**3GPP TSG-WG SA2 Meeting #153E e-meeting S2-2208784r01**

**Elbonia, October 10 – 17, 2022**

**Source: Thales**

**Title: Conclusions proposal for TR23.700-28**

**Document for: Approval**

**Agenda Item: 9.24**

**Work Item / Release: FS\_5GSAT\_Ph2 / Rel-18**

*Abstract: a conclusion is proposed.*

# 1. Introduction/Discussion

This pCR provides a structure for the conclusions and conclusions.

# 2. Text Proposal

It is proposed to capture the following changes vs. TR 23.700-28.

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

# 8 Conclusions

## 8.1 Conclusion on general mobility management and/or power saving

The conclusions for solutions to the requirements R1, R2 for KI#1 and R5 and R6 for KI#2 are the following:

Regarding global system behaviour:

* MEO/LEO satellite or satellite constellation that provides discontinuous coverage is considered as the satellite access in 5GS and EPS for the power saving enhancement
* Coverage information shall be provisioned to both UE and AMF/MME
* Coverage information shall include timing information when UE moves out/in of NTN coverage

Editor’s Note: 2 different valuable approaches coexists in conclusions. In the first one, Network centric, the AMF/MME determines the PSM parameters taking into account satellite assistance data, in the second one, UE centric, the UE elaborates knowledge of coverage gaps and informs Network about its unavailability. Both makes sense but it has to be clearly determined the applicability domain (uses cases) for each and the priority rules between both. Conclusions here will depend on the discussion during the meeting.

Regarding which information AMF/MME has and how AMF/MME retrieves it:

* AMF/MME shall not generate coverage information by itself to be used for setting up the power saving parameters or handling mobility management of NTN UE
* AMF/MME obtains satellite coverage information (e.g. satellite ephemeris, satellite footprint) from other NF such as NWDAF or new NF or AF (or a 3rd party server via NEF) or OAM

Editor’s Note: who will provide the coverage map information depends on the discussion.

Regarding the role of AMF/MME:

* The AMF/MME configures the UEs mobility management and power saving parameters, e.g. MRU/TAU timer, active time, eDRX, based on the coverage information, to make sure the UE in power saving mode out of network coverage, to avoid the network de-registering or detaching the UE, or attempting to page the UE during this time. The UE may use this information to help determine when it can access a network.
* The AMF/MME sets an implicit detach timer based on the coverage information to avoid de-registering or detaching the UE, or attempting to page the UE when it is in discontinuous coverage.

Regarding which information UE has and how UE retrieves it:

* If possible, accurate coverage information is shared with UE coverage information retrieves from the network with enhanced solution compared to R17
* Satellite coverage data may be transferred to a UE from an external server or an AF (internal or external to PLMN)

Editor’s Note: LS need to have feedback from CT1 on whether UP or NAS via an AMF/MME (CP) will be used for the transfer depends on the discussion.

Regarding the role of the UE:

* The capability for the UE to be able to determine its NAS timer values based on its predicted unreachability periods needs to be specified.
* The capability for the UE to initiate the NAS timer value negotiation using the UE calculated NAS timer values needs to be supported.
* Determination of satellite coverage gaps may be supported by UEs based on satellite coverage data received. In this case, UEs will indicate an impending satellite coverage gap, when known, to an AMF or MME as described by unreachability period and will notify the AMF or MME when the satellite coverage gap has ended as described accordingly.

## 8.2 Conclusion on overload impacts to a target RAT/PLMN

The conclusions for solutions to the requirement R4, overload impacts to a target RAT/PLMN, for KI#1, are:

Editor’s Note: The conclusion is for discussion during the meeting, depending on conclusion in S2-2208984

## 8.3 Conclusion on alternative RAT/PLMN selection

The conclusions for solutions to the requirement R3, alternative RAT/PLMN selection, for KI#1, are:

Editor’s Note: The conclusion is for discussion during the meeting, depending on conclusion in S2-2209184.

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