# eATSSS\_Ph2 Conference Call (Jan. 27, 2021)

During this conference call, the following draft documents were discussed.

# Task 1.1: PMF Enhancements

**Objective**: The PMF protocol shall be able to support RTT and Packet Loss Rate measurements per QoS flow.

**Volunteers:**

* Myungjune (LG)
* Susan (Huawei)
* Jinguo (ZTE)

|  |  |  |  |
| --- | --- | --- | --- |
| **Company** | **Spec** | **Draft CR** | **Comments** |
| LG Electronics, Huawei | TS 23.501  5.32.5.1,  5.32.5.2,  5.32.5.2a (new) | PMF enhancements to support RTT and Packet Loss Rate measurements per QoS Flow  [T11\_S2-210XXXX\_ATSSS\_23.501\_PMFP\_v4](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T11_S2-210XXXX_ATSSS_23.501_PMFP_v4.docx) | New clause added: “5.32.5.2a Packet Loss Rate Measurements”  Jinguo: 1) I suppose performance measurement per QoS flow is only used for ATSSS-LL functionality. In order to select a suitable access for SDF the ATSSS-LL needs to determine the mapped QoS flow for the SDF, and then check the performance measurement of this QoS Flow. The question is how can the ATSSS-LL do such QoS flow mapping for SDF? Normally the QoS flow mapping is done at access network layer  2) How to perform PLR measurement. Have the solution you described in the CR been discussed during the study?  As you know the PLR for 3GPP access may be very low. How many packets will be sent by PMF? Do these packets been charged? |
| Huawei | TS 23.502  4.22.2.1,  4.22.4 | PMF enhancements to support RTT and Packet Loss Rate measurements per QoS Flow  T11\_S2-210xxx RTT measurement per QoS flow 23502 |  |
| ZTE | N/A  Discussion | Discussion on performance Measurement per QoS Flow  [T11\_S2-200xxx eATSSS measurement per QoS flow](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T11_S2-200xxx%20eATSSS%20measurement%20per%20QoS%20flow.docx) |  |

# Task 1.2: Load-Balancing without pre-defined split percentages

**Objective:** In Rel-16, the network always provides the split percentages to UE, e.g. 20% on 3GPP access, 80% on non-3GPP access.

In Rel-17, the network may not provide split percentages, in which case the UE and the UPF can freely and independently select their own percentages. The selected percentages may change over time, e.g. based on the RTT measurements. The UE and the UPF typically select the percentages in order to maximize the aggregated throughput (e.g. send most traffic to the access with the smallest delay).

**Volunteers:**

* Susan (Huawei)
* Rainer (Nokia)
* Stefan (Ericsson)
* Jinguo (ZTE)
* Spencer Dawkins (Tencent)

|  |  |  |  |
| --- | --- | --- | --- |
| **Company** | **Spec** | **Draft CR** | **Comments** |
| Huawei, Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility, Ericsson, ZTE | TS 23.501  5.32.8: ATSSS Rules | Load-Balancing steering mode extension  [T12\_S2-200xxx Steering mode extension\_501\_v08](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T12_S2-200xxx%20Steering%20mode%20extension_501_v08.docx) | Stefan provided comments, revisions and asked to co-sign.  Jinguo: In general we are fine with both CRs. One question for clarification on this indication, in which case PCF determines that the SDF is NOT allowed to use this autonomous operation?  Jinguo: Asked to co-sign. |
| Huawei, HiSilicon, Nokia, Nokia Shanghai Bell, Ericsson, ZTE | TS 23.503  6.3.1: General | Load-Balancing steering mode extension  [T12\_S2-200xxx Steering mode extension\_503\_v02](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T12_S2-200xxx%20Steering%20mode%20extension_503_v02.docx) | Stefan provided comments, revisions and asked to co-sign.  Jinguo: In general we are fine with both CRs. One question for clarification on this indication, in which case PCF determines that the SDF is NOT allowed to use this autonomous operation?  Jinguo: Asked to co-sign. |

# Task 1.3: UE-assistance indication

**Objective:** When the UE receives a UE-assistance indication:

(a) the UE can decide how to distribute the UL traffic based on its internal state (e.g., battery level), and

(b) the UE can request from UPF to apply the same distribution for the DL traffic, and the UPF can take the UE's request into account when deciding the DL transmission traffic distribution.

How can the UE request from UPF to apply the same distribution for the DL traffic?

**Open Issue 1**: Clarify bullet (a) above. It can be read to say that For which steering modes is the UE-assistance indication applicable?

