**3GPP TSG-RAN WG2 Meeting #113 Electronic R2-210XXXX**

**25 January – 05 February 2021**

**Agenda item: 8.16.2**

**Source: Nokia**

**Title: Summary of [AT113-e][031][eNPN] LS out**

**WID/SID: NG\_RAN\_PRN\_enh-Core - Release 17**

**Document for: Decision**

# 1 Introduction

This document is the summary of the following email discussion:

**[AT113-e][031][eNPN] LS out (Nokia)**

Scope: LS out to SA2, cc: TBD. Take into account LS question agreements below for *SNPN with subscription or credentials by a separate entity*, and can consider additional filtering. Take into account LS question proposals for *UE onboarding and provisioning for NPN* and determine what shall be included, if any. Take into account LS question proposals *IMS voice and emergency services for SNPN* and determine what shall be included, if any.

Intended Outcome: Approved LS out

Deadline: Interactive discussion, stop when agreement is reached or at EOM. Companies are requested to comment ASAP.

## Contact person(s) for each participating company

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| --- | --- | --- |
| Company | Name | Email address |
| Nokia | Gyorgy Wolfner | gyorgy.wolfner@nokia.com |
| Huawei, HiSilicon | Lili Zheng | zhenglili4@huawei.com |
| CATT | Rui Zhou | zhourui@catt.cn |
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# 2 Discussion

**Q1: Is it acceptable to send the following question to SA2?**

Can RAN2 assume uniform support of GID(s) across a network or a registration area?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes with comments | We think the answer from SA2 has impact on cell selection/reselection. If the answer from SA2 is “No”, AS procedures will be much easier: after NAS selects an SNPN, AS could follow the legacy cell selection/reselection procedure.  Apart from GID(s), other IEs related to external authentication should also be considered. Therefore we prefer to modify the question to:  Can RAN2 assume uniform support of external authentication related parameters (i.e., indicator for support of external authentication, GID(s), and indicator for "whether the SNPN allows registration attempts from UEs that are not explicitly configured to select the SNPN") across a network or a registration area? |
| CATT | Yes, with comments | Agree with the intention, but some clarification is necessary   1. This LS includes questions on several key issues,we should make it clear that this is about key issue 1# Enhancements to Support SNPN along with credentials owned by an entity separate from the SNPN 2. The current wording is vague, we understand the intention is to ask whether the supported GID list of a specific SNPN is same in any cell belongs to the SNPN.   So, we suggest a rewording as below,  **For key issue#1 in SA2, Is the supported GID list of a specific SNPN same in any cell belongs to the SNPN?** |
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**Q2: Is it acceptable to send the following question to SA2?**

Is the GID selected by NAS given to AS to assist UE subsequence cell selection and reselection?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Not urgent | It’s better to clarify whether GID is selected by NAS or AS.  However, if the answer of Q1 is “Yes” (i.e. uniform support of GID across the network), then NAS only needs to select an SNPN and inform AS of the selected SNPN, and no need to give the selected GID to AS. |
| CATT | Yes, with comments | Agree to ask this question to SA2 as it is RAN2 agreement to ask.  But Q1 seems sufficient. We should know whether there is impact on cell selection/reselection when we get answer to Q1 from SA2. |
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**Q3: Is it acceptable to send the following question to SA2?**

Should AS support the (IDLE/INACTIVE/CONNECTED mode) mobility scenarios between different SNPNs or SNPN and PLMN when the same credentials can be used on the source and the target networks?

E.g. Should the (IDLE/INACTIVE/CONNECTED mode) mobility of a UE be supported from SNPN#1 to SNPN#2 when the GID used to access SNPN#1 is supported by SNPN#2?   
E.g. Should the (IDLE/INACTIVE/CONNECTED mode) mobility of a UE be supported between SNPN#1 and PLMN#a when the credential of PLMN#a is used to access SNPN#1?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes | Ok to clarify.  Besides, we would also like to ask SA2 to clarify whether the general mobility across SNPNs is supported (without considering external authentication or onboarding).  In R16, the mobility is restricted within an SNPN.  We wonder in R17, if the UE has subscriptions with both SNPN1 and SNPN2, whether the mobility from SNPN1 to SNPN2 is supported. |
| CATT | Yes |  |
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**Q4: Is it acceptable to send the following question to SA2?**

Shall Group IDs be broadcasted per SNPN or per cell (GID(s) are common for all SNPNs that share the cell)?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes | It will make RAN2 work easier. |
| CATT | Yes, with comments | Agree to ask this question to SA2 as it is RAN2 agreement to ask.  But Q1 seems sufficient. We should know whether it is per SNPN or per cell once we get answer to Q1 from SA2. |
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**Q5: Is it acceptable to send the following question to SA2?**

**Can RAN2 assume** uniform support of onboarding in **all cells in an O-SNPN? (I.e. can RAN2 assume that all cells of an O-SNPN broadcasts the support for onboarding?)**

