**3GPP TSG-RAN WG3 Meeting #125R3-24xxxx**

**Maastricht, NL, 19 - 23 August, 2024**

Agenda Item: 21.2

Source: Huawei, Ericsson, Lenovo, CMCC, Qualcomm, Xiaomi, Nokia, Nokia Shanghai Bell

Title: (TP for TS 38.425) Support for DL PSI based discard

Document for: Discussion

# 1 Introduction

This paper is to provide TP for DL PSI based discard, according to the follows:

PSI Discard coordination:

**For DL, MN/SN notifies SN/MN whether the DL PSI based discard is configured or not via XnAP signaling.**

**RAN3 to introduce new notification over F1AP and F1-U for DL PSI Discard.**

**CB: # XR2\_NRDC**

* **Discuss open issues above and other issues is any**
* **Provide CRs to capture agreements**

(moderator - Nok)

Summary of offline disc [R3-244706](file:///D%3A%5CRAN3%5CRAN3-125%5CDrafts%5CCB%20%23%20XR2_NRDC%5CDL%20PSI%20based%20Discard%5CInbox%5CR3-244706.zip)

*CHANGES START*

### 5.4.3 Transfer of Assistance Information

#### 5.4.3.1 Successful operation

NOTE 1: In this section, PDCP duplication and delay measurement related information are not applicable to E-UTRA PDCP.

The purpose of the Transfer of Assistance Information procedure is to provide assistance information to the node hosting the NR PDCP entity. Such information may be taken into consideration by the node hosting the NR PDCP entity for UP management and optimisation procedures.

An NR user plane protocol instance making use of the Transfer of Assistance Information procedure is associated to a single data radio bearer only.

The Transfer of Assistance Information procedure may be invoked if

- the corresponding node decides to send the Radio Quality Assistance Information and/or the PDCP duplication activation suggestion to the node hosting the NR PDCP entity for the concerned data radio bearer or,

- the corresponding node decides to send the Radio Quality Assistance Information to the node hosting the NR PDCP entity for the concerned RLC entity.

The Transfer of Assistance Information procedure may be invoked if the corresponding node is configured to perform the QoS monitoring and to send the QoS monitoring results to the node hosting the NR PDCP entity for the concerned data radio bearer.

The ASSISTANCE INFORMATION DATA frame may include one or more Radio Quality Assistance Information. The information shall consist of the information indicated in the Assistance Information Type.

The ASSISTANCE INFORMATION DATA shall be sent, if supported, when the corresponding node receives a DL USER DATA PDU including the Assistance Information Report Polling Flag set to 1.

The ASSISTANCE INFORMATION DATA frame may include the PDCP Duplication Activation Suggestion, which informs the node hosting the NR PDCP entity of the suggestion from the corresponding node on whether to activate or not activate DL PDCP duplication. The node hosting the NR PDCP entity may take this information into account to take a decision on whether to activate or not activate PDCP duplication.

The ASSISTANCE INFORMATION DATA frame may include the UL Delay or/and DL Delay measured by the corresponding node. The node hosting the NR PDCP entity may take this information into account to calculate the whole UL or/and DL delay of RAN.

The ASSISTANCE INFORMATION DATA frame may include UL Congestion Information and/or DL Congestion information measured by the corresponding node. The node hosting the NR PDCP entity shall, if supported, take this information into account to perform ECN marking in the NG-RAN node, or to further send it to the UPF for ECN marking or information exposure as specified in TS 23.501 [8].

The ASSISTANCE INFORMATION DATA frame may include the DL PSI Based Discard Activation Suggestion, which informs the node hosting the NR PDCP entity of the suggestion from the corresponding node on whether to activate or deactivate DL PSI based PDCP discard. The node hosting the NR PDCP entity may take this information into account to decide whether to activate or deactivate DL PSI based PDCP discard.



Figure 5.4.3.1-1: Successful Transfer of Assistance Information Data

*NEXT CHANGE*

#### 5.5.2.3 ASSISTANCE INFORMATION DATA (PDU Type 2)

This frame format is defined to allow the node hosting the PDCP entity to receive assistance information.

The following shows the respective ASSISTANCE INFORMATION DATA frame.

NOTE 1: All information elements defined in Figure 5.5.2.3-1 are also applicable to E-UTRA PDCP unless specified otherwise in section 5.5.3.

|  |  |
| --- | --- |
| Bits | Number of Octets |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| PDU Type (=2) | PDCP Dupl. Ind.  | Assistance Info. Ind. | UL Delay Ind. | DL Delay Ind. | 1 |
| Spare | DL PSI Based Discard Ind. | DL PSI Based Discard Activation Suggestion | UL Congestion Information Ind.  | DL Congestion Information Ind.  | PDCP Duplication Activation Suggestion  | 1 |
| Number of Assistance Information Fields | 0 or 1 |
| Assistance Information Type | 0 or (2\*Number of Assistance Info Fields + sum of Number of octets for Radio Quality Assistance Information Fields) |
| Number of octets for Radio Quality Assistance Information Fields |
| Radio Quality Assistance Information |
| UL Delay DU Result | 0 or 4 |
| DL Delay DU Result | 0 or 4 |
| UL Congestion Information | 0 or 2 |
| DL Congestion Information | 0 or 2 |

Figure 5.5.2.3-1: ASSISTANCE INFORMATION DATA (PDU Type 2) Format

*NEXT CHANGE*

5.5.3.x DL PSI Based Discard Indication

**Description:** This field indicates the presence of the DL PSI Based Discard Activation Suggestion. This information element is not applicable to E-UTRA PDCP.

**Value range:** {0= DL PSI Based Discard Activation Suggestion not present, 1= DL PSI Based Discard Activation Suggestion present}.

**Field length:** 1 bit.

5.5.3.y DL PSI Based Discard Activation Suggestion

**Description:** This parameter indicates the suggestion given by the corresponding node on whether DL PSI based PDCP discard should be activated or not. This information element is not applicable to E-UTRA PDCP.

**Value range:** {0= Not activate, 1= Activate}.

**Field length:** 1 bit.

*CHANGES END*