**3GPP TSG-CT WG1 Meeting #138-eC1-225858**

**E-Meeting, 10th – 14th October 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0186** | **rev** | **1** | **Current version:** | **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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Alignment of control plane security indication | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 22 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | Issue 1: Per stage-2 requirement (clause 5.1.4.1 of TS 23.304):  *2) ProSe Relay Discovery policy/parameters for 5G ProSe UE-to-Network Relay:*  *- Includes the parameters that enable the UE to perform 5G ProSe UE-to-Network Relay Discovery when provided by PCF or provisioned in the ME or configured in the UICC:*  *- 5G ProSe UE-to-Network Relay Discovery parameters (User Info ID, Relay Service Code(s), UE-to-Network Relay Layer Indicator per RSC, optional Control Plane Security Indicator per RSC).The UE-to-Network Relay Layer Indicator indicates whether the associated RSC is offering 5G ProSe Layer-2 or Layer-3 UE-to-Network Relay service. If the Control Plane Security Indicator is provided for a RSC then the Control Plane based security procedure, as described in clause 5.1.4.3.2, is performed for UE-to-Network Relay Communication for that RSC, otherwise if it is not provided for a RSC then the User Plane based security procedure, as described in clause 5.1.4.3.3, is performed for that RSC.*  The Control Plane Security Indicator per RSC is optional. Per stage-3 spec has implenmented the above requirement by defining a CPSI (Control Plane Security Indication). If the CPSI is not provided, the CPSI is coded as "0"; if the CPSI is provided, the CPSI is coded as "1" (see TS 24.555). This CR aligns the name of Control Plane Security Indication in TS 24.554.  Issue 2: There is a NOTE in TS 24.304:  *NOTE: If the control plane security procedure is not supported, then the 5G ProSe Remote UE can select another 5G ProSe UE-to-Network Relay or user plane based security can be used.*  However, if the remote UE does not support control plane security procedure, it will not help if the UE goes to another relay UE with the same RSC. So if the control plane security indication indicates to use the security procedure over control plane and the 5G ProSe remote UE doesn't support the security procedure over control plane, the 5G remote UE doesn't use that the corresponding relay service code or use the security procedure over user plane.  The above requirements should be implemented in stage-3 spec. | | | | | | | | |
| ***s*** | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Align the indication name as control plane security indication, and add the case for the control plane security indicator indicates to use the security procedure over control plane.  2. Clarify that if the control plane security indication indicates to use the security procedure over control plane and the 5G ProSe remote UE doesn't support the security procedure over control plane, the 5G remote UE doesn't use that the corresponding relay service code or use the security procedure over user plane.  **Backward compatibility analysis**  This CR is backward compatible. This CR proposes an alignment of the name of control plane security indication, and an alignment to UE side when the remote UE doesn't support the security procedure over control plane. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Misalignment with stage-2 implementation | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

### 5.2.5 Configuration parameters for 5G ProSe UE-to-network relay

The configuration parameters for the role of a ProSe UE-to-network relay UE over PC5 reference point consist of:

a) a validity timer for the validity of the configuration parameter for 5G ProSe UE-to-network relay over PC5 interface;

b) a list of PLMNs in which the UE is authorised to relay traffic for 5G ProSe layer-3 remote UEs when the UE is served by NG-RAN and in each PLMN, where that authorization also authorizes the use of both 5G ProSe UE-to-network relay discovery Model A and 5G ProSe UE-to-network relay discovery Model B;

c) a list of PLMNs in which the UE is authorised to relay traffic for 5G ProSe layer-2 remote UEs when the UE is served by NG-RAN and in each PLMN, where that authorization also authorizes the use of both 5G ProSe UE-to-network relay discovery Model A and 5G ProSe UE-to-network relay discovery Model B;

d) the default destination layer-2 ID(s) for sending the discovery signalling for announcement and additional information and for receiving the discovery signalling for solicitation;

NOTE 1: Which default destination layer-2 ID is selected is up to UE implementation when there are more than one default destination layer-2 ID.

e) a User info ID for the UE-to-network relay discovery;

f) one or more relay service code(s) for the UE-to-network relay discovery and for each relay service code:

1) security related content for 5G ProSe relay discovery that is used when the security procedure over control plane as specified in 3GPP TS 33.503 [34] is used, including a validity timer for that security related content;

2) an indication of whether the relay service code is offering 5G ProSe layer-2 or layer-3 UE-to-network relay service;

3) for 5G ProSe layer-3 UE-to-network relay UE, a set of PDU session parameters:

i) PDU Session type;

ii) optionally, DNN;

iii) optionally, SSC Mode;

iv) optionally, S-NSSAI; and

v) optionally, access type preference;

4) for 5G ProSe layer-2 UE-to-network relay UE and 5G ProSe layer-3 UE-to-network relay UE, security policies for 5G ProSe UE-to-network relay direct communication:

i) the signalling integrity protection policy;

ii) the signalling ciphering policy;

iii) the user plane integrity protection policy; and

iv) the user plane ciphering policy; and

5) for 5G ProSe layer-2 UE-to-network relay UE and 5G ProSe layer-3 UE-to-network relay UE, a control plane security indication to indicate whether to use the security procedure over control plane as specified in 3GPP TS 33.503 [34]. If the control plane security indicationindicates not to use the security procedure over control plane, the 5G ProSe UE-to-network relay UE uses the security procedure over user plane as specified in 3GPP TS 33.503 [34];

NOTE 2: If the control plane security indicationindicates to use the security procedure over control plane and the 5G ProSe UE-to-network relay UE doesn't support the security procedure over control plane, the 5G ProSe UE-to-network relay UE doesn't use the corresponding relay service code.

