**3GPP TSG- Meeting #**

**, , - (revision of *C3-253188*)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.508** | **CR** |  | **rev** | **1** | **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:*** | SMF reports energy consumption information periodically | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EnergySys | | | | |  | ***Date:*** | | | 2025-08-26 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per clause 4.29.2 (step-6) in 23.502:   * The SMF periodically provides the information collected for energy consumption calculation at the end of each time interval T (defined in clause 5.51.2 of TS 23.501 [2]) to EIF starting from the time that the EIF subscribes by invoking Nsmf\_EventExposure\_Notify service operation for the required granularity.   In this TS 29.508, the EIF invokes Nsmf\_EventExposure\_Subscribe request to the SMF and may also be able to provide the notification method. The description of the notifMethod attribute in the clause 5.6.2.2 is that if the "notifMethod" is not supplied, the default value "ON\_EVENT\_DETECTION" applies, however the SMF needs to notify the collected energy consumption infomration periodically at the end of each time interval T that may be also configurable at the SMF as indicated in NOTE-3 clause 5.6.2.2.  So the value PERIODIC is only applicable in the notifMethod in the case EIF subscribes for the energy consumption information. Since the repPeriod attribute is the reporting period that shall be provided if the notification method is set to "PERIODIC", then the SMF configured reporting internval value should take precedence over the value provided in the repPeriod attribute. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | This CR proposes to clarify the above-mention issue in the respective NOTE-9 in clause 5.6.2.2 and also in clause 4.2.3.2 | | | | | | | | |
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| ***Consequences if not approved:*** | | Misalignment with stage-2 requirement | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.3.2, 5.6.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact any OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* 1st Change \* \* \* \*

