3GPP TSG RAN Meeting #98-e
Electronic Meeting, December 12 – 16, 2022

RP-222976

Discussion on Rel-18 WI scope for Network-controlled Repeaters (NCR)

Agenda Item: 9.3.1.6

Source: Intel Corporation

Document for: Discussion/Decision

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Rel-18 WI Scope for NCR

- For side control information, beamforming, UL-DL TDD operation and ON-OFF information were agreed as objectives of Rel-18 NCR, while power control aspect will be checked in RAN 98e, as captured in the WID (RP-222673)

Specify the signalling and behavior of the following side control information for controlling the NCR-Fwd [RAN1, RAN2]

- Beamforming
- UL-DL TDD operation
- ON-OFF information

Note: Power control aspect will be checked in RAN#98e.

Status of Power Control for NCR

- Power control for NCR was studied by RAN1 in SI phase without consensus and thus it was not recommended by TR 38. 867
- Power control for NCR was discussed in RAN#97-e, there was no consensus to specify signaling for power control in WI phase
  - Divergent views on the necessity of specifying power control
    - Inconclusive benefits of spec-based power control in addition to existing tools
  - If power control is to be specified, multiple aspects require further discussion and consensus
    - Semi-static and/or dynamic power control for NCR
    - Amplifying gain and/or transmission power control for NCR
    - Power control for backhaul and/or access link for NCR

Discussion and Proposal

- Power control for NCR is beneficial but spec support is not required
  - Basic adjustment of amplifying gain for intended coverage or inter-cell interference control is needed and could be based on OAM
  - No clear benefits of NCR power control for other purposes, associated with increased NCR implementation complexity as well as complicated UE power control and DL measurements
- Rel-18 NCR WI completion is at risk if support of NCR power control is pursued
  - There are open issues for prioritized objectives such as aperiodic and semi-persistent beam indication
  - Solutions for power control are diverging and it would be challenging to converge and complete the design within one meeting
- Proposal
  - *NCR power control is not specified for Rel-18 NCR WI*

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