g) for 5G ProSe layer-3 UE-to-network relay UE, QoS mapping rules including:

1) a mapping between a 5QI value and a 5G ProSe PQI value over PC5 for traffic relayed over the PC5 interface;

2) a PDB adjustment factor of the standardized PDB identified by the PQI; and

3) optionally, the relay service code(s) associated with the QoS mapping rule;

h) the radio parameters of the 5G ProSe UE-to-network relay discovery applicable per geographical area with an indication of whether these radio parameters are "operator managed" or "non-operator managed" when the UE is not served by NG-RAN;

i) for 5G ProSe layer-3 UE-to-network relay UE, for Ethernet and Unstructured traffic using IP type PDU session, a list of ProSe identifier(s) to ProSe application server address mapping rule. Each mapping rule contains one or more ProSe identifier(s) and IP address/FQDN and transport layer port number;

j) the radio parameters of the 5G ProSe direct communication applicable per geographical area with an indication of whether these radio parameters are "operator managed" or "non-operator managed" when the UE is not served by NG-RAN; and

k) optionally, the 5G PKMF addressing information;

l) for 5G ProSe layer-3 UE-to-network relay UE, the default PC5 DRX configuration for discovery as specified in 3GPP TS 38.331 [13] when the UE is not served by NG-RAN; and

m) the privacy timer value for changing the source layer-2 ID assigned by the 5G ProSe UE-to-network relay UE for direct communication, as specified in 3GPP TS 24.555 [17].

The configuration parameters for the role of a 5G ProSe remote UE consist of:

a) a validity timer for the validity of the configuration parameters for 5G ProSe remote UE;

b) an indication whether the UE is authorized to use a 5G ProSe layer-3 UE-to-network relay UE, where that authorization also authorizes the use of both 5G ProSe UE-to-network relay discovery Model A and 5G ProSe UE-to-network relay discovery Model B;

c) a list of PLMNs in which the UE is authorized to use a 5G ProSe layer-2 UE-to-network relay UE, where that authorization also authorizes the use of both 5G ProSe UE-to-network relay discovery Model A and 5G ProSe UE-to-network relay discovery Model B;

d) default destination layer-2 ID(s) for sending the discovery signalling for solicitation and for receiving the discovery signalling for announcement and additional information;

NOTE 3: Which default destination layer-2 ID is selected is up to UE implementation when there are more than one default destination layer-2 ID.

e) a user info ID for the UE-to-network relay discovery;

f) one or more relay service code(s) for the UE-to-network relay discovery and for each relay service code:

1) security related content for 5G ProSe relay discovery that is used when the security procedure over control plane as specified in 3GPP TS 33.503 [34] is used, including a validity timer for that security related content;

2) an indication of whether the relay service code is offering 5G ProSe layer-2 or layer-3 UE-to-network relay service; and

3) for 5G ProSe remote UE using 5G ProSe layer-3 UE-to-network relays, one of the following:

i) a set of PDU session parameters for the relayed traffic without using N3IWF access:

A) PDU Session type;

B) optionally, DNN;

C) optionally, SSC Mode;

D) optionally, S-NSSAI; and

E) optionally, access type preference; or

ii) an indication of using N3IWF access for the relayed traffic;

4) for 5G ProSe remote UE using 5G ProSe layer-2 UE-to-network relays or 5G ProSe layer-3 UE-to-network relays, security policies for 5G ProSe UE-to-network relay direct communication:

i) the signalling integrity protection policy;

ii) the signalling ciphering policy;

iii) the user plane integrity protection policy;

iv) the user plane ciphering policy;

5) optionally, for 5G ProSe remote UE using 5G ProSe layer-3 UE-to-network relays, the ProSe application traffic descriptor(s) (as defined in 3GPP TS 24.526 [5]) to be used for the relayed traffic; and

6) for 5G ProSe remote UE using 5G ProSe layer-2 UE-to-network relay or 5G ProSe layer-3 UE-to-network relay, a control plane security indication to indicate whether to use the security procedure over control plane as specified in 3GPP TS 33.503 [34]. If that indication indicates not to use the security procedure over control plane, the 5G ProSe remote UE uses the security procedure over user plane as specified in 3GPP TS 33.503 [34];

NOTE 4: If the control plane security indication indicates to use the security procedure over control plane and the 5G ProSe remote UE doesn't support the security procedure over control plane, the 5G remote UE doesn't use the corresponding relay service code or use the security procedure over user plane as specified in 3GPP TS 33.503 [34].

g) the radio parameters of the 5G ProSe Relay Discovery applicable per geographical area with an indication of whether these radio parameters are "operator managed" or "non-operator managed" when the UE is not served by NG-RAN;

h) the radio parameters of the 5G ProSe direct communication applicable per geographical area with an indication of whether these radio parameters are "operator managed" or "non-operator managed" when the UE is not served by NG-RAN;

NOTE 3: Whether a frequency band is "operator managed" or "non-operator managed" in a given Geographical Area is defined by local regulations.

i) the N3IWF selection information for 5G ProSe layer-3 remote UE:

1) N3IWF identifier configuration (either FQDN or IP address); and

2) 5G ProSe layer-3 UE-to-network relays, access node selection information consists of a prioritized list of PLMNs for N3IWF selection and an indication that the selection of an N3IWF in a PLMN should be based on Tracking Area Identity FQDN or on Operator Identifier FQDN;

j) optionally, the 5G PKMF addressing information;

k) for 5G ProSe layer-3 remote UE, the default PC5 DRX configuration for discovery as specified in 3GPP TS 38.331 [13] when the UE is not served by NG-RAN; and

l) the privacy timer value for changing the source layer-2 ID assigned by the 5G ProSe remote UE for direct communication, as specified in 3GPP TS 24.555 [17].

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