**3GPP TSG-SA5 Meeting #143-e *S5-223247***

**e-meeting, 9-17 May 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.423** | **CR** | **0129** | **rev** | **-** | **Current version:** | **16.5.0** |  |
|  | | | | | | | | |
| *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:*** | Adding missing interface related to SMF for trace record content | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMDT | | | | |  | ***Date:*** | | | 2022-4-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | *Rel-16* |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Trace for N16 interface at SMF is already mentioned in clausse 5.1 in TS 32.422, but trace record content for N16 interface is not mentioned in TS 32.423.  Based on SA2 spec TS 23.501 clause 5.34.2.2, in the non-roaming case, N16a interface is used between SMF and I-SMF. This scenario is also missing in the current TS 32.423 spec. | | | | | | | | |
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| ***Summary of change:*** | | Add N16 and N16a signalling in trace record content for SMF | | | | | | | | |
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| ***Consequences if not approved:*** | | Trace signalling in N16 and N16a interface is missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.19 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | | **Y** |  | O&M Specifications | | | | TS/TR 32.422. CR 0393. | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st Change** |

4.19 SMF Trace Record Content

The following table shows the trace record content for SMF.

The trace record is the same for management based activation and for signalling based activation.

SMF shall support at least one of the following trace depth levels – Maximum, Medium or Minimum.

**Table 4.19.1 : SMF Trace Record Content**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Interface (specific messages)** | **Format** | **Level of details** | | | **Description** |
| **Min** | **Med** | **Max** |
| N4 | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | UPF ID of the connected UPF node SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from N4 messages between the traced SMF and the UPF. |
| Encoded\* | **X** | **X** | **M** | Raw Messages: N4 messages between the traced SMF node and the UPF. The encoded content of the message is provided. |
| N7 | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | PCF ID of the connected PCF SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from N7 messages between the traced SMF and PCF. |
| Encoded\* | **X** | **X** | **M** | Raw N7 messages between the traced SMF and PCF. The encoded content of the message is provided |
| N10 | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | UDM ID of the connected UDM SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from N10 messages between the traced SMF and the UDM. |
| Encoded\* | **X** | **X** | **M** | Raw N10 messages between the traced SMF and the UDM. The encoded content of the message is provided |
| N11 | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | AMF ID of the connected AMF SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from N11 messages between the traced SMF and the AMF. |
| Encoded\* | **X** | **X** | **M** | Raw N11 messages between the traced SMF and the AMF. The encoded content of the message is provided |
| S5-C | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | PGW ID of the connected PGW SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from S5-C messages between the traced SMF and PGW. |
| Encoded\* | **X** | **X** | **M** | Raw S5-C messages between the traced SMF and PGW. The encoded content of the message is provided |
| N16 | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | V-SMF ID of the connected V-SMF SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from N16 messages between the traced SMF and V-SMF. |
| Encoded\* | **X** | **X** | **M** | Raw N16 messages between the traced SMF and V-SMF. The encoded content of the message is provided |
| N16a | Decoded | **M** | **M** | **O** | Message name |
| **O** | **O** | **O** | Record extensions |
| **M** | **M** | **X** | I-SMF ID of the connected I-SMF SMF ID of the traced SMF |
| **O** | **O** | **X** | IE extracted from N16a messages between the traced SMF and I-SMF. |
| Encoded\* | **X** | **X** | **M** | Raw N16a messages between the traced SMF and I-SMF. The encoded content of the message is provided |

Encoded\* - the messages are left encoded in the format it was received.

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| **End of Change** |