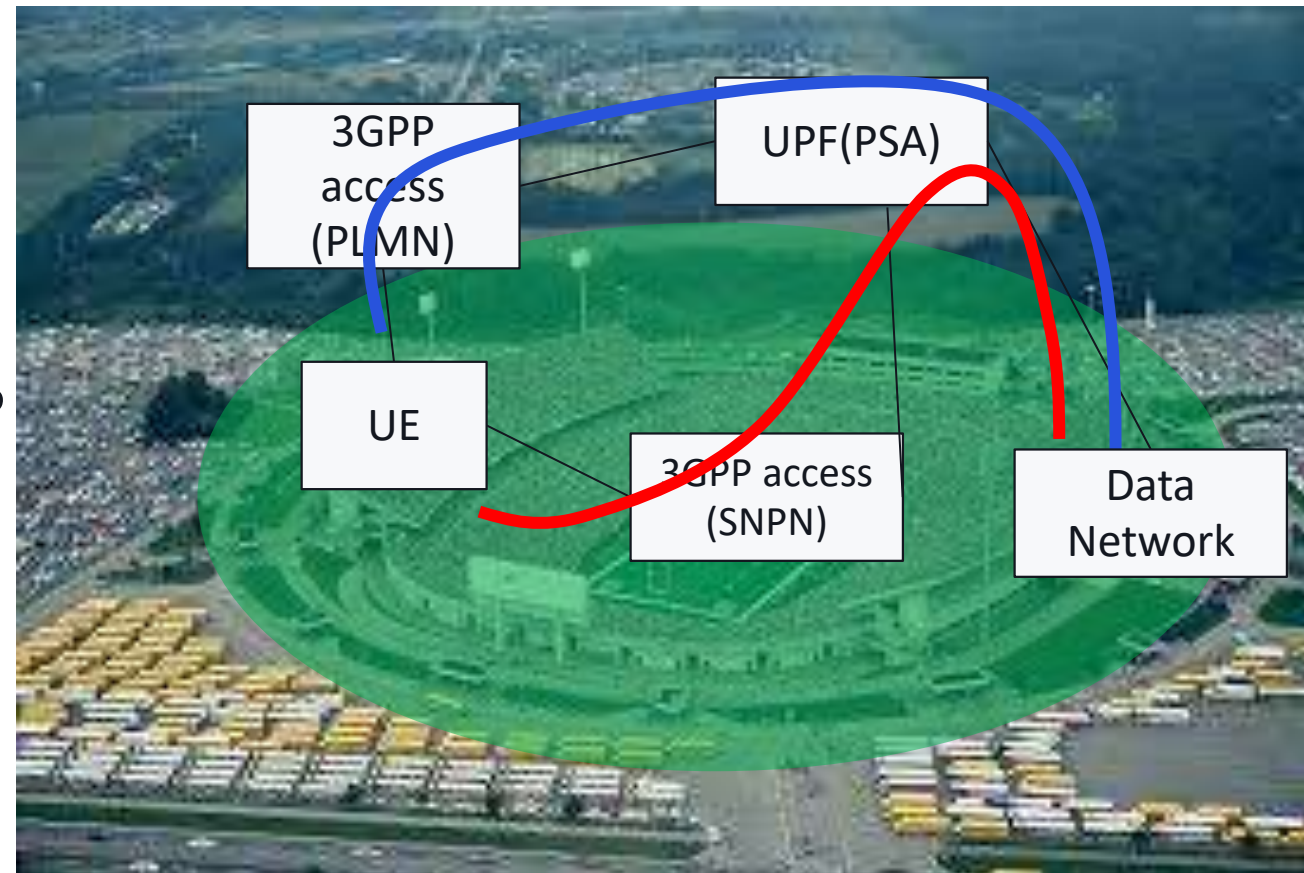
PLMN + PLMN: Assumptions

- UE has two 3GPP radio modules
- UE has single subscription or two separate subscriptions to two PLMNs
- Using 2 gNBs/cells, each using a different frequency.
- For example, the two 3GPP accesses have different QoS treatment (typical case: terrestrial + non-terrestrial access from the same PLMN)



