**3GPP TSG- Meeting #R3-240911**

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Agenda Item: 23.2

Source: Ericsson, Others??

Title: (TP to BL CR for TS 38.423) Support of LPHAP

Document for: Discussion, Other

# Introduction

This TP captures the following agreements from the Positioning SoD :

* **Proposal 10: In XnAP, introduce new** ***SRS Activation Request* IE in RETRIEVE UE CONTEXT REQUEST message to indicate to anchor gNB that UE requests for activation of SRS**
* **Proposal 11: In XnAP, include the preconfigured and non-preconfigured SRS configuration in RETRIEVE UE CONTEXT RESPONSE message (a list of SRS configurations, and corresponding VAs).**

# TP to XnAP BL CR

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8.2.4 Retrieve UE Context

8.2.4.1 General

The purpose of the Retrieve UE Context procedure is to either retrieve the UE context from the old NG-RAN node and transfer it to the NG-RAN node where the UE RRC Connection has been requested to be established, or to enable the old NG-RAN node to forward an RRC message to the UE via the new NG-RAN node without context transfer, or to request for small data transmission. The procedure can also be used to transfer the authorization status information of the mobile IAB-node.

The procedure uses UE-associated signalling.

8.2.4.2 Successful Operation

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**Figure 8.2.4.2-1: Retrieve UE Context, successful operation**

The new NG-RAN node initiates the procedure by sending the RETRIEVE UE CONTEXT REQUEST message to the old NG-RAN node.

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If the UE is a mobile IAB-node, the old NG-RAN node shall include the *Mobile* *IAB Authorization Status* IE in the RETRIEVE UE CONTEXT RESPONSE message. If the *Mobile* *IAB Authorization Status* IE is included in the RETRIEVE UE CONTEXT RESPONSE message, the new NG-RAN node shall, if supported, store the received mobile IAB authorization status information in the UE context and use it accordingly.

If the *SRS Activation Request* IE is contained in the RETRIEVE UE CONTEXT REQUEST message, the old NG-RAN node shall, if supported, provide the Validity Area specific SRS configuration to the receiving gNB in the RETRIEVE UE CONTEXT RESPONSE message.

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9.1.1.8 RETRIEVE UE CONTEXT REQUEST

This message is sent by the new NG-RAN node to request the old NG-RAN node to transfer the UE Context to the new NG-RAN.

Direction: new NG-RAN node → old NG-RAN node.

| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| New NG-RAN node UE XnAP ID reference | M |  | NG-RAN node UE XnAP ID9.2.3.16 | Allocated at the new NG-RAN node | YES | reject |
| UE Context ID | M |  | 9.2.3.40 |  | YES | reject |
| Integrity protection | M |  | BIT STRING (SIZE (16))  | **RRC Resume:**Corresponds to information providedeither in the *resumeMAC-I* either contained in the *RRC ResumeRequest* or the *RRCResumeRequest1* message as defined in TS 38.331 [10])or in the *shortResumeMAC-I* in the *RRCConnection ResumeRequest* message as defined in TS 36.331 [14])**RRC Reestablishment:**Corresponds to information providedeither in the *shortMAC-I* contained in the *RRCReestablishmentRequest* message as defined in TS 38.331 [10])or in the *shortMAC-I* in the *RRCConnection ReestablishmentRequest* message as defined in TS 36.331 [14]).**RRC Resume for UP CIoT Optimization:**Corresponds to information provided in the *shortResumeMAC-I* in the *RRCConnection ResumeRequest* messageor the *RRCConnection ResumeRequest-NB* messageas defined in TS 36.331 [14]. | YES | reject |
| New Cell Identifier | M |  | NG-RAN Cell Identity9.2.2.9 | **RRC Resume:**Corresponds to information provided either in the *targetCellIdentity* within the *VarResumeMAC-Input* as specified in TS 38.331 [10] or in the *cellIdentity* within the *VarShortINACTIVE-MAC-Input* as specified in TS 36.331 [14].**RRC Reestablishment:**Corresponds to information provided in the *targetCellIdentity* within the *VarShortMAC-Input* as specified in TS 38.331 [10] or in the *cellIdentity* within the *VarShortMAC-Input* as specified in TS 36.331 [14].**RRC Resume for UP CIoT Optimization:**Corresponds to information provided either in the *cellIdentity* within the *VarShortResumeMAC-Input* or the *VarShortResumeMAC-Input-NB* as specified in TS 36.331 [14]. | YES | reject |
| RRC Resume Cause | O |  | 9.2.3.61 | In case of RNA Update, contains information provided in the *resumeCause* by the UE in the *RRCResumeRequest* or the *RRCResumeRequest1* message, as defined in TS 38.331 [10],or information provided in the *resumeCause-r15* in the *RRCConnection ResumeRequest* message, as defined in TS 36.331 [14]. | YES | ignore |
| SDT Support Request | O |  | 9.2.3.163 |  | YES | ignore |
| SRS Activation Request | O |  | 9.2.3.X |  | YES | ignore |

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#### 9.2.3.168 Positioning Information

This IE contains positioning information that assists in the SRS configuration of the UE.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned criticality |
| Requested SRS Transmission Characteristics  | M |  | OCTET STRING | Requested SRS Transmission Characteristics, as defined in TS 38.455 [49]. | - |  |
| Routing ID | M |  | OCTET STRING | The maximum length corresponds to NfInstanceId defined in TS 29.571 [50]. | - |  |
| NRPPa Transaction ID | M |  | INTEGER (0..32767) | NRPPa Transaction ID, as defined in TS 38.455 [49] | - |  |
| CHOICE *SRS Validity Area Configuration* | O |  |  |  | YES | ignore |
| *>non-preconfigured* |  |  |  |  |  |  |
| >>SRS-PosRRC-InactiveValidityAreaConfig | M |  | OCTET STRING | Includes the *SRS-PosRRC-InactiveValidityAreaConfig* IE as defined in TS 38.331 [8] | - |  |
| >>Positioning Validity Area Cell List | M |  | 9.2.3.Y |  | - |  |
| *>preconfigured* |  |  |  |  |  |  |
| **>>SRS Pre-configuration List** |  | ***1..<* *maxnoPreconfiguredSRS>*** |  |  | - |  |
| >>>SRS Configuration | M |  | OCTET STRING | Includes the *SRS Configuration* IE, as defined in TS 38.455 [49]. | - |  |
| >>>Positioning Validity Area Cell List | M |  | 9.2.3.Y |  | - |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| *maxnoPreconfiguredSRS* | Maximum no of preonfigured SRS for the UE. Value is 16. |

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9.2.3.X SRS Activation Request

This IE is used to indicate the request for SRS Activation for a UE in Validity Area.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| SRS Activation Request | M |  | ENUMERATED(true, …) |  |

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9.2.3.Y Positioning Validity Area Cell List

This IE is used to indicate the cells belong to the validity area.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| **Positioning Validity Area Cell List** |  | 1 |  |  |
| >Positioning Validity Area Cell Item |  | *1 .. <maxnoVACell>* |  |  |
| >>NR CGI  | M |  | 9.2.2.7 |  |
| >>NR PCI  | O |  | INTEGER (0..1007) | NR Physical Cell ID |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| *maxnoVACell* | Maximum no of cells in a Positioning Validity Area. Value is 32 |

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