**3GPP TSG-RAN WG2 Meeting #118-e *R2-220xxxx***

**Electronic, May 9th – 20th 2022**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** | **0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | Need code correction for ReferenceTimeInfo |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_IIOT-Core |  | ***Date:*** | 20 |
|  |  |  |  |  |
| ***Category:*** | **A** |  | ***Release:*** | Rel-17 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | Upon receiving reference time information in DL information transfer, the UE action is to deliver the time to the upper layer, i.e., one shot but the need code is Need R |
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| ***Summary of change:*** | Change the need code from Need R to Need N in DLInformationTransfer. **Impact Analysis**Impacted 5G architecture options: NR SA, (NG)EN-DC, NE-DC, NR-DC Impacted functionality:Reference time delivery transmitted in DLInformationTransfer.Inter-operability:1. If the network is implemented according to the CR and the UE is not, there is no inter-operability issue. The stored reference time has been delivered to upper layer, and even if stored at the UE, there is no use. 2. If the UE is implemented according to the CR and the network is not, there is no inter-operability issue. The stored reference time has been delivered to upper layer, and even if stored at the UE, there is no use.  |
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| ***Consequences if not approved:*** | UE unnecessarily store the reference time which is not useful after delivering to the upper layer.  |
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| ***Clauses affected:*** | 6.2.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ... |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| ***first change*** |

### 6.2.2 Message definitions

#### – *DLInformationTransfer*

The *DLInformationTransfer* message is used for the downlink transfer of NAS dedicated information, timing information for the 5G internal system clock, or IAB-DU specific F1-C related information.

Signalling radio bearer: SRB2 or SRB1 (only if SRB2 not established yet. If SRB2 is suspended, the network does not send this message until SRB2 is resumed. If only *dedicatedInfoF1c* is included, SRB2 is used).

RLC-SAP: AM

Logical channel: DCCH

Direction: Network to UE

*DLInformationTransfer* message

-- ASN1START

-- TAG-DLINFORMATIONTRANSFER-START

DLInformationTransfer ::= SEQUENCE {

 rrc-TransactionIdentifier RRC-TransactionIdentifier,

 criticalExtensions CHOICE {

 dlInformationTransfer DLInformationTransfer-IEs,

 criticalExtensionsFuture SEQUENCE {}

 }

}

DLInformationTransfer-IEs ::= SEQUENCE {

 dedicatedNAS-Message DedicatedNAS-Message OPTIONAL, -- Need N

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension DLInformationTransfer-v1610-IEs OPTIONAL

}

DLInformationTransfer-v1610-IEs ::= SEQUENCE {

 referenceTimeInfo-r16 ReferenceTimeInfo-r16 OPTIONAL, -- Need N

 nonCriticalExtension DLInformationTransfer-v1700-IEs OPTIONAL

}

DLInformationTransfer-v1700-IEs ::= SEQUENCE {

 dedicatedInfoF1c-r17 DedicatedInfoF1c-r17 OPTIONAL, -- Need N

 rxTxTimeDiff-gNB-r17 RxTxTimeDiff-r17 OPTIONAL, -- Need R

 ta-PDC-r17 ENUMERATED {activate,deactivate} OPTIONAL, -- Need R

 sib9Fallback-r17 ENUMERATED {true} OPTIONAL, -- Need R

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

-- TAG-DLINFORMATIONTRANSFER-STOP

-- ASN1STOP

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| *DLInformationTransfer* field descriptions |
| ***rxTxTimeDiff-gNB***Indicates the Rx-Tx time difference measurement at the gNB (see clause 5.2.3, TS 38.215 [9]). Upon receiving this field, the UE calculates the propagation delay based on the RTT-method. The network does not configure this field, if the UE is configured with *ta-PDC* with value *activate*. |
| ***sib9Fallback***Indicates that the UE fallbacks to receive *referenceTimeInfo* in SIB9. |
| ***ta-PDC***Indicates whether the UE-side TA-based propagation delay compensation (PDC) is activated or de-activated. The network does not configure this field with *activate,* if the field *rxTxTimeDiff-gNB* is configured. |