

Source: ZTE, Sanechips

Agenda: 5

Views on VMR in Rel-19



Overview

- Motivations for VMR in R19
- New use case for VMR in R19
- Support of network sharing
- Support of local service
- Potential work scope for VMR in R19

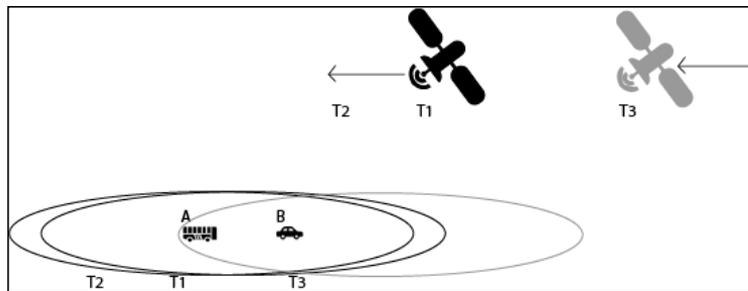
Motivations for VMR in R19

- Several VMR requirements have been addressed in Rel-18 mobile IAB WI.
 - Rel-16/17 IAB architecture is leveraged in R18 mobile IAB. Inter-donor IAB node mobility including consecutive partial migration and full migration are under discussion in R18 mobile IAB.
- Challenges in R18 mobile IAB:
 - The separate MT migration and DU migration together with the UE migration makes the complicated design, which is not easy for implementation
- Other VMR requirements not touched in Rel-18 mobile IAB WI:
 - Network sharing
 - New use case: support of non-terrestrial access
- In addition, support of local service can be considered for VMR in R19.

New architecture/protocol with full gNB functionality (at least CU-CP) at the relay node is desired.

New non-terrestrial access use case for VMR

- Motivation: UEs/vehicular relays may be out of coverage of terrestrial network



- Potential requirements:
 - support mobile base station relays using non-terrestrial access.
 - support mobile base station relays accessing to 5GC via NR non-terrestrial access and NR terrestrial access simultaneously.
 - support mobility and service continuity for mobile base station relays between terrestrial access and non-terrestrial access, or between Non-terrestrial accesses.

Support of network sharing

Motivation: support of sharing between multiple PLMNs for UEs connected via relay node.

- Scenario 1: Shared relay node and non-shared donor node
- Scenario 2: Shared relay node and shared donor node

Potential requirements:

- support RAN sharing between multiple PLMNs for UEs connected to 5G network via relay node.
- support end-to-end service continuity for a UE active connection to RAN via a relay node when there is a change between a shared RAN and a non-shared RAN , or when RAN sharing changes (for the same relay node) between different sharing PLMNs.

Support of local service

- Motivation
 - The data packet does not need to pass through the core network and even donor node
 - Save the backhaul link radio resources and further reduce the burden of the core network
- The following existing mechanisms could be leveraged as the starting point of supporting local service in relay node:
 - Support of Local Area Data Network:
 - localized UPF co-located in the relay node
 - the traffic steering from the UPF to the local Data Network
 - Support of local switch
 - packet forwarding locally between two UEs via relay node

Potential work scope for VMR in R19

- The following working scope can be considered:
 - Support of architecture/protocol/mobility of relay node with full gNB functionality at the relay node. [RAN3, RAN2]
 - Support of relay node using non-terrestrial access. [RAN3, RAN2]
 - support relay node accessing to 5GC via NR non-terrestrial access and NR terrestrial access simultaneously.
 - Support mobility and service continuity for mobile base station relays between terrestrial access and non-terrestrial access, or between Non-terrestrial accesses.
 - Support of local service. [RAN3, RAN2]
 - Support of network sharing between multiple PLMNs for UEs connected to 5G network via relay node. [RAN3, RAN2]

Thanks



Tomorrow never waits