Use case: stadium

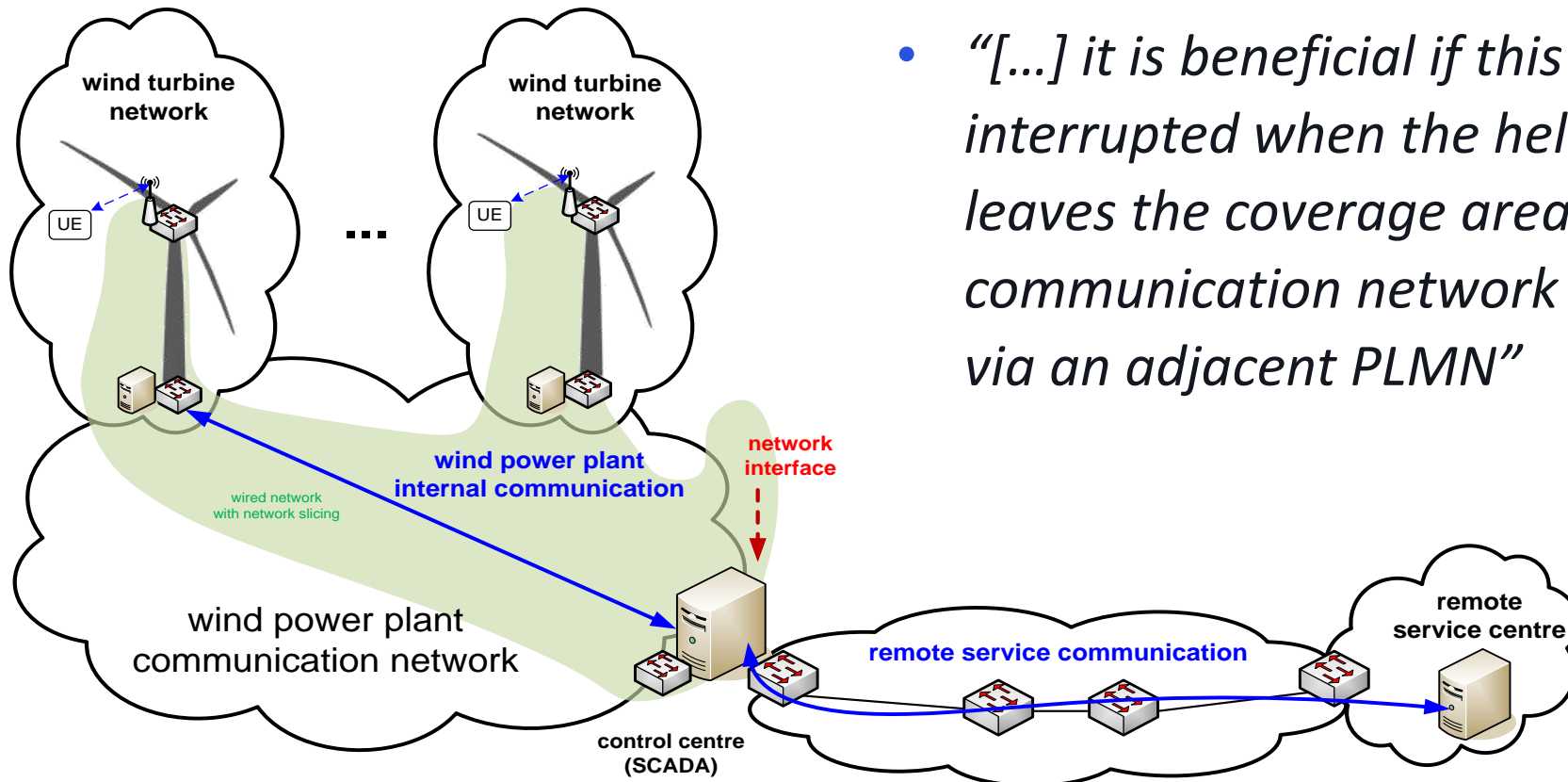
- At stadium, specific local service can provide – Live streaming on multi-viewpoint, live chat for spectator, event for spectator, etc.
- Such stadium specific service may be suffered from the congestion of 3GPP PLMN UP resources and access via 3GPP SNPN allows to increase resources



Use case: Centralized Power Generation (Maintenance)

TR 22.804 clause 5.7.5.3.4 – Maintenance action

- “[...] it is beneficial if this video stream is not interrupted when the helicopter (accidentally) leaves the coverage area of the wind power plant communication network and the video is streamed via an adjacent PLMN”







TR 22.804 clause Figure 5.7.5.1-1

Advantages

- Transparent connectivity is provided without user intervention. Less disruption than in case of 3GPP/Wi-Fi switch when user moves in/out of coverage
- Interworking between two 3GPP accesses (e.g., PLMN/SNPN) is better than interworking between 3GPP and N3GPP access (e.g., HO works better in 3GPP than in Wi-Fi)
- Increase throughput by using connectivity aggregation at higher layers without lower-layer support. This could enable more flexible solutions than the existing ones (such as dual connectivity) without the need for RAN sharing arrangements between PLMNs or PLMN and SNPN
- Similarly, improve reliability based on traffic aggregation at higher layer.



Thank you

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