**3GPP TSG-SA WG4 Meeting #131-bis-eS4-250684**

**Online, 11 – 17 April 2025 revision of S4-250439**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.522** | **CR** | **0012** | **rev** | **3** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | [5G\_RTP\_Ph2] SDP signaling for N6-unmarked PDUs | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Lenovo | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_RTP\_Ph2 | | | | |  | ***Date:*** | | | 2025-04-08 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | PDU Set and End of Data Burst marking only applies to RTP PDUs since marking is done via an RTP header extension. Hence, PDUs belonging to protocols such as RTCP, STUN, etc. cannot be marked i.e., they do not carry the PDU Set Information.  SA4 concluded in TR 26.822 that it would be beneficial for senders to signal sender-defined PDU Set Importance (PSI) values to the 5GC for N6-unmarked PDUs. Based on the RTC procedures defined in TS 26.113, this information can be provided in the Application Flow Description populated by the Media Session Handler (MSH) in the Media Client when the MSH creates a Dynamic Policy Instance, and can be subsequently passed to the 5GC by the Media AF. For signaling to the AF, the MSH needs to acquire the N6-unmarked PDU information from the Media AS during the WebRTC signalling phase of the RTC session via SDP procedures. | | | | | | | | |
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| ***Summary of change:*** | | A new SDP attribute is defined that can be used to indicate PSI for N6-unmarked PDUs from the Media AS to the Media Client. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not possible to indicate sender-defined PSI values to the 5GC for N6-unmarked PDUs. | | | | | | | | |
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| ***Clauses affected:*** | | 2, 6, 6.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | A summary of the related solution in TR 26.822 is provided in [S4-250336](https://www.3gpp.org/ftp/tsg_sa/WG4_CODEC/TSGS4_131_Geneva/Docs/S4-250336.zip). | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | **Rev3:**   * Clarifications for usage of the attribute at media vs session level * Fixes to the protocol value field   **Rev2**:   * Fixes to the ABNF syntax * Clarifications to the RTP sender behavior during SDP signaling   **Rev1**:   * Removed packet-type from the SDP attribute. | | | | | | | | |

\* \* \* \* First change \* \* \* \*

6 SDP signaling

6.1 SDP signaling for N6-unmarked PDUs

An optional SDP attribute called "unmarked-pdu-info" is defined to describe mappings between protocols of PDUs that are not or cannot be marked using the RTP HE for PDU Set marking defined in clause 4.2 (i.e. N6-unmarked PDUs) and sender-defined PDU Set Importance (PSI) values associated to such protocols.

The “unmarked-pdu-info” attribute shall conform to the following ABNF syntax (RFC 5234):

unmarked-pdu-info = "a=unmarked-pdu-info" 1\*(SP "[" protocol-tag "=" protocol-val SP psi-tag "=" psi-val "]")

protocol-tag = "unmarked-proto"

protocol-val = "RTCP" / "STUN" / "RTP"/ token

psi-tag = "psi"

zerotofive = "0" /"1" / "2" / "3" / "4" / "5"

onetonine = "1" / "2" / "3" / "4" / "5"/ "6" /"7" / "8" / "9"

psi-val = onetonine / (“1” zerotofive) ; numeric values 1-15

; token as defined by IETF RFC 8866

The values have the following semantics:

- unmarked-proto: Name of the application-layer protocol used to encapsulate N6-unmarked PDUs. Secure variants of RTP and RTCP (SRTP and SRTCP) are also applicable. If the “unmarked-pdu-info” attribute is included at media level, this field shall not contain the value “STUN”.

- psi: PDU Set Importance value in the range 1 to 15 (inclusive).

An example usage is provided below:

a=unmarked-pdu-info [unmarked-proto=RTCP psi=5] [unmarked-proto=STUN psi=3]

If an RTP sender that uses the RTP HE for PDU Set marking intends to assign a PSI value to its outgoing N6-unmarked PDUs (e.g., STUN, RTCP packets or unmarked audio RTP packets) then it shall use the “unmarked-pdu-info” attribute.

RTP sender may include the “unmarked-pdu-info” attribute at media level in an SDP media description (“m=” line), if the extmap attribute with the URN for the RTP HE for PDU Set marking is also included in the SDP media description. Otherwise, the “unmarked-pdu-info” attribute shall not be present at media level.

If the “unmarked-pdu-info” attribute is present at session level, it only applies to SDP media descriptions that also include the extmap attribute with the URN for the RTP HE for PDU Set marking.

The “unmarked-pdu-info” attribute can be included in the SDP offer or SDP answer. However, it only applies to outgoing packets from an RTP endpoint. Therefore, an RTP endpoint should omit this attribute from the SDP answer (even if it was present in the SDP offer), unless the endpoint is an RTP sender that uses PDU Set marking (i.e., the extmap attribute with the URN for the RTP HE for PDU Set marking is present in at least one SDP media description) and intends to indicate the appropriate PSI values for its N6-unmarked outgoing packets.