**3GPP TSG-RAN WG2 Meeting #118 electronic *R2-22xxxxx***

**Online, May 9-20, 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **Draft** | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Corrections on UDC capability | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_UDC-Core | | | | |  | ***Date:*** | | | 2022-05-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 can be 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | At RAN2#118-e meeting, some agreements on UDC capability have been made:   * A UE that supports the uplink data compression operation shall support 2048 bytes for compression buffer per UDC DRB and support up to 2 UDC DRBs. * UE capability on compression buffer size, e.g. ENUMERATED {4096bytes, 8192bytes}.   R2-2206149   Corrections to UDC          Lenovo CR       Rel-17  38.306  17.0.0   0742     F   NR\_UDC-Core   *     [038] The change proposed in R2-2206149 is agreeable.   This CR is to capture these agreements in this specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The following changes are made:  (1) For the capability *udc-r17*, the supported compression buffer per UDC DRB is changed into 2048 bytes. A new UE capability *supportOfBufferSize-r17* is added, and the UE capable of *udc-r17* can indicate 4096 bytes or 8192 bytes for compression buffer per UDC DRB  (2) The descriptions of the capabilities *standardDictionary-r17*, *operatorDictionary-r17* and *continueUDC-r17* have been grouped under *udc-r17.*  In addition, there is a guidance from the Chair that:  The 306 CRs shall include an annex containing the RAN2 determined UE capabilities in the feature list format (similar to annex containing RAN2 agreements) for easy compilation into the TR38.822 in the later stage.  So an Annex is attached in the end. It is a revision of the TP in R2-220409, and the following changes are made:  (1) Add *supportOfBufferSize-r17*  (2) In the Prerequisite feature groups column, add xx-1 for feature groups xx-2/-3/-4/-5/-6/-7 because a UE supporting these feature groups shall support xx-1 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | RAN2 agreements are not captured in this specification, and the specification of UDC capabilities remains misaligned with ASN.1. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.331 CRXXXX | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