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes | Similar to Q1, the answer from SA2 has impact on cell selection (not reselection, because we think there’re no reselection scenarios for onboarding). If the answer from SA2 is “No”, AS procedures will be much easier: after NAS selects an SNPN, AS could follow the legacy cell selection procedure. |
| CATT | Yes | It is good to have clarification from SA2. |
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**Q6: Is it acceptable to send the following question to SA2?**

**Can SA2 clarify whether including "onboarding indication" in AS level messages from UE to gNB serves any other purpose than selecting the appropriate AMF?**

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | No | It’s in RAN3 scope, and we think it’s already clear in the TR. If there’re other purposes, SA2 will capture them.   * Upon registration to an SNPN for Onboarding, the UE provides an indication at RRC level that the RRC connection is for onboarding. This information will be specified only for SNPN and allows NG-RAN to select an appropriate AMF that supports onboarding procedures. |
| CATT | No | SA2 conclusion on this seems very clear. At least so far the purpose is only for AMF selection.  //23.757,8.4.1   |  | | --- | | Upon registration to an SNPN for Onboarding, the UE provides an indication at RRC level that the RRC connectionis for onboarding. This information will be specified only for SNPN and allows NG-RAN to select an appropriate AMF that supports onboarding procedures. | |
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**Q7: Is it acceptable to send the following question to SA2?**

**Does SA2 see any need of UAC enhancements for onboarding? Can the onboarding indication in SIB** be toggled for access control purposes?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | No | This issue can be decided in RAN2. SA2 is not responsible for the specific solution like toggling the indication in SIB. |
| CATT | Yes, with comments | **Whether gNB can perform the access control by** toggling **the onboarding indication in SIB** is dependent on answer to Q5.  If the status of “onboarding indication” is SNPN specific, i.e. it should be same on any cell of a specific SNPN, then NG-RAN should not decide the the value of “**onboarding indication**” on its own. |
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**Q8: Is it acceptable to send the following question to SA2?**

Is the emergency support indication in SIB supposed to be per SNPN or per cell (common indication for all SNPNs that share the cell)?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes | It will make RAN2 work easier. |
| CATT | Yes, with comments | It needs confirmation with SA2.  But maybe SA2 have no idea how to answer this question if they cannot understand the intention behind this question.  We understand the intention is to clarify whether UE in SNPN AM can initiate emergency services on any of the SNPNs supported by the cell under RAN sharing scenarios.   1. If UE in SNPN AM can initiate emergency services on any of the SNPNs supported by the cell, then “emergency support indication” for SNPN in SIB1 can be per cell, similar as the legacy IE. 2. If UE in SNPN AM can initiate emergency services on a specific SNPN among the SNPNs supported by the cell, then “emergency support indication” for SNPN in SIB1 should be per SNPN.   So, we suggest a rewording as below,  **Can UE in SNPN AM initiate emergency services on any of the SNPNs supported by the cell under RAN sharing scenarios?** |
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**Q9: Is it acceptable to send the following question to SA2?**

Is the support of eCall over IMS assumed to be enabled in SNPN cells?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes | SA2 should decide this. |
| CATT | Yes |  |
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**Q10: Is it acceptable to send the following question to SA2?**

Is the broadcasting of ETWS/CMAS notifications in an SNPN cell is enabled in Rel-17?

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| **Company** | **Answer** | **Comments** |
| Huawei, HiSilicon | Yes, but further information can be provided from RAN2 perspective | SA1 should be in cc.  SA1 is currently discussing whether PWS will be supported in Rel-17. Based on the feedback from our SA1 colleague, the focus of their discussion is whether there is RAN impact. Therefore, it would be helpful to provide RAN2 viewpoint in the LS, e.g. RAN2 thinks ETWS/CMAS are useful. Even if RAN2 identifies there’s no RAN2 impact, this would still be useful information to SA1.  BTW, a typo should be fixed:  Is the broadcasting of ETWS/CMAS notifications in an SNPN cell ~~is~~ enabled in Rel-17? |
| CATT | Yes |  |
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# 3 Conclusions

TBA

# Annex: Draft LS to SA2

**3GPP TSG-RAN WG2 Meeting #113 Electronic R2-210XXXX**

**25 January – 05 February 2021**

**Title:** Clarification request for eNPN features

**Response to:** NG\_RAN\_PRN\_enh-Core

**Release:** Release 17

**Work Item:**

**Source:** RAN2

**To:** SA2

**Cc:** RAN3, CT1

**Contact Person:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**Attachments:** -

**1. Overall Description:**

RAN2 has started the discussion on Enhancement for Private Network Support for NG-RAN. During the discussion it was found that some clarifications are needed on the features covered by this work item from SA2. RAN2 respectfully asks SA2 to answer to the following questions:

TBA

**2. Actions:**

**To SA2 group.**

**ACTION:** RAN2 respectfully asks SA2 to answer to the questions above.

**3. Date of Next TSG-RAN WG2 Meetings:**

3GPP RAN2#113bis-e from 2021-04-12 to 2021-04-20 Electronic Meeting

3GPP RAN2#114-e from 2021-05-19 to 2021-05-27 Electronic Meeting