**3GPP TSG-RAN WG3 Meeting #129 R3-255808**

**Bengaluru, India, 25th - 29th Aug, 2025**

**Title:** (TP to BLCR for TS 38.473) Discussion on on-demand SIB1 for UEs in idle or inactive mode

**Source:** Huawei

**Agenda item:** 17.3

**Document Type:** Other

# Introduction

This contribution provides the TP for TS 38.473 on the on-demand SIB1 for UEs in idle or inactive mode based on the agreements.

# 2. TP for TS 38.473 – on top of R3-255081

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### 8.2.3 F1 Setup

#### 8.2.3.1 General

The purpose of the F1 Setup procedure is to exchange application level data needed for the gNB-DU and the gNB-CU to correctly interoperate on the F1 interface. This procedure shall be the first F1AP procedure triggered for the F1-C interface instance after a TNL association has become operational.

NOTE: If F1-C signalling transport is shared among multiple F1-C interface instances, one F1 Setup procedure is issued per F1-C interface instance to be setup, i.e. several F1 Setup procedures may be issued via the same TNL association after that TNL association has become operational.

NOTE: Exchange of application level configuration data also applies between the gNB-DU and the gNB-CU in case the DU does not broadcast system information other than for radio frame timing and SFN, as specified in the TS 37.340 [7]. How to use this information when this option is used is not explicitly specified.

The procedure uses non-UE associated signalling.

This procedure erases any existing application level configuration data in the two nodes and replaces it by the one received. This procedure also re-initialises the F1AP UE-related contexts (if any) and erases all related signalling connections in the two nodes like a Reset procedure would do.

#### 8.2.3.2 Successful Operation



Figure 8.2.3.2-1: F1 Setup procedure: Successful Operation

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If the F1 SETUP REQUEST message contains the *Mobile* *IAB-MT User Location Information* IE, the gNB-CU shall, if supported, take it into account when reporting UE location information to the AMF for a UE served by the mobile IAB-node.

If the *XR Broadcast Information* IE is included in the *Served Cell Information* IE in the F1 SETUP REQUEST message, the gNB-CU shall, if supported, consider the indicated cell does not allow 2Rx XR UEs in case of subsequent outgoing mobility involving XR UEs.

If the *NCGI to be Updated List* IE is included in the F1 SETUP RESPONSE message, the gNB-DU shall, if supported, change the NCGI of the cell indicated by the *Old NCGI* IE to the NCGI indicated by the *New NCGI* IE.

If the *Barring Exemption for Emergency Call Information* IE is included in the *Served Cell Information* IE in the F1 SETUP REQUEST message, the gNB-CU may store the information and consider the indicated cell allows emergency bearer services for UEs who would otherwise consider the cell as barred as specified in TS 38.304 [24].

If the *On-demand SIB1* IEis included and set to “Provision” in the *Served Cell Information* IE in the F1 SETUP REQUEST message, the gNB-CU shall, if supported, use this information indicated in the *od-SIB1-Config* IE for coordination of on-demand SIB1 transmission for network energy saving as specified in TS 38.300 [6].

If the *On-demand SIB1* IE is included and set to “Stop provision” in the *Served Cell Information* IE in the F1 SETUP REQUEST message, the gNB-CU shall, if supported, stop the coordination of on-demand SIB1 transmission as specified in TS 38.300 [6].

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### 8.2.4 gNB-DU Configuration Update

#### 8.2.4.1 General

The purpose of the gNB-DU Configuration Update procedure is to update application level configuration data needed for the gNB-DU and the gNB-CU to interoperate correctly on the F1 interface. This procedure does not affect existing UE-related contexts, if any. The procedure uses non-UE associated signalling.

NOTE: Update of application level configuration data also applies between the gNB-DU and the gNB-CU in case the DU does not broadcast system information other than for radio frame timing and SFN, as specified in the TS 37.340 [7]. How to use this information when this option is used is not explicitly specified.

