**3GPP TSG-CT WG3 Meeting #123e *C3-224194***

**E-meeting, 18th - 26th, August, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.561** | **CR** | **0139** | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  | | | | | | | | |
| *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:*** | Close the open issue related to DNAI | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17, 5GS\_Ph1-CT | | | | |  | ***Date:*** | | | 2022-08-26 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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:*** | | Open issue related to DNAI is not resolved. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify that change from the UP path status where a DNAI applies to a status where no DNAI applies indicating the de-activation of the AF request for AF influence on traffic routing is not supported in this release.  Remove the editor’s note. | | | | | | | | |
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| ***Consequences if not approved:*** | | Open issue is not resolved in the frozen release. | | | | | | | | |
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| ***Clauses affected:*** | | 11.2.2, 12.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | |  | | | | | | | | |

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

### 11.2.2 Accounting Update

During the life of a QoS flow some information related to this QoS flow may change. The SMF may send RADIUS Accounting Request Interim-Update to the DN-AAA server upon occurrence of a chargeable event, e.g. RAT change, DNAI change or QoS change. Interim updates are also used when the IPv4 address and/or IPv6 prefix is allocated/released/re-allocated.

NOTE: DNAI change is only applicable when application relocation possible indicated in the AF traffic influenced PCC rule as described in clause 5.6.7 of TS 23.501 [2], align with the DNAI change in UP path management events as described in clause 4.3.6.3 of TS 23.502 [3]. Only the target DNAI is provided in the ACR message. The change from the UP path status where a DNAI applies to a status where no DNAI applies indicating the de-activation of the AF request for AF influence on traffic routing is not supported in this release.

When the SMF receives a signalling request (i.e. Nsmf\_PDUSession\_UpdateSMContext) that indicates the occurrence of one of these chargeable events, the SMF may send an Accounting Request Interim-Update to the DN-AAA server to update the necessary information related to this QoS flow. It is not necessary for the SMF to wait for the RADIUS AccountingResponse message from the DN-AAA server before sending the response for the triggering signalling message (i.e. Namf\_Communication\_N1N2MessageTransfer). The SMF may delete the QoS flow if the AccountingResponse is not received from the DN-AAA server.

The SMF may also send interim updates at the expiry of an operator configured time limit.

Figure 11.2.2-1 is an example message flow to show the procedure of RADIUS accounting update, messages between the SMF and DN-AAA are forwarded by the UPF in N4 user plane message.



Figure 11.2.2-1: RADIUS accounting update

For the 5GC and EPC interworking scenario without authentication, authorization, re-authentication and/or re-authorization impacts, if the UE establishes the PDU session through the 5GC and initiates the accounting session, when the SMF+PGW-C determines that the UE has moved to the EPS (i.e. the SMF+PGW-C receives the modify bearer request or create session request from the S-GW), the SMF+PGW-C may perform the accounting session update with the following modifications:

- for the case that the accounting session is initiated per PDU session, the SMF+PGW-C may update the accounting session by including the identifier of the accounting session within the Acct-Session-Id, the "EUTRA" within the 3GPP-RAT-Type, the IPv4 address of S-GW within the 3GPP-SGSN-Address, the default EPS bearer id within the 3GPP-NSAPI, the user location in the EPC within the 3GPP-User-Location-Info if available and the new QoS profile within the 3GPP-GPRS-Negotiated-QoS-Profile if changed.

- for the case that the accounting session is initiated per QoS flow:

- if the SMF+PGW-C mapped a QoS flow to an EPS bearer, the SMF may update the accounting session corresponding to the QoS flow with the information of the EPS bearer by including the identifier of the accounting session within the Acct-Session-Id, the "EUTRA" within the 3GPP-RAT-Type, the IPv4 address of S-GW within the 3GPP-SGSN-Address, the EPS bearer id within the 3GPP-NSAPI, the user location in the EPC within the 3GPP-User-Location-Info if available, the new QoS profile within the 3GPP-GPRS-Negotiated-QoS-Profile if changed, the new charging id within the 3GPP-Charging-Id VSA or 3GPP-Charging-Id-v2 VSA according to the length of the Charging Id if allocated and the new packet filters within the 3GPP-Packet-Filter if changed;

- if the SMF+PGW-C mapped multiple QoS flows to one EPS bearer, the SMF shall select one of the accouting sessions corresponding to these QoS flows to update it as above and terminate the accounting session(s) corresponding to the other QoS flow(s).