#### 5.6.2.2 Type NsmfEventExposure

Table 5.6.2.2-1: Definition of type NsmfEventExposure

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| supi | Supi | C | 0..1 | Subscription Permanent Identifier.  (NOTE 1) (NOTE 8) (NOTE 9) |  |
| gpsi | Gpsi | C | 0..1 | Generic Public Subscription Identifier (NOTE 1) (NOTE 8)  This IE is not applicable to "SMCC\_EXP" event. |  |
| anyUeInd | boolean | C | 0..1 | This IE shall be present if the event subscription is applicable to any UE. It indicates whether the event subscription is applicable to any UE:  - "true": the event subscription is applicable to any UE;  - "false"(default): the event subscription is not applicable to any UE.  (NOTE 1) (NOTE 4) (NOTE 7) |  |
| groupId | GroupId | C | 0..1 | Identifies a group of UEs. (NOTE 1) |  |
| pduSeId | PduSessionId | C | 0..1 | PDU session ID (NOTE 1) |  |
| dnn | Dnn | C | 0..1 | Data Network Name.  (NOTE 9) |  |
| snssai | Snssai | C | 0..1 | A single Network Slice Selection Assistance Information.  (NOTE 4) (NOTE 9) |  |
| dnai | Dnai | O | 0..1 | Data network access identifier. | UPEAS |
| ssId | string | O | 0..1 | SSID that the PDU session is related to. | UPEAS |
| bssId | string | O | 0..1 | BSSID that the PDU session is related to. | UPEAS |
| upfId | string | O | 0..1 | Identifies the UPF. | UPEAS |
| nfId | NfInstanceId | C | 0..1 | Indicates the instance identity of the NF creating the subscription. It shall be provided if the "eventSubs" attribute contains an entry with the "event" set to the value "UPF\_EVENT". | UPEAS |
| subId | SubId | C | 0..1 | Subscription ID. This parameter shall be supplied by the SMF in HTTP responses that include an object of NsmfEventExposure type. |  |
| notifId | string | M | 1 | Notification Correlation ID provided by the NF service consumer. (NOTE 2) |  |
| notifUri | Uri | M | 1 | Identifies the recipient of Notifications sent by the SMF. |  |
| altNotifIpv4Addrs | array(Ipv4Addr) | O | 1..N | Alternate or backup IPv4 Address(es) where to send Notifications. |  |
| altNotifIpv6Addrs | array(Ipv6Addr) | O | 1..N | Alternate or backup IPv6 Address(es) where to send Notifications. |  |
| altNotifFqdns | array(Fqdn) | O | 1..N | Alternate or backup FQDN(s) where to send Notifications. |  |
| eventSubs | array(EventSubscription) | M | 1..N | Subscribed events. (NOTE 4) |  |
| eventNotifs | array(EventNotification) | O | 1..N | Represents the SMF Events to be reported in the Nsmf\_EvenExposure\_Subscribe response.  May be present when the "ERIR" feature is supported and the "ImmeRep" attribute set to true is included in the subscription request. | ERIR |
| ImmeRep | boolean | O | 0..1 | Indicates whether immediate reporting of the current status of the subscribed event.  Set to "true": it is requested that the current status of the subscribed event is immediately reported.  - Set to "false": the current status of the subscribed event is not requested to be immediately reported.  - Default value is "false" if omitted.  (NOTE 6) |  |
| notifMethod | NotificationMethod | O | 0..1 | If "notifMethod" is not supplied, the default value "ON\_EVENT\_DETECTION" applies.  (NOTE 4) (NOTE 5) (NOTE 10) |  |
| maxReportNbr | Uinteger | O | 0..1 | If omitted, there is no limit.  (NOTE 4) (NOTE 5) |  |
| expiry | DateTime | C | 0..1 | This attribute indicates the expiry time of the subscription, after which the SMF shall not send any event notifications and the subscription becomes invalid. It may be included in an event subscription request and may be included in an event subscription response based on operator policies. If an expiry time was included in the request, then the expiry time returned in the response should be less than or equal to that value. If the expiry time is not included in the response, the NF service consumer shall not associate an expiry time for the subscription.  (NOTE 4) |  |
| repPeriod | DurationSec | C | 0..1 | This attribute indicates the reporting period. Shall be provided if the notification method is set to "PERIODIC".  (NOTE 10) |  |
| guami | Guami | C | 0..1 | The Globally Unique AMF Identifier (GUAMI) shall be provided by an AMF as NF service consumer. |  |
| serviceName | ServiceName | O | 0..1 | If the NF service consumer is an AMF, it should provide the name of a service produced by the AMF that makes use of the notification about subscribed events. |  |
| supportedFeatures | SupportedFeatures | C | 0..1 | List of Supported features used as described in clause 5.8.  This parameter shall be supplied by NF service consumer and SMF in the POST request that request the creation of an SMF Notification Subscriptions resource and the related reply, respectively. |  |
| sampRatio | SamplingRatio | O | 0..1 | Indicates the ratio of the random subset to target UEs, event reports only relates to the subset. |  |
| partitionCriteria | array(PartitioningCriteria) | O | 1..N | Defines criteria for partitioning the UEs in order to apply the sampling ratio for each partition. It may only be included in event subscription requests when the "sampRatio" attribute is also provided. (NOTE 3) | EneNA |
| grpRepTime | DurationSec | O | 0..1 | Indicates the time for which the SMF aggregates the event reports detected by the UEs in a group and report them together to the NF service consumer. |  |
| notifFlag | NotificationFlag | O | 0..1 | Indicates the notification flag, which is used to mute/unmute notifications and to retrieve events stored during a period of muted notifications.  Default: "ACTIVATE" | EneNA |
| notifFlagInstruct | MutingExceptionInstructions | O | 0..1 | Contains instructions to be executed upon the occurrence of an event muting exception (e.g. full buffer). It may only be provided if the "notifFlag" is provided and set to "DEACTIVATE". | EnhDataMgmt |
| mutingSetting | MutingNotificationsSettings | O | 0..1 | Contains settings related to the muting of notifications. It may only be provided in the NF service producer response and only if the muting instructions provided in the "notifFlag" and/or the "notifFlagInstruct" attributes are accepted. | EnhDataMgmt |
| defQosSupp | boolean | O | 0..1 | Indicates whether the NF service consumer requests to receive QoS Flow performance information for the QoS Flow associated with the default QoS rule if there are no measurements available for the provided Application Identifier included within the "appIds" attribute.  - Set to "true": NF service consumer requests to receive QoS Flow performance information for the QoS Flow associated with the default QoS rule.  - Set to "false": NF service consumer does not request to receive QoS Flow performance information for the QoS Flow associated with the default QoS rule.  - Default value is "false" if omitted. | UPEAS |
| qosMonPending | boolean | O | 0..1 | Indicates whether the reporting will be activated when the measurements are enabled by a PCC rule.  - Set to "true": the reporting will be activated when the measurements are enabled by a PCC rule.  It shall be always set to "true" when present.  It may only be provided in the response. | UPEAS |
| NOTE 1: If the event subscription applies for a specific PDU session, the PDU session of a single UE (pduSeId, and gpsi/supi) shall be included; otherwise one and only one of a single UE (gpsi/supi), a group of UEs (groupId), or anyUeInd set to true shall be included.  NOTE 2: If the UDM as NF service consumer subscribes to event (e.g. downlink data delivery status, PDU Session Establishment, PDU Session Release) on behalf of AF/NEF, the value of the "notifId" attribute shall be set to the same value as the value of the "notifyCorrelationId" attribute received from the AF/NEF as defined in subclause 6.4.6.2.2 of 3GPP TS 29.503 [30].  NOTE 3: For a given type of partitioning criteria, the UE shall belong to only one single partition as long as it is served by the NF service producer.  NOTE 4: If EneNA feature is supported, when the "snssai" attribute is presented together with "anyUeInd" attribute and the "eventSubs" attribute contains "PDU\_SES\_EST" and "PDU\_SES\_REL", then only the "ON\_EVENT\_DETECTION" value is applicable in the "notifMethod" attribute together with "maxReportNbr" attribute and/or "expiry"attribute presence.  NOTE 5: The attribute "maxReportNbr" is not applicable when the value of "notifMethod" is set to "ONE\_TIME".  NOTE 6: The attribute does not follow the related naming convention (i.e. "lowerCamel") defined in clause 5.1.4 of 3GPP TS 29.501 [7]. This attribute is however kept as currently defined in this specification for backward compatibility considerations.  NOTE 7: When the "anyUeInd" attribute is present and set to "true", the SMF does not consider the PDU Session(s) for which it is acting as I-SMF when it selects the PDU Session(s).  NOTE 8: Void.  NOTE 9: If the "Energy" feature is supported, the "supi" attribute or the "snssai" attribute and the corresponding "dnn" attribute shall be provided for the "ENERGY\_USAGE\_DATA" event.  NOTE 10: When the "Energy" feature is supported, the only applicable value for the "notifMethod" attribute is "PERIODIC" and the "repPeriod" attribute's value shall be ignored as the reporting period is pre-configured at the SMF.. | | | | | |

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