**3GPP TSG SA WG4 Meeting #130 *S4-241864***

USA, Orlando, 18 – 22 November 2024 (revision of S4-240xxx)

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| *CR-Form-v12.2* | | | | | | | | |
| **Pesudo CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.822** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **1.0.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network |  |

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| ***Title:*** | KI#12 Solution Data Booting Indication | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | SA4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_5G\_RTP\_Ph2 | | | | |  | ***Date:*** | | | 2024-11-05 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | Providing a new solution for the KI#12. | | | | | | | | |
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| ***Summary of change:*** | | Some scenarios exist where video services are interrupted or halted for a short time e.g. rebuffering the data to continue to video service. And propose the following 3 bullets to support the data boosting:   1. For the rebuffer data, the AS needs to provide data boosting indication to the 5G network, and then the 5G network provides direct or indirect data boosting indication to the NG-RAN. 2. The AS can provide data boosting indication to the 5G network with the data needed for booting in the RTP HE or the metadata with the data. The AS stops providing the data boosting indication to the 5G network after some time which is AS implementation. 3. The 5G network can reject or stop the data boosting even if the DL data is with a data boosting based on its local policies. | | | | | | | | |
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| ***Consequences if not approved:*** | | XR services frequently are interrupted or halted for a short time. | | | | | | | | |
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| ***Clauses affected:*** | | 6.x (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:*** | |  | | | | | | | | |

\* \* \* \* First change (all new text)\* \* \* \*

## 6. x Solution #X: Data Boosting triggered by AS

### 6.x.1 Key Issue mapping

This solution intends to give gap analysis on the KI#2: QoS handling requirements for lonely PDU.

### 6.2.2 Description

There are some scenarios where the video service is interrupted or halted for a short time e.g. rebuffering the data to continue to video service:

1. For the remote 360o VR video service (e.g. VR cloud game), when the user changes its pose suddenly, the VR video will be interrupted or halted for a short time and continue the service from the new pose.

To improve the user experience, one way is to reduce the rebuffer time. To reduce the rebuffer time, the new video data needs to be more quickly transmitted to the user. However, the NG-RAN does not know such rebuffer data needs to be more quickly transmitted to the user and still transmits such rebuffer data in the normal scheduling way.

**Observation 1: For the rebuffer data, the AS needs to provide data boosting indication to the 5G network, and then the 5G network provides direct or indirect data boosting indication to the NG-RAN.**

SA2 has agreed to define that such data boosting triggered by AS is used to expedite the transfer of larger payload for IP flow(s) of XR application. Data boosting may be used for non-GBR QoS flow only. SA2 has agreed to use different 5QI for the data boosting, i.e. change the data for boosting into different QoS Flow with different 5QI which can provide higher 5QI priority and less PDB. The detailed mechanism is still in discussion.

One key part of data boosting is how the AS can provide data boosting to the 5G network. One simple way is to define the data boosting indication in the RTP HE. Another way is to provide the data boosting indication is in the metadata part of the DL XR packets. The AS needs to stop providing the data boosting indication to the 5G network after some time based on AS implementation. However, the 5G network can still stop the data boosting even if the DL data is boosted based on network local policies.

**Observation 2: The AS can provide data boosting indication to the 5G network with the data needed for boosting in the RTP HE or the metadata with the data. The AS stops providing the data boosting indication to the 5G network after some time up to AS implementation.**

**Observation 3: the 5G network can reject or stop the data boosting even if the DL data is boosted based on its local policies.**

### 6.2.3 Conclusion

Based on the gap analysisabove, it is proposed to make the following conclusions.

**1). The AS can provide data boosting indication to the 5G network for non-GBR flows, and then the 5G network can indicate data boosting indication to the NG-RAN.**

**2). The AS can provide data boosting indication to the 5G network in-band with the data needed for boosting (e.g., in the RTP HE).The AS stops providing the data boosting indication to the 5G network after some time up to AS implementation.**

**3). The 5G network can reject or stop the data boosting even if the DL data is boosted based on its local policies.**

\* \* \* \* End of changes \* \* \* \*