**3GPP TSG WG2 Meeting #166AH *S2-2500285***

**E-meeting, 2025-01-20 – 2025-01-24**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.501** | **CR** | **5916** | **rev** |  | **Current version:** | **19.2.1** |  |
|  | | | | | | | | |
| *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 | **X** |

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| ***Title:*** | Update on QoS monitoring and reporting during UPF relocation and PDU session release | | | | | | | | | |
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| ***Source to WG:*** | ETRI | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UPEAS\_Ph2 | | | | |  | ***Date:*** | | | 2025-01-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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:*** | | According to the current specification, a consumer NF of UPF event exposure service may indicate that UPF should send the remaining data to the consumer during the UPF relocation and PDU session regardless of direct or indirection subscription.  So, Remaining data reporting indication also needs to be included in the N4 Session Reporting Rule(SRR) to report any QoS monoring data that has been collected but not sent to the consumer yet by UPF to the consumer during UPF relocation and PDU session. | | | | | | | | |
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| ***Summary of change:*** | | The following is updated in TS 23.501  - Remaining data reporting indication is added optionally in N4 Session Reporting Rule(SRR). | | | | | | | | |
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| ***Consequences if not approved:*** | | 5GS cannot support to send remaining QoS monitoring data during N4 session release. Misalignment between TS23.501 and TS23.502(see 4.15.4.5.6) specification. | | | | | | | | |
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| ***Clauses affected:*** | | 5.8.2.18 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

#### 5.8.2.18 QoS Flow related QoS monitoring and reporting

The SMF may configure the UPF to perform QoS monitoring for a QoS Flow and to report the monitoring results with the help of the following parameters provided in the Session Reporting Rule (SRR) described in clause 5.8.5.11:

- *QoS monitoring parameter(s)* indicating the subject of the QoS monitoring as defined in clause 5.45;

- *Reporting period* indicating the time interval in which a new measurement result and a potential report has to be available. Generally, if no measurement result is available to the UPF within the *Reporting period*, the UPF shall report a measurement failure; however, for some QoS monitoring parameters (e.g. congestion information, PDV and data rate), the measurement failure report is not applicable.

- *Reporting frequency* indicating the type of the reporting as "periodic" or "event triggered":

- If the *Reporting frequency* indicates "periodic", the UPF shall send a report each time the reporting period is over.

- If the *Reporting frequency* indicates "event triggered", a *Reporting threshold* for each parameter in the *QoS monitoring parameter(s)* and a *Minimum waiting time* are provided as well. The UPF shall send a report when the measurement result matches or exceeds the indicated *Reporting threshold*. Subsequent reports should not be sent by the UPF during the *Minimum waiting time*. The UPF shall continue to report a measurement result that matches or exceeds the indicated *Reporting Threshold* when the *Minimum waiting time* is over.

NOTE: As an implementation option, the UPF can be configured to send subsequent report(s) during the *Minimum waiting time*, e.g. if the UPF determines that this report is considerably different from the previous report.

- (Optional) *Target of the reporting and Indication of direct event notification* indicating that the UPF shall send the reports to a different NF than the SMF (e.g. to the NEF/AF or the NWDAF/DCCF/MFAF). The NF is identified by a Notification Target Address and a Notification Correlation ID. The SMF can also indicate that the UPF shall send the reports to both, the NF indicated by the *Target of reporting* and to the SMF. If so, the UPF shall send the reports to the SMF as well. If the *Indication of direct event notification* is not provided, the UPF shall send the reports to the SMF.

- (Optional) *Reporting suggestion information* as defined in clause 5.8.2.17 applicable to *Target of the reporting* to reduce the UPF performance impacts.

- (Optional) *Indication of QoS Flow associated with the default QoS Rule* (see clause 4.15.4.5.1 of TS 23.502 [3]). The UPF shall forward this indication, that the QoS monitoring report is for the QoS Flow associated with the default QoS Rule, in the Nupf\_EventExposure\_Notify service operation when sending reports.

- (Optional) *Remaining data reporting indication* indicating that the UPF should report remaining data (in a notification) to the consumer at N4 session release. as described 4.15.4.5 of TS 23.502 [3].

The UPF shall send the QoS Monitoring Report as follows:

- when the UPF sends reports to the SMF, the UPF shall use QoS Monitoring Reports as described in clause 5.8.5.12; and/or

- When the UPF sends reports to a different NF than the SMF (e.g. the NEF/AF or the NWDAF/DCCF/MFAF), the UPF shall use the Nupf\_EventExposure\_Notify service operation described in clause 5.2.26.2.2 of TS 23.502 [3].

\* \* \* \* End of change \* \* \* \*