**3GPP TSG-SA2 Meeting #154 AHS2-2300241r01**

**E-meeting, Jan 20 - 24, 2023 (was S2-2210295)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.501** | **CR** | **3759** | **rev** | **01** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Support of XR and Media Services | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Tencent,Tencent Cloud, China Mobile, OPPO, Nokia, Nokia Shanghai Bell, CATT, Samsung, China Telecom, InteDigital Inc, Google Inc. | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM | | | | |  | ***Date:*** | | | 2023-1-5 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***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) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Per TR 23.700-60 clause 8, study item for FS\_XRM has been completed and XRM WID has been approved in SA2#154 and SA#98. Support of XR and Media services need to be reflected in TS 23.501. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add general descriptions about support of XR and Media (XRM) services in TS 23.501, also some definitions, abbrevations and related reference | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Support of XRM is not captured in TS 23.501 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 3.1, 3.2, 5.37, 5.37.1(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:*** | |  | | | | | | | | |

\* \* \* Start of Changes \* \* \*

# 2 References

[146] IEEE Std P802.1Qdj-d0.3: "IEEE Draft Standard for Local and metropolitan area networks - Bridges and Bridged Networks - Amendment XX: Configuration Enhancements for Time-Sensitive Networking".

[147] 3GPP TS 23.700‑05: "Study on architecture enhancements for vehicle-mounted relays".

[XYZ] 3GPP TR 26.926: "Traffic Models and Quality Evaluation Methods for Media and XR Services in 5G Systems".

\* \* \* Next Change \* \* \*

## 3.1 Definitions

**Configured NSSAI:** NSSAI provisioned in the UE applicable to one or more PLMNs.

**CHF Group ID:** This refers to one or more CHF instances managing a specific set of SUPIs.

**Credentials Holder:** Entity which authenticates and authorizes access to an SNPN separate from the Credentials Holder.

**Data Burst:** A set of multiple PDUs generated and sent by the application in a short period of time.

NOTE X: A Data Burst can be composed by one or multiple PDU Sets.

**Default UE credentials:** Information configured in the UE to make the UE uniquely identifiable and verifiably secure to perform UE onboarding.

\* \* \* Next Change \* \* \*

## 3.1 Definitions

**PDU Connectivity Service:** A service that provides exchange of PDUs between a UE and a Data Network.

**PDU Session:** Association between the UE and a Data Network that provides a PDU connectivity service.

**PDU Session Type:** The type of PDU Session which can be IPv4, IPv6, IPv4v6, Ethernet or Unstructured.

**PDU Set**: A PDU Set is composed of one or more PDUs carrying the payload of one unit of information generated at the application level (e.g. a frame or video slice for XRM Services, as used in TR 26.926 [XYZ]).

**Periodic Registration Update:** UE re-registration at expiry of periodic registration timer as specified in clause 5.3.2.

\* \* \* Next Change \* \* \*

## 3.2 Abbreviations

PPD Paging Policy Differentiation

PPF Paging Proceed Flag

PPI Paging Policy Indicator

PSA PDU Session Anchor

PSDB PDU-Set Delay Budget

PSER PDU-Set Error Rate

PSII PDU-Set Integrated Indication

PTP Precision Time Protocol

PVS Provisioning Server

QFI QoS Flow Identifier

QoE Quality of Experience

\* \* \* Next Change \* \* \*

## 5.37 Support for high data rate low latency services and extended reality (XR)

### 5.37.1 General

This clause provides an overview of 5GS optimizations and functionality for support of interactive services that require high data rate and low latency communication, e.g. cloud gaming, AR/VR services, XR services and tactile/multi-modal communication services according to service requirements which are documented in TS 22.261 [2]. The standardized 5QI characteristics for interactive services services are provided in Table 5.7.4-1 and TSCAI can be used to describe the related traffic characteristics as defined in clause 5.27.2. Further enhancements for XR services are described in the following clauses.

.

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