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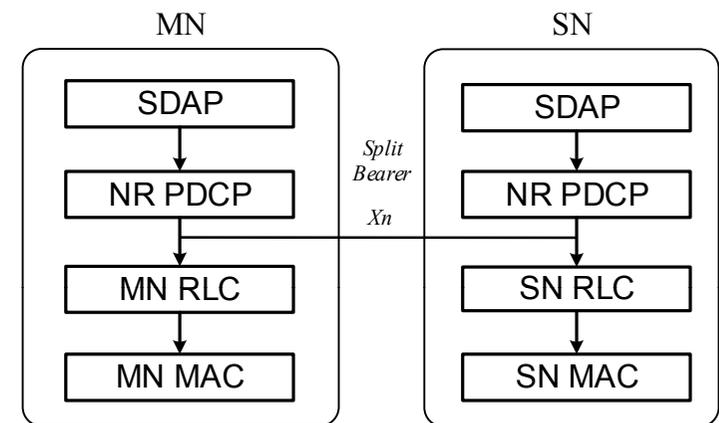
Motivation for New SID on Multi-RAT Traffic Steering Enhancement

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- Although the global wireless industry is working on preparations for 5G launch, currently operators are deploying more advanced LTE capabilities, and LTE subscriptions are continuing to grow at a fantastic rate. New LTE network deployments continue as well as many network upgrades from LTE to LTE-Advanced.
- Ovum's global forecast indicates LTE surpassing all other technologies in 2018 to become the most popular technology with a total 3.16 billion LTE connections, 41.6 percent penetration and 38 percent market share. LTE connections will be nearly 5 billion with 62 percent penetration by December 2022, according to the forecast.
- In parallel with the 5G research activities, 3GPP is continuously adding new features to LTE and it is likely that at the time 5G reaches the market, LTE should be capable of addressing many of the 5G requirements, such as the ones related to LPWA.
- As LTE has been heavily deployed and operates in frequency bands with better propagation properties, operators need the tight interworking between LTE and NR to maximize the air interface efficiency of two systems.

Motivation

- In 3GPP Rel.15, the tight interworking between LTE and NR is implemented through Dual Connectivity (DC) technic for EN-DC(Option 3/3a/3x), NGEN-DC(Option 7/7a/7x), NE-DC(Option 4/4a) of deployment scenarios. Rel.15 DC is based on the common PDCP/RRC control structure, the interface of X2/Xn is used to exchange signalling and data traffic of PDCP level between NR and E-UTRAN. Through Xn/X2, the gNB/eNB can request another eNB/gNB to provide radio resources for a certain UE according to its own traffic load condition.
- The advantages of the PDCP Level aggregation are the low constraint in terms of synchronicity between NR and E-UTRAN and the low implement complexity.



➤ For low latency connection between NR and E-UTRAN scenarios

- From 4G deployment experience, the proportion of UTRAN and E-UTRAN collocated network deployment scenarios is more than 80%; It means that in most cases the transmission between NR and E-UTRAN can provide the high capacity, low latency characteristics.
- The current integration mechanism only supports the packet exchange based on UE long-term measurement report and transmission status report in PDCP level.
- Considering the long-term coexistence of E-UTRAN and NR as well as low latency transmission between them, it is necessary to introduce the more efficient aggregation mechanism, such as RLC/MAC level aggregation mechanism, and enhance the current integration interface to fulfill the request for the sufficient use of two RAT radio resources.



- The objectives of this SI is to study the integration enhancement mechanism of DC to enable more efficient resource use and traffic steering
 - Dynamic traffic steering of NR and E-UTRAN resources based on real time channel states;
 - Finer granularity support of traffic steering, such as RLC Level, logic channel level;
 - More efficient load balancing mechanism;



Thanks !