**3GPP TSG-CT WG1 Meeting #141eC1-23xxxx**

**Online 17– 21 April 2023**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.554** | **CR** | **0305** | **rev** | **1** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

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

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|  | | | | | | | | | | |
| ***Title:*** | PC5 signalling protocol cause update | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | OPPO | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_ProSe\_Ph2 | | | | |  | ***Date:*** | | | 2023-03-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The new PC5 signalling protocol cause was added in the last meeting.  But the values are missing in the clause 11.3.8. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the new PC5 signalling protocol cause values. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The new PC5 signalling protocol cause values are missing so they cannot be implemented. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 11.3.8 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 11.3.8 PC5 signalling protocol cause

The purpose of the PC5 signalling protocol cause information element is to indicate the cause used in the PC5 signalling protocol procedures.

The PC5 signalling protocol cause is a type 3 information element with a length of 2 octets.

The PC5 signalling protocol cause information element is coded as shown in figure 11.3.8.1 and table 11.3.8.1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| PC5 signalling protocol cause IEI | | | | | | | | octet 1 |
| PC5 signalling protocol cause value | | | | | | | | octet 2 |

Figure 11.3.8.1: PC5 signalling protocol cause information element

Table 11.3.8.1: PC5 signalling protocol cause information element

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PC5 signalling protocol cause value (octet 2) | | | | | | | | | |
|  | | | | | | | | | |
| Bits | | | | | | | | | |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |  |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  | Direct communication to the target UE not allowed |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |  | Direct communication to the target UE no longer needed |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |  | Conflict of layer-2 ID for unicast communication is detected |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |  | Direct connection is not available anymore |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |  | Lack of resources for 5G ProSe direct link |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |  | Authentication failure |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |  | Integrity failure |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |  | UE security capabilities mismatch |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |  | LSB of KNRP-sess ID conflict |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |  | UE PC5 unicast signalling security policy mismatch |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |  | Required service not allowed |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |  | Security policy not aligned |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |  | Congestion situation |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |  | Authentication synchronisation error |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |  | Security procedure failure of 5G ProSe UE-to-network relay |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |  | Unknown target UE’s IP address/prefix or target UE’s Application layer ID |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |  | Unknown initiating end UE’s IP address/prefix or initiating UE’s Application layer ID |
| 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |  | Path switching is not allowed for the ProSe applications |
| 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |  | Communication path over Uu is not available for path switching |
| x | x | x | x | x | x | x | x |  | Failure from 5G ProSe end UE |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |  | Protocol error, unspecified |
| Any other value received by the UE shall be treated as 0110 1111, "protocol error, unspecified". | | | | | | | | | |

\* \* \* End of Changes \* \* \* \*