**3GPP TSG-CT WG1 Meeting #133-eC1-216852**

**E-meeting, 11-19 November 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.193** | **CR** | **0067** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update of QoS flow list | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ATSSS\_Ph2 | | | | |  | ***Date:*** | | | 2021-11-12 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | S2-2107829 (agreed in SA2#147e) clarifies that the SMF may update the list of QoS Flows over which access performance measurements may be performed during the lifetime of a MA PDU session, e.g. when a new PCC rule that could benefit from PMF access performance measurements is bound to a QoS Flow.  Therefore, corresponding statement needs to be made in stage 3 specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Specify that the SMF change the QoS flows over which access performance measurements may be performed by updating the MAI.  Update definition of measurement assistance information with QoS flow list for access performance measurement over dedicated QoS flow(s). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Misalignment with stage 2 requirement. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.4, 5.2.4, 6.1.5.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | |  | | | | | | | | |

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

## 4.4 Support of access performance measurements

The ATSSS capable UE can perform access performance measurements to decide how to distribute traffic over 3GPP access and non-3GPP access. The access performance measurements can be performed by using the QoS flow(s) of default QoS rule. Based on the UE capability that the UE has indicated to the network, the access performance measurements can also be performed by using the QoS flows of non-default QoS rules.

An ATSSS capable UE receives MAI from the SMF during the PDU session establishment procedure for an MA PDU session as described in clause 5.32.5 of 3GPP TS 23.501 [2] or during a network-requested PDU session modification procedure as specified in clause 6.3.2 of 3GPP TS 24.501 [6]. The MAI can contain the addressing information of the PMF in the UPF, as well as an indicator on whether access availability/unavailability reports need to be sent to the network. If the UE indicates to the network the capability to perform the access performance measurements by using the QoS flows of non-default QoS rules, the MAI can also indicate to the UE that the performance measurement is for the QoS flows of non-default QoS rules and therefore include a QoS flow list for which, the measurements are to be performed. The encoding of the MAI is specified in clause 6.1.5.

An ATSSS capable UE that supports the MPTCP steering functionality can use the measurements available at the MPTCP layer.

The following PMF protocol messages can be exchanged between the PMF in the UE and the PMF in the UPF:

a) messages for RTT measurements, only applicable for the ATSSS-LL steering functionality;

b) messages for reporting access availability/unavailability by the UE to the UPF;

c) messages for PLR measurements, only applicable for the ATSSS-LL steering functionality; or

d) messages for UAD provisioning from the UE to the UPF.

An ATSSS capable UE does not apply the ATSSS rules to the PMF protocol messages.

The performance measurement function protocol procedures are specified with following procedures:

a) UE-initiated RTT measurement (see clause 5.4.3);

b) Network-initiated RTT measurement (see clause 5.4.4);

c) UE-initiated PLR measurement (see clause 5.4.6);

d) Network-initiated PLR measurement (see clause 5.4.7);

e) UE assistance data provisioning procedure (see clause 5.4.8); and

f) The access availability/unavailability procedures (see clause 5.4.5)

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

### 5.2.4 Updating ATSSS parameters

An SMF can update ATSSS parameters, i.e. the ATSSS rules, and the MAI, according to the procedure for the network-requested PDU session modification as specified in clause 6.3.2 of 3GPP TS 24.501 [6] over 3GPP access network or non-3GPP access network. The ATSSS rules may be individually added, deleted or updated using the ATSSS rule ID and ATSSS rule operation. The SMF may change the access network over which the traffic of the GBR QoS flow is transmitted by updating the UE's ATSSS rules. The SMF may change the QoS flows over which access performance measurements may be performed by updating the MAI.

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

#### 6.1.5.1 Definition of measurement assistance information

The measurement assistance information is transmitted by the network to the UE.

If the UE is only capable of supporting MPTCP functionality with any steering mode and the ATSSS-LL functionality with only the active-standby steering mode, the network may send measurement assistance information for the UE to send access availability/unavailability to the UPF. In this case, the UE and UPF shall not perform RTT measurements using PMF, the UE and UPF shall use the RTT measurements available at the MPTCP layer.

The measurement assistance information is defined in 3GPP TS 23.501 [2] and it contains:

a) addressing for the PMF in the UPF according to:

1) if the PDU session is IP type, the measurement assistance information contains IP address for the PMF with an allocated port number associated with the 3GPP access network and another allocated port number associated with non-3GPP access network for access performance measurements over the QoS flow of the default QoS rule, and optionally a QoS flow list according to figure 6.1.5.2-3 and figure 6.1.5.2-4 with the allocated port numbers to perform measurements over the QoS flows of non-default QoS rules; and

2) if the PDU session is Ethernet type, the measurement assistance information contains a MAC address associated with the 3GPP access network and another MAC address associated with the non-3GPP address network for the PMF for access performance measurements over the QoS flow of the default QoS rule, and optionally a QoS flow list according to figure 6.1.5.2-3 and figure 6.1.5.2-5 with the MAC addresses to perform for measurements over the QoS flows of non-default QoS rules; and

b) an indicator to report the availability and unavailability of an access network.

\* \* \* End of change \* \* \* \*