**3GPP TSG- Meeting #**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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:***  | Descriptions about alternative QoS parameters in AsSessionWithQoS |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | C3 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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 canbe 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:*** | As specified in 23.502 subclauses 4.15.6.6, 4.15.6.6a, 5.2.6.9.2, and 5.2.6.9.5, for TSC sessions, QoS related parameters can now be provided by the AF to the NEF (using the AsSessionWithQoS service) as part of the alternative service requirements, in addition to the alternative QoS references. |
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| ***Summary of change:*** | Added the TSC\_5G feature in the re-used APIs and added EN to extend the descriptions of the 5G-specific aspects of the AsSessionWithQoS API to consider the alternative QoS parameters. |
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| ***Consequences if not approved:*** | Alernative QoS related parameters, as specified in stage 2, are not supported by the NEF. |
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| ***Clauses affected:*** | 4.4.9, 5.3 |
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|  | **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 has no impact on any OpenAPI file. |
|  |  |
| ***This CR's revision history:*** |  |

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

### 4.4.9 Procedures for setting up an AF session with required QoS

The procedures for setting up an AF session with required QoS in 5GS are described in subclause 4.4.13 of 3GPP TS 29.122 [4] with the following differences:

- description of the SCS/AS applies to the AF;

- description of the SCEF applies to the NEF;

- description of the PCRF applies to the PCF;

- the NEF may interact with BSF by using Nbsf\_Management\_Discovery service as defined in 3GPP TS 29.521 [9] to retrieve the PCF address;

- the NEF shall interact with the PCF by using Npcf\_PolicyAuthorization service as defined in 3GPP TS 29.514 [7];

- in the HTTP POST request, the AF may include a "dnn" attribute and/or a "snssai" attribute; and in the HTTP PUT request, the AF shall keep the same value(s) of the "dnn" attribute and/or the "snssai" attribute as set in the HTTP POST request if provided;

- description about the INDICATION\_OF\_SUCCESSFUL\_RESOURCES\_ALLOCATION event and INDICATION\_OF\_FAILED\_RESOURCES\_ALLOCATION event apply to the SUCCESSFUL\_RESOURCES\_ALLOCATION event and FAILED\_RESOURCES\_ALLOCATION event respectively; In addition, description about the INDICATION\_OF\_RELEASE\_OF\_BEARER, INDICATION\_OF\_LOSS\_OF\_BEARER and INDICATION\_OF\_RECOVERY\_OF\_BEARER events are not applicable in this specification.

- if the EthAsSessionQoS\_5G feature as defined in subclause 5.14.4 of 3GPP TS 29.122 [4] is supported and the request is for Ethernet UE:

- in the HTTP POST/PUT request, the AF shall include the UE MAC address within the "macAddr" attribute instead of the UE IP address. If the AppId feature is not supported, the AF shall include the Ethernet Flow description within the "ethFlowInfo" attribute instead of the IP Flow description; otherwise, the AF shall include either the External Application Identifier within the "exterAppId" attribute or the Ethernet Flow description within the "ethFlowInfo" attribute;

- in the HTTP PATCH request, the AF may update the Ethernet Flow description within the "ethFlowInfo" attribute or the External Application Identifier within the "exterAppId" attribute;

- if the "QoSMonitoring\_5G" feature as defined in subclause 5.14.4 of 3GPP TS 29.122 [4] is supported, in order to support the QoS Monitoring, the AF shall include "qosMonInfo" attribute. The AF shall also include the "localNotifInd" attribute set to true if the "EnEDGE\_5G" feature is supported and the local notification is required. Within the QosMonitoringInformation data structure, the AF shall include:

- one or more requested QoS Monitoring Parameter(s) within the "reqQosMonParams"; and

- one or more report frequency within the "repFreqs" attribute; and

- when the "repFreqs" attribute includes the value "PERIODIC", the reporting period within the "repPeriod" attribute; and

- when the "repFreqs" attribute includes the value "EVENT\_TRIGGERED", the AF shall include:

- the delay threshold for downlink with the "repThreshDl" attribute;

- the delay threshold for uplink with the "repThreshUl" attribute; and/or

- the delay threshold for round trip with the "repThreshRp" attribute; and

- the minimum waiting time between subsequent reports within the "waitTime" attribute.

- when the NEF receives the event notification as defined in subclause 4.2.2 of 3GPP TS 29.508 [26] or subclauses 4.2.4.12 and 4.2.5.14 of 3GPP TS 29.514 [7], the NEF shall include one or more QoS monitoring reports within the "qosMonReports" attribute. Within the QosMonitoringReport data structure, the NEF shall include:

- one or two uplink packet delays within the "ulDelays" attribute;

- one or two downlink packet delays within the "dlDelays" attribute; and/or

- one or two round trip packet delays within the "rtDelays" attribute; and

- if the "AlternativeQoS\_5G" feature is supported, the AF may include an ordered list of QoS references within the "altQosReferences" attribute and, if the "DisableUENotification\_5G" feature is also supported, an indication that the UE does not need to be informed about changes related to Alternative QoS Profiles within the "disUeNotif" attribute. The NEF shall transfer them to the PCF in the Npcf\_PolicyAuthorization service and subscribe to PCF event "QOS\_NOTIF" in the Npcf\_PolicyAuthorization service. When the NEF receives the notification of PCF event "QOS\_NOTIF", it shall notify the AF with "QOS\_GUARANTEED" event; or "QOS\_NOT\_GUARANTEED" event with the currently applied QoS reference if received. When the NEF receives the notification of PCF event "SUCCESSFUL\_RESOURCES\_ALLOCATION", it shall notify the AF the event together with the currently applied QoS reference if received.

