

3GPP TSG RAN Rel-19 workshop
Taipei, June15-16, 2023
Agenda: 5
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RWS-230426

Study on Wired-terminal RSU

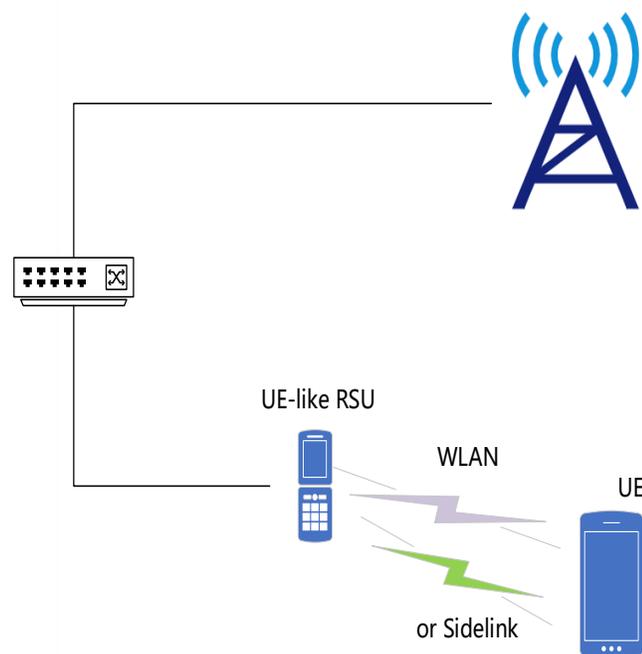
Motivation



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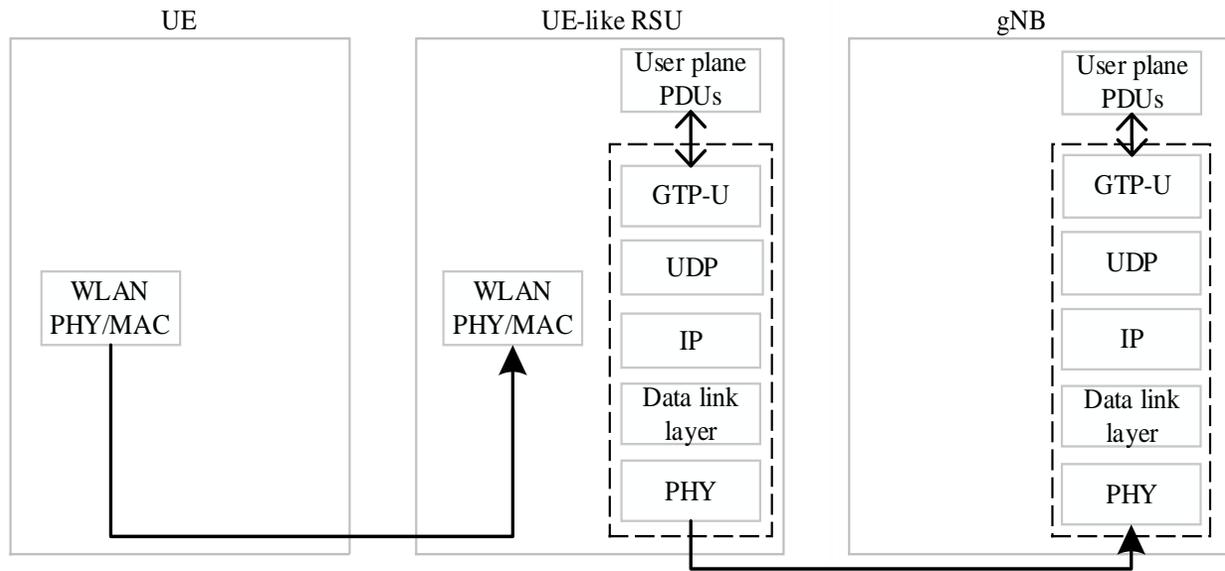


Currently, there are still coverage issues in some areas, especially in residential areas. Meanwhile, it seems it is acceptable by consumers to be provided communication service via terminal hotspots (such as WIFI). In addition, the cost of terminal hotspots is lower than that of pico/femto gNB or WIFI AP, and the protocol stack of CP/UP is basically ready. What lacks is just to take wired transmission into account. Therefore, we propose to study the usage of a wired terminal as an RSU.