### 4.2.4 PDCP Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Definitions for parameters | Per | M | FDD-TDD DIFF |
| ***continueEHC-Context-r16***  Indicates that the UE supports EHC context continuation operation where the UE keeps the established EHC context(s) upon PDCP re-establishment, as specified in TS 38.323 [16]. | UE | No | No |
| ***continueROHC-Context***  Defines whether the UE supports ROHC context continuation operation where the UE does not reset the current ROHC context upon PDCP re-establishment, as specified in TS 38.323 [16]. | UE | No | No |
| ***ehc-r16***  Indicates that the UE supports Ethernet header compression and decompression using EHC protocol, as specified in TS 38.323 [16]. The UE indicating this capability and indicating support for at least one ROHC profile, shall support simultaneous configuration of EHC and ROHC on different DRBs. | UE | No | No |
| ***extendedDiscardTimer-r16***  Indicates whether the UE supports the additional values of PDCP discard timer. The supported additional values are 0.5ms, 1ms, 2ms, 4ms, 6ms and 8ms, as specified in TS 38.331 [9]. | UE | No | No |
| ***jointEHC-ROHC-Config-r16***  Indicates whether the UE supports simultaneous configuration of EHC and ROHC protocols for the same DRB. | UE | No | No |
| ***maxNumberROHC-ContextSessions***  Defines the maximum number of ROHC header compression context sessions supported by the UE across all DRBs and multicast MRBs, excluding context sessions that leave all headers uncompressed. | UE | No | No |
| ***maxNumberEHC-Contexts-r16***  Defines the maximum number of Ethernet header compression contexts supported by the UE across all DRBs and multicast MRBs and across UE's EHC compressor and EHC decompressor. The indicated number defines the number of contexts in addition to CID = "all zeros" as specified in TS 38.323 [16]. | UE | No | No |
| ***outOfOrderDelivery***  Indicates whether UE supports out of order delivery of data to upper layers by PDCP. | UE | No | No |
| ***pdcp-DuplicationMCG-OrSCG-DRB***  Indicates whether the UE supports CA-based PDCP duplication over MCG or SCG DRB as specified in TS 38.323 [16]. | UE | No | No |
| ***pdcp-DuplicationMoreThanTwoRLC-r16***  Defines whether the UE supports PDCP duplication with more than two RLC entities as specified in TS 38.323 [16]. The UE supporting this feature supports secondary RLC entity(ies) activation and deactivation based on duplication RLC Activation/Deactivation MAC CE as specified in TS 38.321 [8]. A UE supporting this feature shall also support *pdcp-DuplicationMCG-OrSCG-DRB*, *pdcp-DuplicationSplitDRB*, *pdcp-DuplicationSplitSRB* and *pdcp-DuplicationSRB*. | UE | No | No |
| ***pdcp-DuplicationSplitDRB***  Indicates whether the UE supports PDCP duplication over split DRB as specified in TS 38.323 [16]. | UE | No | No |
| ***pdcp-DuplicationSplitSRB***  Indicates whether the UE supports PDCP duplication over split SRB1/2 as specified in TS 38.323 [16]. | UE | No | No |
| ***pdcp-DuplicationSRB***  Indicates whether the UE supports CA-based PDCP duplication over SRB1/2 and/or, if (NG)EN-DC is supported, SRB3 as specified in TS 38.323 [16]. | UE | No | No |
| ***shortSN***  Indicates whether the UE supports 12 bit length of PDCP sequence number. A RedCap UE shall set the field to *supported*.  Editor's Note: FFS on whether the change is needed. | UE | Yes | No |
| ***supportedROHC-Profiles***  Defines which ROHC profiles from the list below are supported by the UE:  - 0x0000 ROHC No compression (RFC 5795)  - 0x0001 ROHC RTP/UDP/IP (RFC 3095, RFC 4815)  - 0x0002 ROHC UDP/IP (RFC 3095, RFC 4815)  - 0x0003 ROHC ESP/IP (RFC 3095, RFC 4815)  - 0x0004 ROHC IP (RFC 3843, RFC 4815)  - 0x0006 ROHC TCP/IP (RFC 6846)  - 0x0101 ROHC RTP/UDP/IP (RFC 5225)  - 0x0102 ROHC UDP/IP (RFC 5225)  - 0x0103 ROHC ESP/IP (RFC 5225)  - 0x0104 ROHC IP (RFC 5225)  A UE that supports one or more of the listed ROHC profiles shall support ROHC profile 0x0000 ROHC uncompressed (RFC 5795).  An IMS voice capable UE shall indicate support of ROHC profiles 0x0000, 0x0001, 0x0002 and be able to compress and decompress headers of PDCP SDUs at a PDCP SDU rate corresponding to supported IMS voice codecs. | UE | No | No |
| ***udc-r17***  Defines whether the UE supports the uplink data compression operation as specified in TS 38.323 [16]. The capability signalling comprises of the following parameters:  - *standardDictionary-r17* defines whether the UE supports UL data compression with SIP static dictionary as defined in TS 38.323 [16].  - *operatorDictionary-r17* defines whether the UE supports UL data compression with operator defined dictionary. In this release, the UE can only support one operator defined dictionary. If the UE supports operator defined dictionary, the UE shall report *versionOfDictionary-r17* and *associatedPLMN-ID-r17* of the stored operator defined dictionary as defined in TS 38.331 [9]. This parameter is not required to be present if the UE is in VPLMN. The *associatedPLMN-ID-r17* is only associated to the operator defined dictionary which has no relationship with UE's HPLMN ID.  - *continueUDC-r17* defines whether the UE supports continuation of uplink data compression protocol operation where the UE does not reset the buffer upon PDCP re-establishment, as specified in TS 38.323 [16].  - *supportOfBufferSize-r17* defines which compression buffer size the UE supports as specified in TS 38.323 [16]. Value kbyte4 means the UE supports 4096 bytes for compression buffer per UDC DRB. Value kbyte8 means the UE supports 8192 bytes for compression buffer per UDC DRB.  A UE that supports the uplink data compression operation shall support 2048 bytes for compression buffer per UDC DRB and support up to 2 UDC DRBs. | UE | No | No |
| ***uplinkOnlyROHC-Profiles***  Indicates the ROHC profile(s) that are supported in uplink-only ROHC operation by the UE.  - 0x0006 ROHC TCP (RFC 6846)  A UE that supports uplink-only ROHC profile(s) shall support ROHC profile 0x0000 ROHC uncompressed (RFC 5795). | UE | No | No |

# Annex:

The following table is Layer-2 and Layer-3 feature list for NR\_UDC-Core for reference.

6.2.xx NR\_UDC-Core

**Table 6.2.xx-1: Layer-2 and Layer-3 feature list for NR\_UDC-Core**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Features** | **Index** | **Feature group** | **Components** | **Prerequisite feature groups** | **Field name in TS 38.331 [2]** | **Parent IE in TS 38.331 [2]** | **Need of FDD/TDD differentiation** | **Need of FR1/FR2 differentiation** | **Note** | **Mandatory/Optional** |
| xx. NR\_UDC-Core | xx-1 | UDC | Indicates whether the UE supports the uplink data compression. |  | *udc-r17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |
| xx-2 | UDC | Indicates whether the UE supports uplink data compression with the SIP static dictionary. | xx-1 | *standardDictionary-r17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |
| xx-3 | UDC | Indicates whether the UE supports UL data compression with operator defined dictionary. | xx-1 | *operatorDictionary-r17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |
| xx-4 | UDC | Indicates the version of the operator defined dictionary that the UE supports. | xx-1 | *versionofDictionary-17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |
| xx-5 | UDC | Indicates the associated PLMN ID of the operator defined dictionary that the UE supports which has no relationship with UE’s HPLMN ID. | xx-1 | *associatedPLMN-ID-r17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |
| xx-6 | UDC | Indicates whether the UE supports continuation of uplink data compression protocol operation where the UE does not reset the buffer upon PDCP re-establishment. | xx-1 | *continueUDC-r17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |
| xx-7 | UDC | Indicates which compression buffer size the UE supports. | xx-1 | *supportOfBufferSize-r17* | *PDCP-Parameters* | No | No |  | Optional with capability signalling |