**3GPP TSG-WG SA2 Meeting #164 *S2-240xxxx***

**Maastricht, NL, 19th Aug – 23rd Aug, 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.682** | **CR** | 0495 | **rev** | **4** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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:*** | Monitoring event for S&F | | | | | | | | | |
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| ***Source to WG:*** | Samsung, China Telecom | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GSAT\_Ph3\_ARCH | | | | |  | ***Date:*** | | | 2024-08-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | Based on conclusions agreed in the TR 23.700-29 for KI#2 this CR proposes to introduce monitoring events agreed as part of conclusions..  The descriptions are for the split-MME architecture, and clarification is needed on how to support monitoring event for whole CN onboard architecture. | | | | | | | | |
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| ***Summary of change:*** | | Monitoring event for S&F feature is implemented based on the conclusions reached for KI#2 in TR 23.700-29.  Introduction of the monitoring event for whole CN onboard architecture in S&F mode. | | | | | | | | |
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| ***Consequences if not approved:*** | | Monitoring event for S&F features is not supported.  Monitoring event for whole CN onboard architecture in S&F mode is not supported. | | | | | | | | |
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| ***Clauses affected:*** | | (new)5.6.1.X, (new)5.6.3.X | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 5.6.1.X Specific Parameters for Store and Forward Satellite operation information

This monitoring event allows the SCS/AS to be notified of Store and Forward Satellite operation information, identified by EPS as per TS 23.401 [7] clause 4.13.X.

For operation deployment of split-MME architecture specified in TS 23.401 [7] annex Y.1, the SCS/AS and SCEF communicate with HSS and MME-ground.

For operation deployment of full EPC in each satellite specified in TS 23.401 [7] annex Y.2, the SCS/AS communicates with S&F function and proxy on the ground which emulate MME and HSS from the perspective of the SCS/AS.

1. The SCS/AS sets Monitoring Type to "Store and Forward Satellite operation information" prior to sending Monitoring Request to the SCEF as in step 1 of clause 5.6.1.1.

2. The SCEF executes step 2 of clause 5.6.1.1.

3. The SCEF executes step 3 of clause 5.6.1.1.

4. The HSS executes step 4 of clause 5.6.1.1.

5. The HSS executes step 5 of clause 5.6.1.1.

6. The MME executes step 6 of clause 5.6.1.1 and starts watching for Store and Forward Satellite operation information events.

7-9. Steps 7-9 of clause 5.6.1.1 are executed.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Next Changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 5.6.3.X Reporting Event: Store and Forward Satellite operation information

1a. This monitoring event is detected as of step 1a of clause 5.6.3.1, which is when the MME detects that the UE is registered in S&F mode(see TS 23.401 [7] clause 4.13.X).

2a. Step 2a of clause 5.6.3.1 is executed.

3. Step 3 of clause 5.6.3.1 is executed. Depending on operator configuration, the MME sends to the SCS/AS that a UE is registered in S&F Mode and, a Downlink S&F estimated Delivery Time and the feeder link availability period.

NOTE: The Downlink S&F estimated Delivery time is the time required to deliver the data to the UE

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