

Transport Network Aware Mobility for 5G

draft-clt-dmm-tn-aware-mobility-08

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What is being solved (Recap..)

Background

REL15: TS23.501/502 specify 5G architecture and procedures for UE mobility, which in addition to 4G-like mobility (SSC mode 1), also specifies SSC mode 2 (PDU session break before make) and SSC mode 3 (PDU session make before break).

Problems

1. No transport network awareness -with various SSTs (eMBB, URLLC, MIOT):
 - different traffic characteristics needing low and deterministic latency, real-time, mission-critical or networked AR/VR on 5G networks (end-to-end) i.e. including F1-U/N3/N9.
 - However, with current approach, it is difficult to provide SLA guarantees for the above, in various 5G procedures (including mobility).
 - This is mostly because 5G architecture focused only on Radio Access Network and Core Network and midhaul/backhaul transport network is not seen in an integrated fashion.
(Framework to address the above)
2. An under specified mapping function from 3GPP PDU session to transport network paths. Where multiple technologies are possible in backhaul network to create the transport path. (Addressing the same & applicability to the framework)

Recap..

1. This draft was first presented in **July 2018, @IETF102**, Montreal ('01' version)
 - Mobility functions aware of underlying transport
 - Mapping to various underlying transport technologies (underlays)
2. An updated version is presented **Nov 2018 @IETF103** Bangkok ('02' version)
 - How QoS being carried in N3, N9 interfaces
 - Missing transport network related items w.r.t to Slice selection in integrated approach (Section 2.2)
 - Sec 3, , 3..1 & 5 updates received in the list/offline
3. An updated version is presented **July 2019 @ IETF105** , Montreal ('04' version)
 - Incorporated extensive feedback received from couple of folks
 - Added contributions from **Altiostar, Nokia, FW Wireless, InterDigital (as contributor) and added as Co-authors**
 - 2 approaches presented for the framework and multiple options for carrying MTNC-ID

Recap (Contd..)

4. An updated version is presented **Nov 2019 @ IETF106** , Singapore ('05' version)

- Simplified Solution Approach (Chapter 2)
- Carrying Transport Context Identifier
- Further addressed comments received

5. This work further tuned in version 06, **with contributions from co-editor, John K. and updated in the list**

Recent Comments Summary

Received further comments from the WG last month.

- Related to simplifying Section 3 and Appendix
- Additional ranges for SD-WAN applicability beyond mobility domain
- Couple of comments (inconsistent descriptions, missed items, nits) received in the list

Changes in Current Version/Revision 08

1. Simplified Section

- Last Revision had detailed descriptions
- New version has been simplified :

<u>3.</u>	Transport Network Underlays	<u>15</u>
<u>3.1.</u>	Applicability	<u>15</u>
<u>3.2.</u>	Transport Network Technologies	<u>17</u>

2. Appendix-B related to various SSC modes has been moved out

- To a new draft <https://tools.ietf.org/html/draft-chunduri-dmm-5g-mobility-with-ppr-00>
- That also covers how Section 3.1/Applicability can be achieved through PPR
- Referenced this draft in relevant places
(but, yet to list in the references – as both drafts updated on the same day on IETF109 deadline)

3. Addressed the additional ranges for mobility domain & beyond in Sec

4. Other updates to address the comments.

- From authors side we were ready in 06 version itself
(but as there were no IETF virtual sessions we couldn't follow-up)
- Current version (08) as explained addresses further comments received

At this point we ask for WG adoption to further continue this work!

Thank You!