NOTE 1: Based on the operator configuration, the QoS reference identifiers received from the AF can be the same or different as the QoS reference identifiers known at the PCF. The NEF can perform a mapping for the QoS reference identifier.

- if the "TSC\_5G" feature is supported, the AF may include:

- the TSC QoS requirement within the "tscQosReq" attribute. Within the TscQosRequirement data structure, the AF shall include:

- requested GBR within the "reqGbrDl" attribute and/or "reqGbrUl" attribute;

- requested MBR within the "reqMbrDl" attribute and/or "reqMbrUl" attribute; and

- the TSCAI input information within the "tscaiInputUl" attribute and/or "tscaiInputDl"attribute;

and may include:

- the maximum burst size within the "maxTscBurstSize" attribute;

- the priority within the "priority" attribute;

- the requested 5GS delay within the "req5Gsdelay" attribute; and

- the TSCAI time domain within the "tscaiTimeDom" attribute.

Editor’s Note: It is FFS to add the alternative QoS related parameters.

If the NEF authorizes the AF request, the NEF shall provision the received QoS requirement to the TSCTSF by invoking the Ntsctsf\_QoSandTSCAssistance\_Create request as defined in 3GPP TS 29.565 [50].

\* \* \* \* Next change \* \* \* \*

## 5.3 Reused APIs

This subclause describes the northbound APIs which are applicable for both EPS and 5GS.

Table 5.3-1: Reused APIs applicable for both EPS and 5GS

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| API Name | Differences |
| ResourceManagementOfBdt | - The "LocBdt\_5G" feature as described in subclause 5.4.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- The "Group\_Id" feature as described in subclause 5.4.4 of 3GPP TS 29.122 [4] may be supported in 5G.- The "BdtNotification\_5G" feature as described in subclause 5.4.4 of 3GPP TS 29.122 [4] may only be supported in 5G. |
| PfdManagement | The "FailureLocation\_5G" feature as described in subclause 5.11.4 of 3GPP TS 29.122 [4] may only be supported in 5G. |
| MonitoringEvent | - The "Number\_of\_UEs\_in\_an\_area\_notification\_5G" feature as described in subclause 5.3.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- The "Downlink\_data\_delivery\_status\_5G" feature as described in subclause 5.3.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- The "Availability\_after\_DDN\_failure\_notification\_enhancement" feature as described in subclause 5.3.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- For the "Pdn\_connectivity\_status" feature, APN is equivalent to DNN; the non-IP PDN type is equivalent to the unstructured PDU session type; and the enumeration InterfaceIndication value "PDN\_GATEWAY" stands for PDU session anchored in UPF in 5G.- The "eLCS" feature as described in subclause 5.3.4 of 3GPP TS 29.122 [4] may only be supported in 5G. - The "NSAC" feature described in subclause 5.3.4 of 3GPP TS 29.122 [4] may only be supported in 5G. |
| DeviceTriggering |  |
| CpProvisioning | - The "ExpectedUMT\_5G" and "ExpectedUmtTime\_5G" features as described in subclause 5.10.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- The "ScheduledCommType\_5G" feature as described in subclause 5.10.4 of 3GPP TS 29.122 [4] may only be supported in 5G. |
| ChargeableParty | - The "EthChgParty\_5G" and "MacAddressRange\_5G" features as described in subclause 5.5.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- The events (i.e. LOSS\_OF\_BEARER, RECOVERY\_OF\_BEARER and RELEASE\_OF\_BEARER) do not apply for 5G. |
| AsSessionWithQoS | - The "EthAsSessionQoS\_5G", "QoSMonitoring\_5G", "MacAddressRange\_5G", "AlternativeQoS\_5G", and "TSC\_5G" features as described in subclause 5.14.4 of 3GPP TS 29.122 [4] may only be supported in 5G.- The events (i.e. LOSS\_OF\_BEARER, RECOVERY\_OF\_BEARER and RELEASE\_OF\_BEARER) do not apply for 5G. |
| MsisdnLessMoSms |  |
| NpConfiguration | The "NpExpiry\_5G” feature as described in subclause 5.13.4 of 3GPP TS 29.122 [4] may only be supported in 5G. |
| NIDD |  |
| RacsParameterProvisioning |  |
| ECRControl | The "ECR\_WB\_5G” feature as described in subclause 5.12.4 of 3GPP TS 29.122 [4] may only be supported in 5G. |

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