3GPP TSG-SA WG2 Meeting #169 S2-2505548

Fukuoka, Japan, May 19 – May 23, 2025 (revision of S2-2505247)

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.502** | **CR** | **5470** | **rev** | **5** | **Current version:** | **19.3.0** |  |
|  | | | | | | | | |
| *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 | **X** |

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| ***Title:*** | Energy consumption information for access type | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | [Samsung, NTT DOCOMO], vivo | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EnergySys | | | | |  | ***Date:*** | | | 2025-05-08 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | It is not clear how energy consumption information collected for the different access type.  In rev 4, it is proposed to clarify that the scenario is for no UP resources established on the 3GPP access for the UE of the required granularity. Otherwise, if the UE has UP resource on 3GPP for certain PDU sessions, but has no UP resource on 3GPP for the required PDU session, the SMF will not behave correctly according to the revisions in rev 3.  Furthermore, according to current description, if no UP resources established on 3GPP access, the SMF will not report the energy related information. However, the SMF also needs to reject the subscription from EIF with appropriate cause value to let EIF know it will not send the energy related information and the reason for it. Otherwise, the EIF will wait for the energy related information from SMF and has no idea why there is no information returned from SMF. | | | | | | | | |
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| ***Summary of change:*** | | Ensure that the energy consumption information is collected only for the 3GPP access.  In rev 4, it clarifies that the scenario is for no UP resources established on the 3GPP access for the UE of the required granularity. In this case, the SMF needs to reject the subsricption from EIF with appropriate casue value. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incomplete specifications | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.29.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | S2-2504341 | | | | | | | | |

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

### 4.29.2 Energy Consumption information collection

Figure 4.29.2-1 shows the procedure for EIF to collect the Energy consumption information.



Figure 4.29.2-1: Energy Consumption information collection

1. The Consumer NF (i.e. trusted AF or 5GC NF) subscribes to the energy consumption event with the EIF by using Neif\_EventExposure\_Subscribe service for the required granularities (UE, PDU Session and/or QoS flow) as described in clause 5.51.2.3 of TS 23.501 [2].

If the Consumer is untrusted AF, the subscription is sent via NEF. If the event subscription is authorized by the NEF, then the NEF sends the event subscription to the EIF via Neif\_EventExposure\_Subscribe.

2. The EIF invokes Nudm\_UECM\_Get service operation to retrieve the SMF ID for the required granularity.

3. The EIF invokes the Nsmf\_EventExposure\_Subscribe request to the SMF to request the information as defined in clause 5.51.2 of TS 23.501 [2].

4. The SMF informs the UPF with requesting the PSA UPF to report the data volume of the required granularity.

5. The SMF provides the information for energy consumption calculation (defined 5.51.2 of TS 23.501 [2]) to EIF by invoking Nsmf\_EventExposure\_Notify service operation for the required granularity. If there are no UP resources established on the 3GPP access for the UE of the required granularity, the SMF notifies the EIF and does not report any energy related information as described in clause 5.51.2 of TS 23.501 [2].

NOTE: The SMF can derive gNB ID(s) according to the AMF provided ULI as described in clause 4.3.2.

6. If there is no related Node-level energy consumption information and Node-level data volume, the EIF obtains the Node-level energy consumption information and Node-level data volume from OAM with providing gNB ID(s) and UPF ID(s).

7. The EIF performs the energy consumption information calculation as described in clause 5.51.2.3 of TS 23.501 [2] and then reports the energy consumption information of the required granularity to the Consumer NF via Neif\_EventExposure\_Notify.

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