On Media Delivery in Rel-18

BBC Input to 3GPP RAN Rel-18 Workshop (AI 4.3) [RWS-210133]

June 2021

ON MEDIA DELIVERY IN REL-18

Summary of Specific Proposals

- Specify MBS Receive-only Mode to support free-to-air broadcast service
- Specify MBS Physical Layer Time Interleaving
- Study Broadcast/Multicast and Unicast Superposition Transmission (BMUST) [RWS-210132]
- Study techniques to enhance cell coverage for lower bit-rate media delivery, in particular in rural areas {potential extensions to e.g. CovEnh}
- Study techniques to address universal access to unicast/multicast/broadcast services {e.g. FS_PALS}
- Complete potential leftovers from MBS work under Rel-17
- Study uplink enhancements via a gap analysis against AV Production requirements
- **New techniques should prioritise transparency to UE hardware**

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High-level Requirements

- **TV and Radio distribution**
  - **Universal access**
    - Coverage from all operators (i.e. removal of ‘partial not-spots’, see final slide)
    - Subscription-free access to content over PLMNs
  - **Broadcast-equivalent QoS (i.e. high quality and reliability)**
  - **Complete and supportive standards-based ecosystem**
  - **Widespread feature support in handsets essential**
    - Considerations on backwards compatibility of new techniques
- **Audio/Video Production**

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Technical Enhancements targeting Universal Access

- Specify receive-only Mode/Free-to-Air for 5MBS to address:
  - Partial not-spots
  - Potential for subscription-free access to broadcast content over PLMNs

- Study other standards-based approaches e.g. Localised Services {FS_PALS} to address:
  - Partial not-spots

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Technical Enhancements targeting QoS and General Improvements

- Support proposed studies that could enhance media delivery over mobile networks {e.g. FS_NE_5GMEDIA}

- Specify 5MBS efficiency and reliability enhancements
  - e.g. HARQ/physical layer time interleaving, BMUST

- Study extension of techniques to enhance cell coverage {CovEnh} for lower bit-rate services for both unicast and multicast/broadcast
  - e.g. for the delivery of media content including audio in rural areas (ca. 100-300 kbit/s)

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Technical Enhancements targeting AV Production

- Study uplink enhancements (e.g. for higher uplink bitrates or better QoS)
  - conduct a gap-analysis on Rel-17 RAN based on requirements in SA1 TS 22.263 (§6.2)

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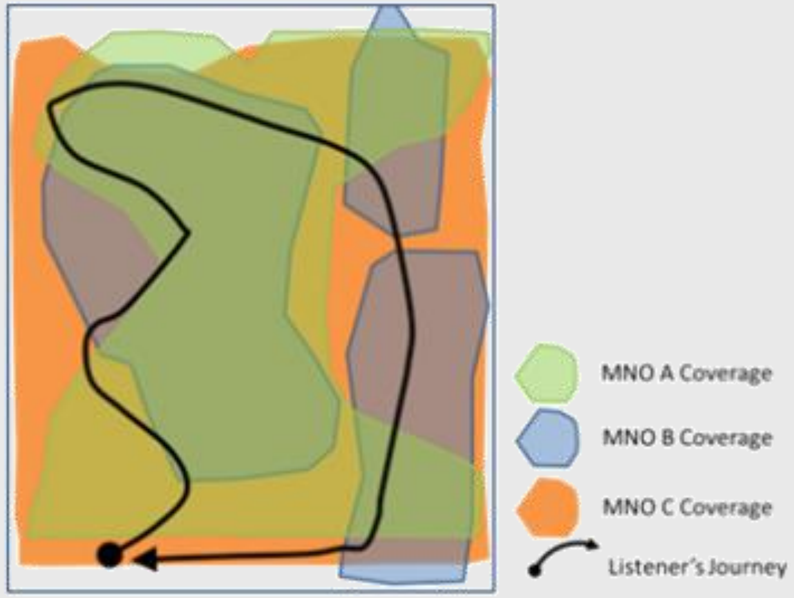
Background Information: Partial Not-Spots



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