#### 8.2.4.2 Successful Operation



Figure 8.2.4.2-1: gNB-DU Configuration Update procedure: Successful Operation

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If the GNB-DU CONFIGURATION UPDATE message contains the *Mobile IAB-MT User Location Information* IE, the gNB-CU shall, if supported, take it into account when reporting UE location information to the AMF for a UE served by the mobile IAB-node.

If the *XR Broadcast Information* IE is included in the *Served Cell Information* IE in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall, if supported, consider the indicated cell does not allow 2Rx XR UEs in case of subsequent outgoing mobility involving XR UEs.

If the *Barring Exemption for Emergency Call Information* IE is included in the *Served Cell Information* IE in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU may store the information and consider the indicated cell allows emergency bearer services for UEs who would otherwise consider the cell as barred as specified in TS 38.304 [24].

If the *On-demand SIB1* IE is included and set to “Provision” in the *Served Cell Information* IE in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall, if supported, use this information indicated in the *od-SIB1-Config* IE for coordination of on-demand SIB1 transmission for network energy saving as specified in TS 38.300 [6].

If the *On-demand SIB1* IE is included and set to “Stop provision” in the *Served Cell Information* IE in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall, if supported, stop the coordination of on-demand SIB1 transmission for network energy saving as specified in TS 38.300 [6].

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### 8.2.5 gNB-CU Configuration Update

#### 8.2.5.1 General

The purpose of the gNB-CU Configuration Update procedure is to update application level configuration data needed for the gNB-DU and gNB-CU to interoperate correctly on the F1 interface. This procedure does not affect existing UE-related contexts, if any. The procedure uses non-UE associated signalling.

#### 8.2.5.2 Successful Operation



Figure 8.2.5.2-1: gNB-CU Configuration Update procedure: Successful Operation

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If the *gNB-CU Name* IE is included in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU may store it or update this IE value if already stored, and use it as a human readable name of the gNB-CU. If the *Extended gNB-CU Name* IE is included in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU may store it or update this IE value if already stored, and use it as a human readable name of the gNB-CU and shall ignore the *gNB-CU Name* IE if also included.

If the *Mobile IAB Barred* IE is included in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall, if supported, consider it as an indication of whether the cell allows mobile IAB-node access.

If the *On-demand SIB1 Cell* IE is contained in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall, if supported, consider to start or stop the on-demand SIB1 operation as indicated by *the On-demand SIB1 indicator* IE for the cell indicated by the *NR CGI* IE.

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#### 9.2.1.10 GNB-CU CONFIGURATION UPDATE

This message is sent by the gNB-CU to transfer updated information associated to an F1-C interface instance.

NOTE: If F1-C signalling transport is shared among several F1-C interface instances, this message may transfer updated information associated to several F1-C interface instances.

Direction: gNB-CU → gNB-DU

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.23 |  | YES | reject |
| **Cells to be Activated List** |  | *0..1* |  | List of cells to be activated or modified | YES | reject |
| **>Cells to be Activated List Item** |  | *1.. <maxCellingNBDU>* |  |  | EACH | reject |
| >>NR CGI | M |  | 9.3.1.12 |  | - |  |
| >>NR PCI  | O |  | INTEGER (0..1007) | Physical Cell ID | - |  |
| >>gNB-CU System Information | O |  | 9.3.1.42 | RRC container with system information owned by gNB-CU | YES | reject |
| >>Available PLMN List | O |  | 9.3.1.65 |  | YES | ignore |
| >>Extended Available PLMN List | O |  | 9.3.1.76 | This is included if *Available PLMN List* IE is included and if more than 6 Available PLMNs is to be signalled. | YES | ignore |
| >>IAB Info IAB-donor-CU | O |  | 9.3.1.105 | IAB-related configuration sent by the IAB-donor-CU. | YES | ignore |
| >>Available SNPN ID List | O |  | 9.3.1.163 | Indicates the available SNPN ID list.If this IE is included, the content of the *Available PLMN List* IE and *Extended Available PLMN List* IE if present in the *Cells to be Activated List Item* IE is ignored. | YES | ignore |
| >>MBS Broadcast Neighbour Cell List | O |  | 9.3.1.226 |  | YES | ignore |
| >>SSBs within the cell to be Activated List | O |  | 9.3.1.326 | List of SSB beams within the cell requested to be activated. | YES | reject |
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| **Cells Allowed to be Deactivated List** |  | *0..1* |  |  | YES | ignore |
| >**Cells Allowed to be Deactivated List Item** |  | *1 .. <maxCellingNBDU>* |  |  | EACH | ignore |
| >>NR CGI | M |  | 9.3.1.12 |  | - |  |
| **On-demand SIB1 Cell** |  | *0..1* |  |  | YES | ignore |
| >NR CGI | M |  | 9.3.1.12 |  | - |  |
| >On-demand SIB1 Indicator | M |  | ENUMERATED(start, stop, ...) |  | - |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxCellingNBDU | Maximum numbers of cells that can be served by a gNB-DU. Value is 512. |
| maxnoofTNLAssociations | Maximum numbers of TNL Associations between the gNB-CU and the gNB-DU. Value is 32. |
| maxCellineNB | Maximum no. cells that can be served by an eNB. Value is 256. |
| *maxnoofSSBAreas* | Maximum no. SSB Areas that can be served by a cell. Value is 64.  |