**Open Issue 1**: For which steering modes is the UE-assistance indication applicable?

**Volunteers:**

* Apostolis (Lenovo)
* Krisztian (Apple)
* Jinguo (ZTE)
* Spencer Dawkins (Tencent)

|  |  |  |  |
| --- | --- | --- | --- |
| **Company** | **Spec** | **Draft CR** | **Comments** |
| Lenovo, Motorola Mobility | N/A  Discussion document | Discussion on UE Assistance indication  [T13\_S2-200xxx UE-Assistance\_Discussion\_v01.docx](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T13_S2-200xxx%20UE-Assistance_Discussion_v01.docx) | It was concluded in TR 23.700-93 that a UE-assistance indication may be provided to UE by the network, but some issues were left open for the normative phase. The intension of this document is to discuss these open issues and to agree the way forward. |
|  |  |  |  |

# Task 1.4: Threshold conditions

**Objective:** A steering mode can be linked with a threshold condition, which specifies details about how the steering mode should be applied. For example, if the threshold condition "RTT < 100ms" is applied to a Load-Balancing steering mode, it indicates that traffic can be transferred on 3GPP or non-3GPP access if the measured RTT of this access is less than 100ms. The threshold conditions will be the same for both 3GPP and non-3GPP accesses since QoS requirements are per SDF/service.

**Open Issue 1:** For which steering modes (other than Load-Balancing) can the threshold conditions be applied?

**Open Issue 2:** A threshold condition includes a measured parameter, which can be (a) the RTT and (b) the Packet Loss Rate. Can the Jitter be also a measured parameter in a threshold condition?

**Volunteers:**

* Marco (Huawei)
* Rainer (Nokia)
* Stefan (Ericsson)
* Spencer Dawkins (Tencent)

|  |  |  |  |
| --- | --- | --- | --- |
| **Company** | **Spec** | **Draft CR** | **Comments** |
| Nokia, Nokia Shanghai Bell, Ericsson | TS 23.503  6.3.1, General  6.1.3.20, Access Traffic Steering, Switching and Splitting | Introducing steering mode threshold conditions  [T14\_S2-210xxxxx-eATSSS\_23503\_KI1\_thresholds\_v4\_Nokia.docx](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T14_S2-210xxxxx-eATSSS_23503_KI1_thresholds_v4_Nokia.docx) |  |

# Task 2.1: Supporting MA PDU with 3GPP access leg over EPC and Non-3GPP access leg over 5GC

**Objective:** Enable a UE to establish an MA PDU Session that has a 3GPP access leg over EPC and a non-3GPP access leg over 5GC.

The normative work shall be based on the following 3 solutions in the TR:

* Solutions #5: Replacing 3GPP access leg of MA-PDU Session with PDN connection in EPC;
* Solution #9: Supporting a PDN connection in EPC as a 3GPP access leg of MA-PDU Session; and
* Solution #10: Extension of 5G RG solution to support Ethernet PDU Session types. Solution#10 (Ethernet) is not applicable to MPTCP steering functionality.

Support of Solutions #5, #9 and #10 shall not induce changes to MME and SGW.

**Volunteers:**

* Guanzhou Wang (Interdigital): 23.502 CR
* Laurent (Nokia): 23.501 CR + 23.316 CR
* Myungjune (LG)
* Stefan (Ericsson): 23.503 CR
* Jinguo (ZTE)

**Draft contributions:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Company** | **Spec** | **Draft CR** | **Comments** |
| Interdigital | TS 23.502  4.22, ATSSS Procedures | MA PDU sessions with connectivity over E-UTRAN/EPC and non-3GPP access to 5GC  [T21\_S2-200xxxx ATSSS R17 23502 V1](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T21_S2-200xxxx%20ATSSS%20R17%2023502%20V1.docx) |  |
| Nokia, Nokia Shanghai Bell | TS 23.501  5.32.1, General  5.32.7.X, MA PDU sessions using E-UTRAN/EPC and non-3GPP access connected to 5GC  5.32.7, Interworking with EPS | MA PDU sessions with connectivity over E-UTRAN/EPC and non-3GPP access to 5GC  [T21\_S2-200xxxx ATSSS R17 23501 V1\_stro](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T21_S2-200xxxx%20ATSSS%20R17%2023501%20V1_stro.docx) |  |
| Nokia, Nokia Shanghai Bell | TS 23.316  4.12.3 Hybrid Access with multi-access connectivity over E-UTRAN/EPC and W-5GAN | MA PDU sessions with connectivity over E-UTRAN/EPC and non-3GPP access to 5GC  [T21\_S2-200xxxx ATSSS R17 23316 V1\_stro](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T21_S2-200xxxx%20ATSSS%20R17%2023316%20V1_stro.docx) |  |
| Ericsson, Nokia?, Nokia Shanghai Bell?, Deutsche Telekom | TS 23.503  6.1.3.20 Access Traffic Steering, Switching and Splitting | MA PDU sessions with connectivity over E-UTRAN/EPC and non-3GPP access to 5GC  [T21\_S2-20xxxxx\_eATSSS\_23503\_EPC\_IWK\_v4](https://www.3gpp.org/ftp/Email_Discussions/SA2/ATSSS_Ph2/Tdocs%20for%20CC-Jan27-2021/T21_S2-20xxxxx_eATSSS_23503_EPC_IWK_v4.docx) |  |