**3GPP TSG-CT3 Meeting #119-bis-e C3-220025**

**E-Meeting, 17th – 21st January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.512** | **CR** |  | **rev** | **-** | **Current version:** | **.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:*** | 29.512 MPS exemption from time conditioning | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Peraton Labs, CISA ECD | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MPS2 | | | | |  | ***Date:*** | | | 2022-01-07 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | Time conditioning is intended to avoid provisioning storms in the network. An exemption for priority service related requests (e.g., MPS for DTS) is needed so that a request for priority service is not impacted. | | | | | | | | |
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| ***Summary of change:*** | | A note is added, specifying that the PCF is responsible to ensure that the conditioned rules do not interfere with priority services.  Similar text already exists in 29.212§4.5.5.12.1. | | | | | | | | |
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| ***Consequences if not approved:*** | | Requests related to priority services might be delayed, impacted or negated during overload due to time conditioning. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.6.3.2.1 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\*\*\* First change \*\*\*\*\*

##### 4.2.6.3.2 Conditioned Session rule

###### 4.2.6.3.2.1 General

Up to four conditioned session rules (i.e. authorized session AMBR and authorized default QoS) may be provisioned by the PCF. In order to provision a session rule with conditional data, the PCF shall provision a session rule as defined in subclause 4.2.6.3.1 and include within its "refCondData" attribute the corresponding ConditionData's "condId" attribute value. The PCF shall also ensure that the referenced ConditionData instance is included in the "conds" map within the SmPolicyDecision data structure following the procedures defined in subclause 4.2.6.1 and that the referenced usage monitoring data is the same for all the provisioned conditioned and non-conditioned session rule(s).

Within the ConditionData instance, the PCF shall include the activation time within the "activationTime" attribute for the time conditioned authorized Session AMBR and authorized default QoS (deactivation time does not apply for a session rule). If the "AccessTypeCondition" feature as defined in subclause 5.8 is supported, the PCF may include for the access type conditioned session rule the access type within the "accessType" attribute and RAT type within the "ratType" attribute if applicable for the access type conditioned authorized session AMBR.

NOTE 1: The SMF retains remaining time conditioned session rules that have an execution time in the future.

NOTE 2: Time condition and access type condition can both apply to authorize the session AMBR within a session rule.

The PCF shall ensure that a time conditioned session rule and a session rule without time condition for the same session differ only in the authorized session-AMBR and authorized default QoS properties.

When the SMF detects that the referenced usage monitoring data of the enforced session rule is not the same for all the provisioned session rule(s) the SMF shall report the session rule error for the not enforced session rule(s) as defined in subclauses 4.2.3.20 and 4.2.4.21, and shall set the "failureCode" attribute to "INCORRECT\_UM".

If the SMF receives the conditioned session rule, when the condition indicated in the related attribute(s) within the Condition Data decision (e.g. at the time indicated in the "activationTime" attribute) is met, the SMF shall perform the conditional policy without interaction with the PCF. If the Condition Data decision includes more than one type of conditions and all the types of conditions are met, the SMF shall perform the conditional policy.

If time conditioned session rule(s) to change the non-conditioned session rule are received by the SMF and the earliest Activation Time is in the past, then the SMF shall immediately enforce the most recent time conditioned instance that is not in the future.

The PCF may modify a currently installed session rule, including setting, modifying or deleting its condition(s) as follows:

1) When modifying a session rule by setting the condition(s), the PCF shall update the session rule by including the corresponding ConditionData's "condId" attribute value within the "refCondData" attribute and within the SmPolicyDecision data structure include the ConditionData instance within the "conds" attribute if not provisioned yet.

2) When modifying a session rule by modifying the condition(s):

- the PCF may update the session rule by replacing the existing ConditionData instance's "condId" attribute value within the "refCondData" attribute with a new one and within the SmPolicyDecision data structure include the new ConditionData instance within the "conds" attribute if not provisioned yet; or

- the PCF may update the condition data decision which the session rule refers to by updating the corresponding ConditionData instance as defined in subclause 4.2.6.1. The PCF may update the value of the condition within the related attribute (e.g. the value of the existing deferred activation time within the "activationTime" attribute).

3) When modifying a session rule by deleting the condition(s):

- the PCF shall delete the reference to the ConditionData instance within the session rule by updating session rule with the "refCondData" attribute set to NULL; and

- the PCF may delete the condition data decision which the session rule refers to as defined in subclause 4.2.6.1 if no other session rules are referring to the condition data decision.

To delete a conditioned session rule, the PCF shall perform the deletion of session rule as defined in subclause 4.2.6.3.1. The "ueTimeZone" attribute, if available, may be used by the PCF to derive the value for the "activationTime" attribute.

NOTE 3: Conditioned session AMBR and default QoS change helps reducing the signalling load over N7. However, the session AMBR and default QoS change needs to be communicated to the UE. Consequently a simultaneous change of the session AMBR and default QoS for many UE(s) may introduce a signalling storm in the 5GC (e.g. over N1/N2/N4/N11). The PCF can avoid this simultaneous change of the session AMBR and default QoS (e.g. spread the time conditioned change over time for many UEs).

NOTE 4: For services that depend on specific session AMBR and/or default QoS change (e.g. an MPS session), the PCF is responsible to ensure that no conditioned session rules interfere with the service (e.g., ensure proper MPS operation by removing time conditioned settings that would later impact MPS).

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