**3GPP TSG-CT WG1 Meeting #141 e-MeetingC1-232294r01**

**Elbonia, Online, 17 – 21 April 2023**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.193** | **CR** | **0121** | **rev** | **-** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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 | **x** |

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| ***Title:*** | IP addresses used to support MPTCP and MPQUIC | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Xiaomi | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ATSSS\_Ph3 | | | | |  | ***Date:*** | | | 2023-4-7 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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 approved S2- 2301610 contains the following information:   1. The "MPTCP link-specific multipath" addresses and the "MPQUIC link-specific multipath" addresses can be the same. 2. If the UE indicates to support MPTCP functionality with any steering mode, and the MPQUIC functionality with any steering mode, then the network provides MPTCP proxy information and MPQUIC proxy information to UE and allocates to UE (a) one IP address/prefix for the MA PDU session (as defined in clause 5.8.2.2), (b) two additional IP addresses/prefixes, called "MPTCP link-specific multipath" addresses, and (c) two additional IP addresses/prefixes, called "MPQUIC link-specific multipath" addresses.   This CR proposes to add two NOTEs to align with SA2 solution. | | | | | | | | |
| ***Summary of change:*** | | This CR proposes to add two NOTEs to align with SA2 solution. | | | | | | | | |
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| ***Consequences if not approved:*** | | Stage 3 may not support all the description in stage 2. | | | | | | | | |
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| ***Clauses affected:*** | | 6.1.4.1.6, 6.1.4.1.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\**

##### 6.1.4.1.6 MPTCP functionality with any steering mode, MPQUIC functionality with any steering mode and the ATSSS-LL functionality with only active-standby steering mode

When the UE indicates support for for MPTCP functionality with any steering mode, MPQUIC functionality with any steering mode and ATSSS-LL functionality with only active-standby steering mode and the network accepts to enable these functionalities for an MA PDU session of IP type in the UPF which support MPTCP proxy functionality and MPQUIC proxy functionality, then the network shall provide the following information to the UE:

a) two "link-specific multipath" IP addresses/prefixes used only by the MPTCP functionality in the UE to establish UDP subflows with the MPTCP proxy functionality in the UPF, one associated with the 3GPP access network and another associated with the non-3GPP access network;

b) two "link-specific multipath" IP addresses/prefixes used only by the MPQUIC functionality in the UE to establish UDP subflows with the MPQUIC proxy functionality in the UPF, one associated with the 3GPP access network and another associated with the non-3GPP access network;

NOTE 1: It is possible that neither of the "link-specific multipath" IP addresses/prefix used by only the MPTCP functionality nor only the MPQUIC functionality which are provided by the network, is routable via N6 (e.g. IPv6 link local address).

NOTE 2: The "link-specific multipath" addresses used by the MPTCP functionality and the "link-specific multipath" addresses used by the MPQUIC functionality can be the same.

c) the IP address, port number, and the type of one or more MPTCP proxies in the UPF;

d) the IP address, port number, and the type of one or more MPQUIC proxies in the UPF; and

NOTE 3: The MPTCP proxy and the MPQUIC proxy in the UPF can use the same IP address and port number.

e) one or more ATSSS rules including one ATSSS rule for non-MPTCP and non-MPQUIC traffic which is composed of a precedence with value "255", a "match-all type" traffic descriptor, an "ATSSS-LL functionality" steering functionality and an "active-standby" steering mode.

When the MA PDU session is Ethernet type, the network shall not enable the MPTCP functionality nor the MPQUIC functionality with any steering mode and the ATSSS-LL functionality with only active-standby steering mode.

*\*\*\* second change \*\*\**

##### 6.1.4.1.7 MPTCP functionality with any steering mode, MPQUIC functionality with any steering mode and the ATSSS-LL functionality with any steering mode

When the UE indicates support for for MPTCP functionality with any steering mode, MPQUIC functionality with any steering mode and ATSSS-LL functionality with any steering mode and the network accepts to enable these functionalities for an MA PDU session of IP type in the UPF which support MPTCP proxy functionality and MPQUIC proxy functionality, then the network shall provide the following information to the UE:

a) two "link-specific multipath" IP addresses/prefixes used only by the MPTCP functionality in the UE to establish UDP subflows with the MPTCP proxy functionality in the UPF, one associated with the 3GPP access network and another associated with the non-3GPP access network;

b) two "link-specific multipath" IP addresses/prefixes used only by the MPQUIC functionality in the UE to establish UDP subflows with the MPQUIC proxy functionality in the UPF, one associated with the 3GPP access network and another associated with the non-3GPP access network;

NOTE 1: It is possible that neither of the "link-specific multipath" IP addresses/prefix used by only the MPTCP functionality or only the MPQUIC functionality which are provided by the network, is routable via N6 (e.g. IPv6 link local address).

NOTE 2: The "link-specific multipath" addresses used by the MPTCP functionality and the "link-specific multipath" addresses used by the MPQUIC functionality can be the same.

c) the IP address, port number and the type of one or more MPTCP proxies in the UPF;

d) the IP address, port number and the type of one or more MPQUIC proxies in the UPF; and

NOTE 3: The MPTCP proxy and the MPQUIC proxy in the UPF can use the same IP address and port number.

e) one or more ATSSS rules.

When the MA PDU session is Ethernet type, the network shall not enable the MPTCP functionality nor the MPQUIC functionality with any steering mode and the ATSSS-LL functionality with any steering mode

*\*\*\* end of change \*\*\**