**3GPP TSG-CT WG1 Meeting #133-eC1-21xxxx**

**E-meeting, 11-19 November 2021 *was* C1-216848**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3776** | **rev** | **1** | **Current version:** | **17.4.1** |  |
|  | | | | | | | | |
| *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 | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | The type of the port number in Remote UE context list information element | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_ProSe | | | | |  | ***Date:*** | | | 2021-11-11 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to TS 23.304, for IPv4 the 5G ProSe layer-3 UE-to-network relay UE shall report **TCP/UDP port** ranges assigned to individual 5G ProSe Layer-3 Remote UE(s) (along with the Remote User ID).  In encoding definition of Remote UE context list IE, only port number is defined. Then network is not able to know the port number is for TCP port or UDP port.  In addition, the field "PDU session type" is in Remote UE context list IE is not named correctly. Because there is no "No IP info" PDU session type and "IPv4v6" is not specified. Actually, the field indicates the protocol used by remote UE other than PDU session type. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define port type to indicate UDP or TCP port in Remote UE context list IE.  Change "PDU session type" to "Protocol used by remote UE". | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The network is not able to know the port number for TCP port or UDP port. "PDU session type" is not correct field name which may bring confusion. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.11.4.29 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

#### 9.11.4.29 Remote UE context list

The purpose of the Remote UE context list information element is to provide identity and optionally IP address of a 5G ProSe remote UE connected to, or disconnected from, a UE acting as a 5G ProSe layer-3 UE-to-network relay.

The Remote UE context list information element is coded as shown in figure 9.11.4.29.1, figure 9.11.4.29.2, table 9.11.4.29.1 and table 9.11.4.29.2.

The Remote UE context list is a type 6 information element with a minimum length of 16 octets and a maximum length of 65538 octets.

Editor's note: It is FFS what are the 5G ProSe remote UE identities that can be included in the Remote UE context list. Depending on the conclusion of this topic, the User identity field needs to be defined and also the Length of user identity is subject to change.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Remote UE context list IEI | | | | | | | | octet 1 |
| Length of remote UE context list contents | | | | | | | | octet 2 |
| octet 3 |
| Number of remote UE contexts | | | | | | | | octet 4 |
| Remote UE context 1 | | | | | | | | octet 5 |
|  |
| octet a |
| … | | | | | | | | octet a+1\*  octet b\* |
| Remote UE context k | | | | | | | | octet b+1\* |
|  |
| octet c\* |

Figure 9.11.4.29.1: Remote UE context list

Table 9.11.4.29.1: Remote UE context list

|  |
| --- |
| Remote UE context (octet 5 etc) |
|  |
| The contents of remote UE context are applicable for one individual UE and are coded as shown in figure 9.11.4.29.2 and table 9.11.4.29.2. |
|  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | | 3 | 2 | 1 |  |
| Length of remote UE context | | | | | | | | | octet 5 |
| Number of user identities | | | | | | | | | octet 6 |
| Length of user identity 1 | | | | | | | | | octet 7 |
| User identity 1 | | | | | | | | | octet 8 |
| octet q |
| … | | | | | | | | |  |
| Length of user identity v | | | | | | | | | octet m\* |
| User identity v | | | | | | | | | octet m+1\* |
| Octet j\* |
| Spare | | | | | Port type | Protocol used by remote UE | | | octet j+1\* |
| Address information | | | | | | | | | octet j+2\*  octet j+k\* |

Figure 9.11.4.29.2: Remote UE context

Table 9.11.4.29.2: Remote UE context list information element

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| User identity (octet 8 to octet q) | | | | | | |
|  | | | | | | |
|  | | | | | | |
|  | | | | | | |
| Protocol used by remote UE (octet j+1, bits 1 to 3)  Bits | | | | | | |
| 3 | | 2 | | 1 |  |  |
| 0 | | 0 | | 0 |  | No IP info |
| 0 | | 0 | | 1 |  | IPv4 |
| 0 | | 1 | | 0 |  | IPv6 |
| 1 | | 0 | | 0 |  | Unstructured |
| 1 | | 0 | | 1 |  | Ethernet |
| All other values are reserved. | | | | | | |
|  | | | | | | |
| Port type (octet j+1, bits 4) | | | | | | |
| Bit | | | | | | |
| **4** |  | |  | | | |
| 0 |  | | UDP port | | | |
| 1 |  | | TCP port | | | |
|  | | | | | | |
| Bits 5 to 8 of octet j+1 are spare and shall be coded as zero. | | | | | | |
|  | | | | | | |
| If the Protocol used by remote UE indicates IPv4, the Address information in octet j+2 to octet j+7 contains the IPv4 address and port number. The type of the port number is indicated with the value set in bit 4 of octet j+1. Bit 8 of octet j+2 represents the most significant bit of the IP address and bit 1 of octet j+5 the least significant bit. Bit 8 of octet j+6 represents the most significant bit of the port number and bit 1 of octet j+7 the least significant bit.  If the Protocol used by remote UE indicates IPv6, the Address information in octet j+2 to octet j+9 contains the /64 IPv6 prefix of a remote UE. Bit 8 of octet j+2 represents the most significant bit of the /64 IPv6 prefix and bit 1 of octet j+9 the least significant bit.  If the Protocol used by remote UE indicates Ethernet, the Address information in octet j+2 to octet j+7 contains the remote UE MAC address. Bit 8 of octet j+2 represents the most significant bit of the MAC address and bit 1 of octet j+7 the least significant bit.  If the Protocol used by remote UE indicates Unstructured, the Address information octets are not included.  If the Protocol used by remote UE indicates No IP info, the Address information octets are not included | | | | | | |
|  | | | | | | |

\* \* \* End of change \* \* \* \*