**3GPP TSG-SA3 Meeting #113 S3-23xxxx**

**Chicago, USA, 06 - 10 November 2023**

**Source: China Mobile**

**Title: New SID on security aspects for XR and media services**

**Document for: Approval**

**Agenda Item: 6**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title:Study on security aspects for XR and media services

Acronym: FS\_XRM\_sec

Unique identifier:

*{A number to be provided by MCC at the plenary}*

Potential target Release: *Rel-19*

1 Impacts

*{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | **UICC apps** | **ME** | **AN** | **CN** | **Others (specify)** |
| **Yes** |  |  | X | X |  |
| **No** | x |  |  |  |  |
| **Don't know** |  | x |  |  |  |

2 Classification of the Work Item and linked work items

2.1 Primary classification

This work item is a …

|  |  |
| --- | --- |
| X | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

2.2 Parent Work Item

|  |
| --- |
| **Parent Work / Study Items**  |
| **Acronym** | **Working Group** | **Unique ID** | **Title (as in 3GPP Work Plan)** |
| N/A |  |  |  |

2.3 Other related Work Items and dependencies

*{List here other Work Items which relate to the proposed one, such as a Work Item in an earlier Release if further enhancing the feature from the previous Release)}*

|  |
| --- |
| **Other related Work /Study Items (if any)** |
| **Unique ID** | **Title** | **Nature of relationship** |
| 900027 | Study on supporting tactile and multi-modality communication services (Release 18) | SA1 study on requirement about tactile and multi-modality communication services in R18 |
| 800014 | Study on Audio-Visual Service Production (Release 17) | SA4 study on multiple devices collecting data for the same task with strict KPI requirements in R17 |
| 940068 | Study on XR (Extended Reality) and media services (Release 18) | SA2 study on the architecture of XR and media services in R18 |
| 940087 | Study on XR (eXtended Reality) enhancements for NR (Release 18) | RAN2 study on XR enhancements in R18 |
| 1010032 | Study on Extended Reality and Media service (XRM) Phase 2 | SA2 study on XRM in R19 |

3 Justification

The XR (Extended Reality) refer to a general service catalog, including High Data Rate Low Latency (HDRLL) services, AR/VR/XR services, and tactile/multi-modality communication services. 3GPP has launched multiple works studying the support of the XR Services. SA2 already completed the study of XRM (Extended Reality and media services) in Rel-18 and concluded with the PDU set based QoS enhancement mechanisms. In Rel-19 SA2 continues this study and is addressing the key issue “Support PDU Set identification and QoS handling for end-to-end encrypted XRM traffic” which notes “The work on this key issue may need coordination with SA4 and SA3.”, and is also going to discuss other key issues such as “PDU Set based QoS handling support for uplink transmission” etc. In addition, SA6 and RAN groups will also study the support/enhancement of XR-based services in Rel-19.

From the security perspective, XR services may attract more security attacks because of its coexistence with potential adversary entities in an open and complex environment and its increased points of attacking with data from multiple sources.

# 4 Objective

This study analyses the security aspects related to the conclusion and outcome from the SA2/RAN WGs studies.

The objectives may include but not limited to the following:

- WT1: With SA2’s study on the PDU set based QoS enhancement for e2e encrypted XR streams/services, investigate the related security requirements and solutions.

- WT1.1: How to ensure the authentication, confidentiality and integrity protection of the PDU Set information being provided to 5GS.

- WT2: Track any potential security/privacy issues SA2/SA6/RAN WGs will have while they are in progress.

## TU estimates and dependencies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Work Task ID | TU Estimate(Study) | TU Estimate(Normative) | RAN Dependency(Yes/No/Maybe) | Inter Work Tasks Dependency |
| **WT1** | **1** | **0.5** | **Maybe** |  |
| **WT2** | **0.5** | **0.25** | **Maybe** |  |

Total TU estimates for the study phase: 1.5

Total TU estimates for the normative phase: 0.75

Total TU estimates: 2.25

5 Expected Output and Time scale

***{If this WID covers both stage 2 and stage 3, clearly indicate the different completion dates.}***

|  |
| --- |
| **New specifications {One line per specification. Create/delete lines as needed}** |
| **Type**  | **TS/TR number** | **Title** | **For info at TSG#**  | **For approval at TSG#** | **Rapporteur** |
| TR | 33.XXX | Study on security aspects for XR and media services | TSG#105 (Sept 2024) | TSG#106 (Dec 2024) |  |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR {One line per specification. Create/delete lines as needed}** |
| **TS/TR No.** | **Description of change**  | **Target completion plenary#** | **Remarks** |
|  |  |  |  |
|  |  |  |  |

6 Work item Rapporteur(s)

7 Work item leadership

SA3

8 Aspects that involve other WGs

Potential interactions with SA2 for the architectural aspects, and RAN 2/3 for the RAN architectural aspects.

9 Supporting Individual Members

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| Supporting IM name |
| China Mobile |
| Huawei |
| HiSilicon |
| OPPO |
| CATT |
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