- if the SMF+PGW-C did not map a QoS flow to any EPS bearer, the SMF may decide to associate the corresponding account session to the default EPS bearer or terminate the corresponding accounting session.

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

### 12.2.2 Accounting Update

During the life of a QoS flow some information related to this QoS flow may change. The SMF may send an Accounting Request (Interim) to the DN-AAA server upon occurrence of a chargeable event, e.g. RAT change, DNAI change or QoS change. Interim updates are also used when the IPv4 address and/or IPv6 prefix is allocated/released/re-allocated.

NOTE: DNAI change is only applicable when application relocation possible indicated in the AF traffic influenced PCC rule as described in clause 5.6.7 of TS 23.501 [2], align with the DNAI change in UP path management events as described in clause 4.3.6.3 of TS 23.502 [3]. Only the target DNAI is provided in the ACR message. The change from the UP path status where a DNAI applies to a status where no DNAI applies indicating the de-activation of the AF request for AF influence on traffic routing is not supported in this release.

When the SMF receives a signalling request (i.e. Nsmf\_PDUSession\_UpdateSMContext) that indicates the occurrence of one of these chargeable events, the SMF may send an Accounting Request Interim-Update to the DN-AAA server to update the necessary information related to this QoS flow. It is not necessary for the SMF to wait for the Diameter Accounting Answer message from the DN-AAA server before sending the response for the triggering signalling message (i.e. Namf\_Communication\_N1N2MessageTransfer). The SMF may delete the QoS flow if the Accounting Answer is not received from the DN-AAA server.

The SMF may also send interim updates at the expiry of an operator configured time limit.

Figure 12.2.2-1 is an example message flow to show the procedure of Diameter accounting update, messages between the SMF and DN-AAA are forwarded by the UPF in N4 user plane message.



Figure 12.2.2-1: Diameter accounting update

For the 5GC and EPC interworking scenario without authentication, authorization, re-authentication and/or re-authorization impacts, if the UE establishes the PDU session through the 5GC and initiates the accounting session, when the SMF+PGW-C determines that the UE has moved to the EPS (i.e. the SMF+PGW-C receives the modify bearer request or create session request from the S-GW), the SMF+PGW-C may perform the accounting session update with the following modifications:

- for the case that the accounting session is initiated per PDU session, the SMF+PGW-C may update the accounting session by including the identifier of the accounting session within the Session-Id AVP, the "EUTRA" within the 3GPP-RAT-Type AVP, the IPv4 address of S-GW within the 3GPP-SGSN-Address AVP or IPv6 address of S-GW within the 3GPP-SGSN-IPv6-Address AVP, the default EPS bearer id within the 3GPP-NSAPI AVP, the user location in the EPC within the 3GPP-User-Location-Info AVP if available and the new QoS profile within the 3GPP-GPRS-Negotiated-QoS-Profile AVP if changed.

- for the case that the accounting session is initiated per QoS flow:

- if the SMF+PGW-C mapped a QoS flow to an EPS bearer, the SMF may update the accounting session corresponding to the QoS flow with the information of the EPS bearer by including the identifier of the accounting session within the Session-Id AVP, the "EUTRA" within the 3GPP-RAT-Type AVP, the IPv4 address of S-GW within the 3GPP-SGSN-Address AVP or IPv6 address of S-GW within the 3GPP-SGSN-IPv6-Address AVP, the default EPS bearer id within the 3GPP-NSAPI AVP, the user location in the EPC within the 3GPP-User-Location-Info AVP if available and the new QoS profile within the 3GPP-GPRS-Negotiated-QoS-Profile AVP if changed, the new charging id within the 3GPP-Charging-Id AVP or 3GPP-Charging-Id-v2 AVP according to the length of the Charging Id if allocated and the new packet filters within the 3GPP-Packet-Filter AVP if changed;

- if the SMF+PGW-C mapped multiple QoS flows to one EPS bearer, the SMF shall select one of the accounting sessions corresponding to these QoS flows to update it as above and terminate the accounting session(s) corresponding to the other QoS flow(s).

- if the SMF+PGW-C did not map a QoS flow to any EPS bearer, the SMF may decide to associate the corresponding account session to the default EPS bearer or terminate the corresponding accounting session.

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