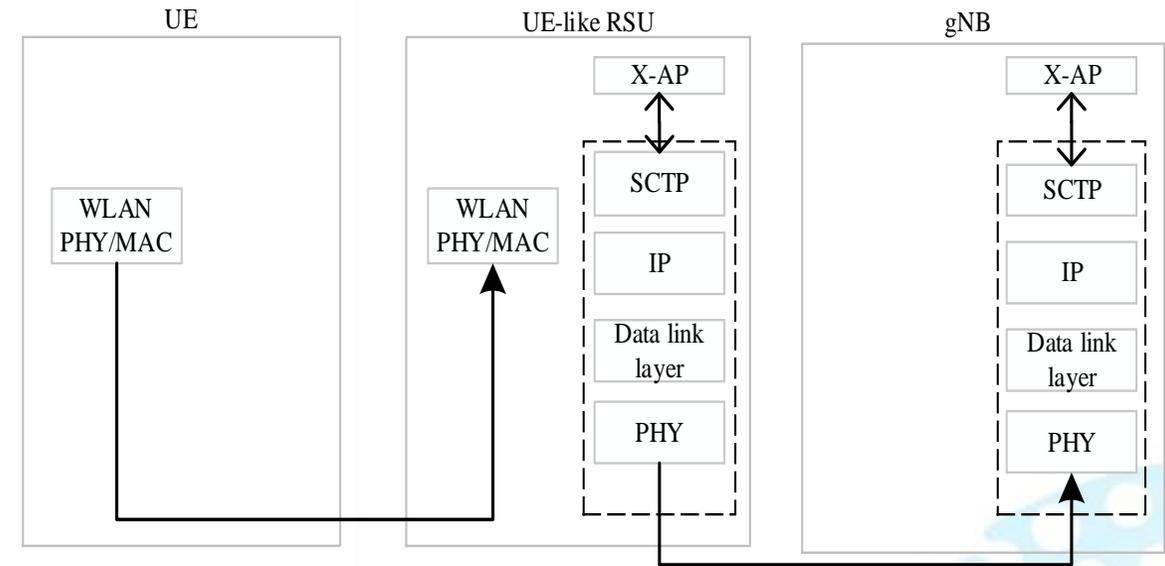


Models of wired-terminal RSU

UE can access to network via UE-like RSU, and the UE to UE-like RSU link is WLAN.



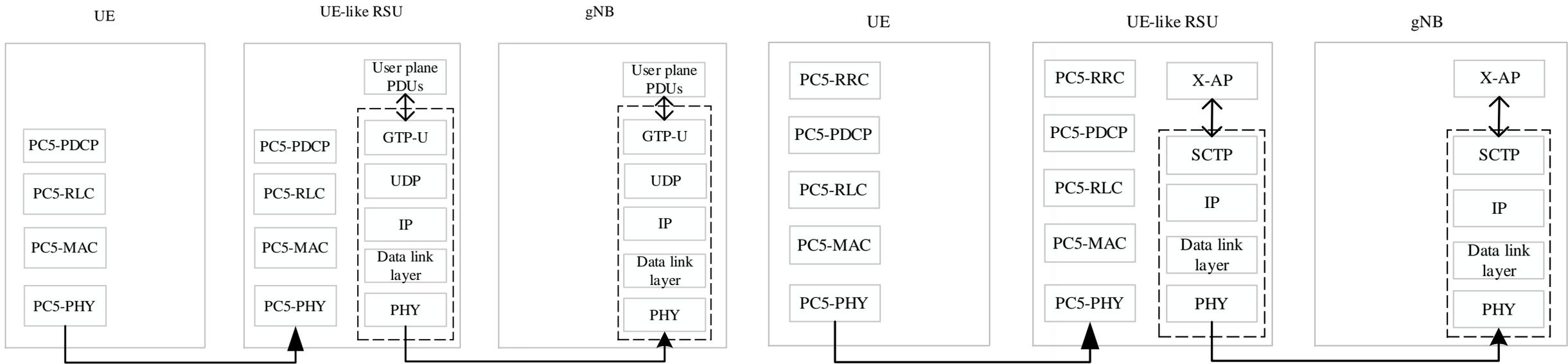
UP protocol stack for WLAN based wired-terminal RSU



CP protocol stack for WLAN based wired-terminal RSU

Models of wired-terminal RSU

UE can access to network via UE-like RSU, and the UE to UE-like RSU link is Sidelink.



UP protocol stack for SL based wired-terminal RSU

CP protocol stack for SL based wired-terminal RSU

Potential SI objectives



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The objective of this study item is to investigate the two scenarios and identify their standardization impacts.

- Study the benefits of the Wi-fi based and Sidelink based Wired-terminal RSU deployment [RAN3]
- Study the network interface between Wired-terminal RSU and gNB [RAN3]
 - Study the basic functions for control plane and user plane
 - Study interface management procedure, e.g., RSU to gNB interface setup/release/configuration update
 - UE authorization
- Study the impacts on NGAP, if needed [RAN3]
- Study the supporting of service continuity (path switch between Wired-terminal RSU and direct Uu connection) [RAN3, RAN2]



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Thank you