**3GPP TSG RAN WG2#115-e** [draft] **R2-210xxxx**

**e-Meeting, 9th - 27th August, 2021**

Title: [draft] LS on Slice list and priority information for cell reselection

Response to:

Release: Release 17

Work Item: NR\_Slice-Core

Source: Lenovo, Motorola Mobility [to be RAN2]

To: SA2 and CT1

Cc: SA1

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Attachments: -

**1. Overall Description:**

RAN2 discussed the slice (S-NSSAI) based cell reselection and agreed that the following information will be used in UE AS for cell reselection evaluation:

1. Slice specific absolute priority of each of the frequency supporting a slice (“Slice Info”)
	1. The UE receives slice info using RRC signalling (System Information and/or dedicated RRC signalling)
2. *List of Slices with Slice Priority* for cell reselection.

For the *List of Slices with Slice Priority*, UE Access Stratum (AS) expects to receive a list from NAS containing a slice priority for each of the slices contained in the list when/ before it moves to RRC\_IDLE/RRC\_INACTIVE and when the list and/or priorities changes while the UE is in RRC\_IDLE/RRC\_INACTIVE.

How NAS obtains such a list has not been discussed in RAN2. However, the purpose of the list is to steer the UE to camp on a cell/frequency layer where the UE can obtain access to the possible highest priority slice in the list. A slice that is not in the slice list will not be considered for cell reselection.

Following relevant agreements were made in RAN2#114e:

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| * Frequency priority mapping for each slice (slice -> frequency(ies) -> absolute priority of each of the frequency) is provided to a UE.
* Frequency priority mapping for each of the slice (slice -> frequency(ies) -> absolute priority of each of the frequency) is part of the “slice info” agreed to be provided to the UE using both broadcast and dedicated signalling.
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The following Solution was agreed for cell reselection for the normative phase and following relevant agreements were made in RAN2#115e:

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| Agreements* 2: Following is taken as the baseline Solution:

The “slice info” (for a single slice or slice group) agreed to be provided to the UE in the last RAN2 meeting using both broadcast and dedicated signaling are provided for the serving as well as neighboring frequencies. The following steps are used for slice based cell (re)selection in AS:Step 0: NAS layer at UE provides slice information to AS layer at UE, including slice priorities. Step 1: AS sorts slices in priority order starting with highest priority slice.Step 2: Select slices in priority order starting with the highest priority slice.Step 3: For the selected slice assign priority to frequencies received from network.Step 4: Starting with the highest priority frequency, perform measurements (same as legacy).Step 5: If the highest ranked cell is suitable (as defined in 38.304) and supports the selected slice in step 2 then camp on the cell and exit this sequence of operation; FFS: How the UE determines whether the highest ranked cell supports the selected slice.Step 6: If there are remaining frequencies then go back to step 4.Step 7: FFS: If the end of the slice list has not been reached go back to step 2.Step 8: Perform legacy cell reselection. |

Furthermore, RAN2 has been discussing a Slice Group concept, where a slice group consists of one or multiple slices, one slice belongs to one and only one slice group and each slice group is uniquely identified by a slice group identifier. This can avoid publishing slice identities (S-NSSAI) in System Information (security concern and SI size concern). RAN2 assumes the signalling of such slice grouping and slice group identity would be indicated in NAS signalling to the UE. The discussion and agreements reached in RAN2 apply equally to “slice” as well as to “slice group”, even if at many places only “slice” appears.

**2. Actions:**

**To:** **SA2 and CT1.**

**ACTION:** RAN2 kindly asks:

1. Can UE NAS provide to UE AS a list of slices (or slice group(s)), each with its corresponding priority for cell reselection evaluation in RRC\_IDLE/RRC\_INACTIVE?
2. Can the concept of Slice group and its signalling (Slice Group and its identifier) be supported using NAS signalling?

If the answer to above question(s) is “yes”, CT1/SA2 is requested to take this into account in their work on Rel-17 specifications.

**3. Date of Next RAN2 Meetings:**

TSG RAN2 Meeting #116-e Nov. 1 – 12, 2021

TSG-RAN2 Meeting #117 Feb. 21 – 25, 2022