**3GPP TSG- Meeting # *S6-242341***

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | 1 | **Current version:** |  |  |
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| *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:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | SA6 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | As part of Rel-18 3GPP SA2 completed the architecture work to support UE-to-UE single hope relay. This CR proposes the needed changes to the mission critical architecture to enable MCx over single hop relay for off network UEs |
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| ***Summary of change:*** | The changes are to add updates for off network service requirements and to add a new functional refernce model for MC UE-to-UE single hop relay. |
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| ***Consequences if not approved:*** | Single hop relay will not be supported, and requirements not fulfilled |
|  |  |
| ***Clauses affected:*** | 4.X (new), 5.3.5 (new) |
|  |  |
|  | **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:*** | Initial CR |

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

### 4.x 5G ProSe UE-to-UE relay service requirements

### 4.X.1 General

The MC service shall support the capabilities for 5G ProSe UE-to-UE single hop relay. For this matter, 5G ProSe Layer-2 and 5G ProSe Layer-3 UE-to-UE relaying techniques can be utilized, as described in 3GPP TS 23.304 [17].

A 5G ProSe UE-to-UE relay supporting MC service UE provides means of connectivity and relaying of MC traffic from a MC service UE to another MC service UE(s) via a MC UE Relay. For this matter, the 5G ProSe UE-to-UE Relay Discovery service allows the MC service remote UE to discover a potential UE-to-UE relay supporting MC service in its proximity as described in 3GPP TS 23.304 [17]. Upon its discovery, the 5G ProSe Direct UE-to-UE Relay Communication functionality is utilized to achieve communication to provide the MC service between MC UEs, relaying MC traffic via the UE-to-UE relay UE over the NR PC5 reference point.

### 4.X.2 5G ProSe UE-to-UE relay service requirements

In order to enable 5G ProSe UE-to-UE relaying capabilities – whether based on Layer-3 or Layer-2 UE-to-UE relaying techniques, the MC system provides the appropriate parameters and configurations to the MC service UE(s).

As defined in 3GPP TS 23.304 [17], among these parameters are: Relay Service Code(s) (RSCs) which can be associated to a certain MC service group, User Info, ProSe Layer-2 Group ID and ProSe Group IP multicast address. Moreover, the MC service group ID is resolved to the ProSe Layer-2 Group ID and ProSe Group IP multicast address, which are utilized within the 5G ProSe Relay Discovery and 5G ProSe Direct Communication procedures, as described in 3GPP TS 23.304 [17]. Furthermore, the RSCs are utilized to restrict the necessary UE-to-UE relay service and related procedures within members of a certain MC service group.

\* \* \* Second Change \* \* \* \*

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### 5.3.5 Off-network single hop relay functional model

Figure 5.3.5-1 shows the functional model for off-network operation.



Figure 5.3.5-1: Functional model for MC service off-network single hop relay operation

For a specific MC service, the description of off-network operation is contained in the corresponding MC service TS.

Editors Note: Additional work is needed to finalize the information flows and information elements to support this functionality.

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