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#### 9.3.1.10 Served Cell Information

This IE contains cell configuration information of a cell in the gNB-DU.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| NR CGI | M |  | 9.3.1.12 |  | - |  |
| NR PCI | M |  | INTEGER (0..1007) | Physical Cell ID | - |  |
| 5GS TAC | O |  | 9.3.1.29 | 5GS Tracking Area Code | - |  |
| Configured EPS TAC | O |  | 9.3.1.29a |  | - |  |
| **Served PLMNs** |  | *1..<maxnoofBPLMNs>* |  | Broadcast PLMNs in SIB 1 associated to the NR Cell Identity in the *NR CGI* IE | - |  |
| >PLMN Identity | M |  | 9.3.1.14 |  | - |  |
| >TAI Slice Support List | O |  | Slice Support List9.3.1.37 | Supported S-NSSAIs per PLMN or per SNPN.  | YES | ignore |
| >NPN Support Information | O |  | 9.3.1.156 | Supported NPNs per PLMN. | YES | reject |
| >Extended TAI Slice Support List | O |  | Extended Slice Support List9.3.1.165 | Additional Supported S-NSSAIs per PLMN or per SNPN.  | YES | reject |
| >TAI NSAG Support List | O |  | 9.3.1.273 | NSAG information associated with the slices per TAC, per PLMN or per SNPN. | YES | ignore |
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| XR Broadcast Information | O |  | ENUMERATED (true, …) | Corresponds to information provided in the *cellBarred2RxXR* contained in the *SIB1* message as defined in TS 38.331 [8]. | YES | ignore |
| Barring Exemption for Emergency Call Information | O |  | ENUMERATED (true, …) | Corresponds to information provided in the *barringExemptEmergencyCall*  contained in the *SIB1* message as defined in 38.331 [10]. | YES | ignore |
| CHOICE *on-demand SIB1* | O |  |  |  | YES | ignore |
| >*Provision*  |  |  |  |  |  |  |
| >>On-demand SIB1 Config | M |  | Octet String | Includes the *od-SIB1-Config* contained in the SIBxx message for the cell indicated by the *NR PCI* IE as defined in TS 38.331 [8]. | - |  |
| >*Stop provision* |  |  |  |  |  |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofBPLMNs | Maximum no. of Broadcast PLMN Ids. Value is 6. |
| maxnoofExtendedBPLMNs | Maximum no. of Extended Broadcast PLMN Ids. Value is 6. |
| maxnoofBPLMNsNR | Maximum no. of PLMN Ids.broadcast in an NR cell. Value is 12. |
| maxnoofNR-UChannelIDs | Maximum no. NR-U Channel IDs in a cell. Value is 16. |
| maxnoofMBSFSAs | Maximum no. of MBS FSAs by a cell. Value is 256. |

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