**TSG-CT WG3 Meeting #111-e *C3-204100***

**E-Meeting, 19th – 28th August 2020 (Revision of C3-204xyz)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.512** | **CR** | **0538** | **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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Correction to policy update when UE suspends | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | en5GPccSer | | | | |  | ***Date:*** | | | 2020-08-10 |
|  |  | | | |  | |  | | |  |
| ***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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In order to get the notification that UE’s status is resumed from suspend state, the PCF shall subscribe the UE\_STATUS\_RESUME. But it is not defiend in current specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | If the PolicyUpdateWhenUESuspends feature as defined in subclause 5.8 is supported, the PCF and the SMF shall comply with the procedures specified in this subclause. During PDU session/PDN connection establishment or modification procedure, the PCF shall subscribe to the "UE\_STATUS\_RESUME" policy control request trigger if not subscribed yet, as described in subclause 4.2.6.4. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The PCF can’t get the notification that UE’s status is resumed from suspend state and can’t provision the policy subsequently. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | B.3.3.1, B.3.4.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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

### B.3.3.1 Policy Update When UE suspends

If the PolicyUpdateWhenUESuspends feature as defined in subclause 5.8 is supported, the PCF and the SMF shall comply with the procedures specified in this subclause. During PDU session/PDN connection establishment or modification procedure, the PCF shall subscribe to the "UE\_STATUS\_RESUME" policy control request trigger if not subscribed yet, as described in subclause 4.2.6.4. When the SMF receives the policy decision from the PCF as defined in subclause 4.2.3.1 for a PDN connection maintained when the UE’s status is suspend state, the SMF shall reject the request and include an HTTP "400 Bad Request" status code together with an ErrorReport structure. Within the ErrorReport data structure, the SMF shall include the "error" attribute containing the "cause" attribute of the ProblemDetails data structure set to "UE\_STATUS\_SUSPEND" which indicates the failure to enforce the corresponding policy decision, except if the policy decision is for the PCC rule removal only and/or session rule removal only, and further include the information as follows:

- If the policy decision includes the installation of one or more PCC rules, the SMF shall invoke the procedure as defined in subclause 4.2.3.16 with the "failureCode" attribute set to "UE\_STA\_SUSP" and "ruleStatus" attribute set to INACTIVE to indicate the failure to enforce those PCC rules.

- If the policy decision includes the modification of one or more PCC rules, the SMF shall invoke the procedure as defined in subclause 4.2.3.16 with the "failureCode" attribute set to "UE\_STA\_SUSP" and "ruleStatus" attribute set to ACTIVE to indicate the failure to enforce those PCC rules.

- If the policy decision includes the modification of one or more session rules, the SMF shall within an RuleReport data structure include the "sessRuleReports" attribute. Within each SessionRuleReport data structure, the SMF shall include the affected session rules within the "ruleIds" attribute(s), the "sessRuleFailureCode" attribute set to "UE\_STA\_SUSP" and "ruleStatus" attribute set to ACTIVE to indicate the failure to enforce those session rules.

Upon reception of the "failureCode" attribute and/or "sessRuleFailureCode" attribute set to "UE\_STA\_SUSP" or the ProblemDetails data structure set to "UE\_STATUS\_SUSPEND", the PCF shall not initiate any PDU Session Modification procedure, except if it is initiated for the PCC rule removal only or the session rule removal only, for the given PDU session over N7 until the UE’s status is resumed. When the SMF detected the UE’s status is resumed from suspend state, the SMF shall inform the PCF of the UE status as defined in Annex B.3.4.2.

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

#### B.3.4.2.1 Policy Update Error Report

If the PolicyUpdateWhenUESuspends feature as defined in subclause 5.8 is supported, the PCF and the SMF shall comply with the procedures specified in this subclause. During PDU session/PDN connection establishment or modification procedure, the PCF shall subscribe to the "UE\_STATUS\_RESUME" policy control request trigger if not subscribed yet, as described in subclause 4.2.6.4. When the SMF receives the policy decision from the PCF as defined in subclause 4.2.4.1 for a PDN connection maintained when the UE’s status is suspend state, the SMF shall include the "ruleReports" attribute for the affected PCC rules and/or session rules to report the failure within the SmPolicyUpdateContextData data structure. Within the ErrorReport data structure, the SMF shall include the "error" attribute containing the "cause" attribute of the ProblemDetails data structure set to "UE\_STATUS\_SUSPEND" which indicates the failure to enforce the corresponding policy decision, except if the policy decision is for the PCC rule removal only and/or session rule removal only, and further include the information as follows:

- if the policy decision includes the modification of one or more session rules, within an RuleReport instance, the SMF shall include the "sessRuleReports" attribute. Within each SessionRuleReport data structure, the SMF shall include the affected session rules within the "ruleIds" attribute(s), the "sessRuleFailureCode" attribute set to "UE\_STA\_SUSP" and the "ruleStatus" attribute set to ACTIVE to indicate the failure to enforce those session rules.

- if the policy decision includes the installation of one or more PCC rules, the SMF shall invoke the procedure as defined in subclause 4.2.4.15 with the "failureCode" attribute set to "UE\_STA\_SUSP" and "ruleStatus" attribute set to INACTIVE to indicate the failure to enforce those PCC rules.

- if the policy decision includes the modification of one or more PCC rules, the SMF shall invoke the procedure as defined in subclause 4.2.4.15 with the "failureCode" attribute set to "UE\_STA\_SUSP" and "ruleStatus" attribute set to ACTIVE to indicate the failure to enforce those PCC rules.

Upon reception of the "failureCode" attribute and/or "sessRuleFailureCode" attribute set to "UE\_STA\_SUSP", the PCF shall not initiate any PDU Session Modification procedure, except if it is initiated for the PCC rule removal only and/or session rule removal only, for the given PDU session over N7 until the UE’s status is resumed.

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