

3GPP TSG RAN Rel-18 workshop

June 28 – July 02, 2021

Agenda: 4.2 Non-eMBB-driven Functional Evolution

TDOC: RWS-210248

For: discussion

IAB and Smart Repeater Enhancements in Rel-18

Source: Rakuten Mobile



IAB Enhancements

Background & Motivation:

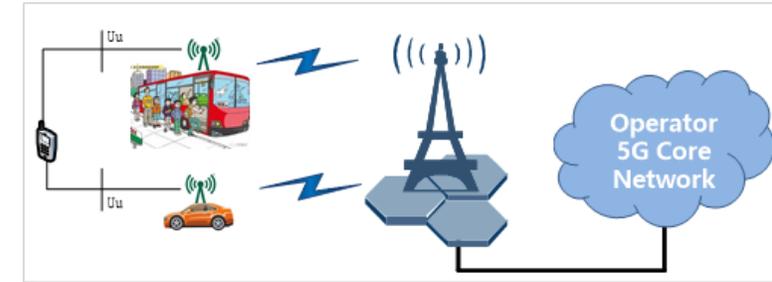
- There are a number of enhancements related to Topology, RLF handling, Performance requirements proposed in Release-17.
- IAB feature is critical for operators, which 3GPP should continue to work on, and Release 18 should cover Mobile IAB enhancements as well.

Proposals:

We propose to support the following objectives in Release 18.

- Higher order modulation specific to IAB (1024QAM or higher)
- Inter AMF node migration.
- UE's handover improvements based on feedback from IAB about node mobility status.
- Interference management for mobile nodes based on inter Node distance.
- PCI and RACH change of Node cell through conflict avoidance mechanism.
- Enhancements required for IAB to function as NTN node.
- Enhancements for dual operation in licensed and unlicensed band.

Rel18 SA1 Study on Vehicle-Mounted Relays

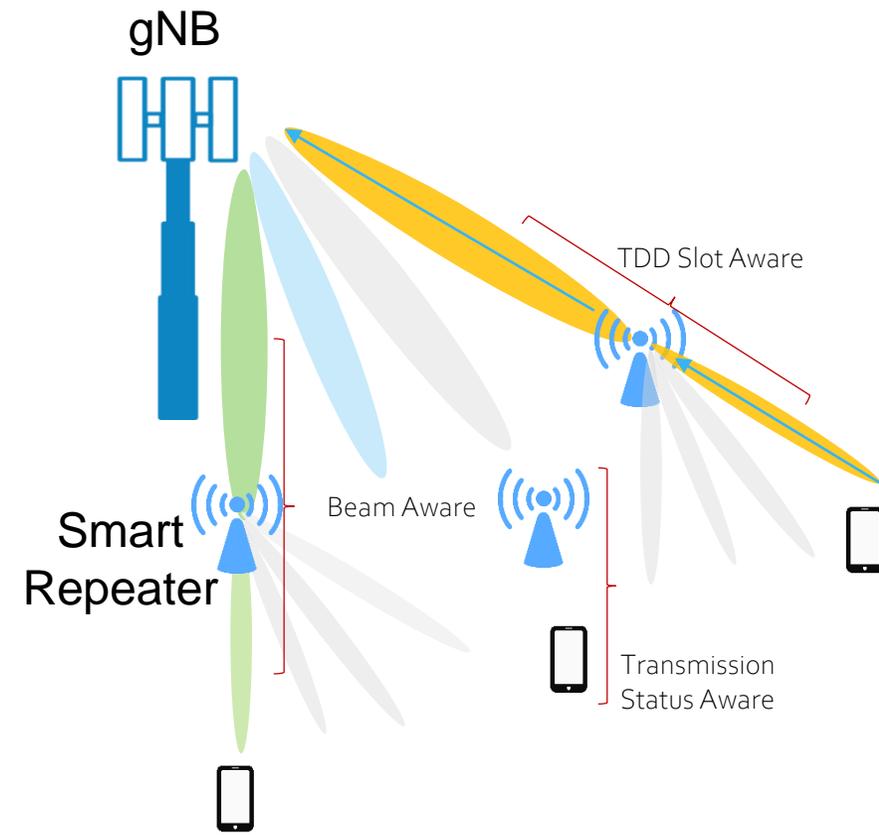


Smart Repeater Enhancements

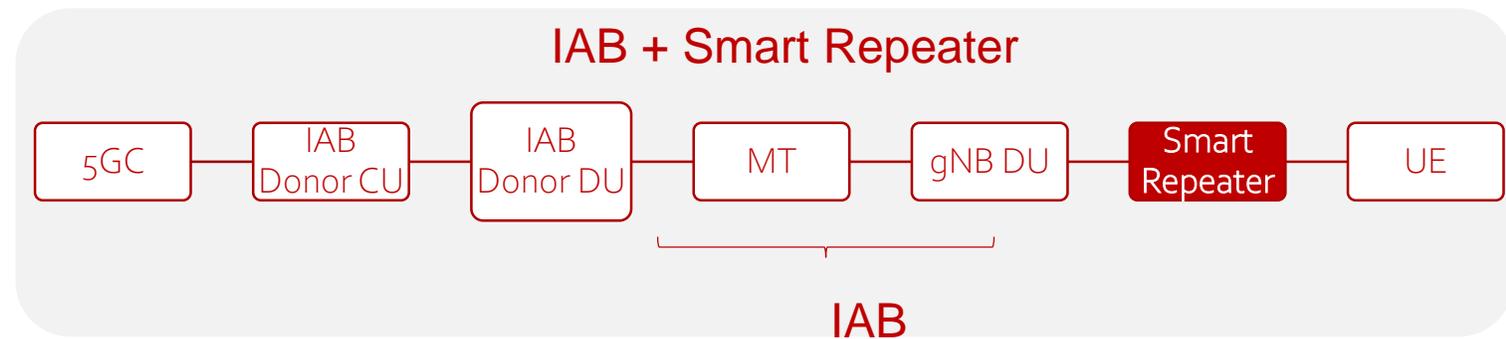
NR Repeaters in Release-17 mostly focus on Repeater's RF requirements

We propose to support Multi-beam aware/adaptive Repeater
In Release 18.

- Repeater performance can be improved if following control information is provided/exchanged.
 - Slot transmission status (ON/OFF).
 - TDD Slot configuration (symbol level)
 - Tx/RX Beam Information
 - Adaptive repeater bandwidth
- Revise NR repeater's RF and EMC requirements for Smart repeater.



Repeater's offer significant cost advantage over IAB



- IAB and Smart Repeater can be deployed together.