**3GPP TSG RAN meeting #99 RP-230277**

**Rotterdam, Netherlands, March 20-23, 2023**

## Status Report to TSG

**Agenda item:** 9.3.2.9

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **WI / SI Name** | XR Enhancements for NR | | | | |
| included in this status report | Study Item:  No | Core part:  Yes | Performance part:  No | | Testing part:  No |
| **Acronym** | NR\_XR\_enh-Core | | | | |
| **Unique ID** | 981039 | | | | |
| **TSG Tdoc of latest approved WI/SI description (if any)** | [RP-223502](http://3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223502.zip) | | | | |
| **Target Completion Date**  **(indicate if changed)** | Study Item: N/A | Core part:  2023/12 | Performance part: N/A | Testing part: N/A | |
| **Overall Completion level** | Study Item: N/A | Core part: 10% | Performance Part: N/A | Testing part: N/A | |

**Source:**

|  |  |  |
| --- | --- | --- |
| **Leading WG** | | RAN2 |
| **Rapporteur** | **Name** | Benoist Sébire |
| **Company** | Nokia |
| **Email** | benoist.sebire@nokia.com |

## 1 Work plan related evaluation

|  |  |
| --- | --- |
| **Do you want to modify the time budget for this WI/SI compared to what was endorsed at the last RAN meeting?** | No |

RAN2 has completed the study and the TR is submitted for approval at this meeting.

## 2. Detailed progress in RAN WGs since last TSG meeting (for all involved WGs)

## 2.1 RAN1

## 2.2 RAN2

#### 2.2.1 Agreements

New agreements from **RAN2#121** meeting:

- Regarding power saving:

- Companies should evaluate the RAN2 specification impacts and any other RAN2 aspects of their proposals for XR DRX.

- Companies should evaluate the (high-level) impacts to RAN1/4 specification from their proposals for XR DRX.

- Companies should try to coordinate with each other offline and bring joint proposals to next meeting. RAN2 aims to exclude proposals with least support in the next meeting.

- Companies should evaluate the RAN2 specification impacts and any other RAN2 aspects of their proposals for SFN wrap-around.

- Same as for DRX solutions, companies should try to coordinate with each other offline and bring joint proposals to next meeting. RAN2 aims to exclude proposals with least support in the next meeting.

- Whether the issue of retransmission-less CG for UL pose transmission is addressed in the WI needs to be discussed in RAN

- Regarding capacity enhancements:

- New BSR tables are fixed (=specified) or semi-static (RRC-based).

- FFS how many BSR tables are defined.

#### 2.2.2 Open Issues

All objectives of the work item remain open as per the agreed work plan. One new issue flagged for RAN to discuss though, is whether the issue of retransmission-less CG for UL pose transmission needs to be addressed in the WI or not.

## 3. Detailed progress in SA WGs since last TSG meeting (for all involved WGs)

## 4. References

New references from the last RAN WG meetings.

**RAN2#121**

1. R2-2300118, Discussion on XR power saving, Huawei, HiSilicon
2. R2-2300188, DRX enhancements for XR, Qualcomm Incorporated
3. R2-2300226, DRX enhancements for XR Power Saving, CATT
4. R2-2300324, Discussion on DRX Enhancements for XR Power Saving, vivo
5. R2-2300423, Discussing on XR-specific C-DRX enhancement, Xiaomi Communications
6. R2-2300432, C-DRX enhancements for XR traffic, Intel Corporation
7. R2-2300565, XR-Specific power saving, ZTE Corporation, Sanechips
8. R2-2300591, XR-specific power saving enhancement, Google Inc.
9. R2-2300695, XR-specific power saving, InterDigital
10. R2-2300699, Discussion on XR data periodicity mismatch, FGI
11. R2-2300774, DRX enhancement for power saving in XR, LG Electronics Inc.
12. R2-2300843, Discussion on C-DRX enhancement for XR, NEC Corporation
13. R2-2300909, C-DRX enhancements for XR-specific power saving, DENSO CORPORATION
14. R2-2300945, Discussion of DRX enhancement, Lenovo
15. R2-2301091, Proposals on XR specific C-DRX power saving enhancements, Sony
16. R2-2301237, Discussion on DRX enhancements, CMCC
17. R2-2301323, Discussion on power saving scheme for XR, Samsung
18. R2-2301372, C-DRX enhancements for XR, MediaTek Inc.
19. R2-2301508, Discussion on XR-specific power saving, Ericsson
20. R2-2301516, Power saving enhancements for XR, Nokia, Nokia Shanghai Bell
21. R2-2301834, Discussion on various frame rates supported for XR-specific power saving, III
22. R2-2300189, Enhancements for capacity improvements, Qualcomm Incorporated
23. R2-2300227, The Issues of XR-specific Capacity Improvements, CATT
24. R2-2300256, Dynamic BSR formulation and reporting for XR, Dell Technologies
25. R2-2300325, Discussion on Feedback Enhancements for XR, vivo
26. R2-2300397, Discussion on BSR enhancement for XR capacity improvements, TCL Communication Ltd.
27. R2-2300422, Discussing on UE feedback enhancements for XR capacity, Xiaomi Communications
28. R2-2300433, Enhancements to Buffer Status Reporting for XR Traffic, Intel Corporation
29. R2-2300463, Discussion on capacity improvement, OPPO
30. R2-2300560, BSR enhancements for XR, ZTE Corporation, Sanechips
31. R2-2300592, XR-Specific capacity improvements, Google Inc.
32. R2-2300641, Considerations on XR capacity improvements, KDDI Corporation
33. R2-2300665, BSR enhancements for XR, Spreadtrum Communications
34. R2-2300684, Discussion on capacity improvements for XR, Google Inc.
35. R2-2300696, XR-specific capacity improvements, InterDigital
36. R2-2300727, Views on BSR Enhancements for XR, Apple
37. R2-2300728, Views on Configured Grant Enhancements for XR, Apple
38. R2-2300826, Discussion on BSR enhancement for XR, NEC Corporation
39. R2-2300918, Discussion on XR-specific capacity improvements, DENSO CORPORATION
40. R2-2300946, Discussion on UE Feedback enhancements, Lenovo
41. R2-2301030, Discussions on XR-specific capacity improvements, Fujitsu
42. R2-2301092, Considerations on XR specific capacity improvements, Sony
43. R2-2301248, Discussion on XR-specific capacity improvement, CMCC
44. R2-2301423, Capacity enhancement for XR, MediaTek Inc.
45. R2-2301507, Discussion on XR-specific capacity improvements, Ericsson
46. R2-2301517, Capacity improvements, Nokia, Nokia Shanghai Bell
47. R2-2301721, Discussion on MAC enhancement for XR-specific capacity improvement, Huawei, HiSilicon
48. R2-2301725, Discussion on BSR enhancement and delay information report, LG Electronics Inc.
49. R2-2301773, Discussion on BSR enhancements for XR, Samsung
50. R2-2301805, Discussion on XR-specific capacity improvements, III