**3GPP TSG-SA WG2 Meeting #140-eS2-200wxyz**

**Electronic meeting, 19 August-2 September 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **23.502** | **CR** | **draft** | **rev** | **-** | **Current version:** | **16.5.0** |  |
|  |
| *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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | NAS timer for GEO  |
|  |  |
| ***Source to WG:*** | OPPO |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | 5GSAT\_ARCH |  | ***Date:*** | 2020-08-19 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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 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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)* |
|  |  |
| ***Reason for change:*** | It was concluded that the solution#10 in the TR23.737 as the baseline solution for KI-delay in the satellite.It was also concluded that the NAS timer will not be impacted by the LEO or the MEO satellite. The GEO satellite will impact the NAS timer due to significant delay. |
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| ***Summary of change:*** | The NAS retransmission timer will be adjusted in the GEO satellite. |
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| ***Consequences if not approved:*** | This feature is not complete. |
|  |  |
| ***Clauses affected:*** | 3.2, 5.x.y(new) |
|  |  |
|  | **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 \* \* \* \***

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

5GC 5G Core Network

5GLAN 5G Local Area Network

5GS 5G System

5G-AN 5G Access Network

5G-AN PDB 5G Access Network Packet Delay Budget

5G-EIR 5G-Equipment Identity Register

5G-GUTI 5G Globally Unique Temporary Identifier

5G-BRG 5G Broadband Residential Gateway

5G-CRG 5G Cable Residential Gateway

5G GM 5G Grand Master

5G-RG 5G Residential Gateway

5G-S-TMSI 5G S-Temporary Mobile Subscription Identifier

5G VN 5G Virtual Network

5QI 5G QoS Identifier

AF Application Function

AMF Access and Mobility Management Function

AS Access Stratum

ATSSS Access Traffic Steering, Switching, Splitting

ATSSS-LL ATSSS Low-Layer

AUSF Authentication Server Function

BMCA Best Master Clock Algorithm

BSF Binding Support Function

CAG Closed Access Group

CAPIF Common API Framework for 3GPP northbound APIs

CHF Charging Function

CN PDB Core Network Packet Delay Budget

CP Control Plane

DAPS Dual Active Protocol Stacks

DL Downlink

DN Data Network

DNAI DN Access Identifier

DNN Data Network Name

DRX Discontinuous Reception

DS-TT Device-side TSN translator

ePDG evolved Packet Data Gateway

EBI EPS Bearer Identity

EUI Extended Unique Identifier

FAR Forwarding Action Rule

FN-BRG Fixed Network Broadband RG

FN-CRG Fixed Network Cable RG

FN-RG Fixed Network RG

FQDN Fully Qualified Domain Name

GEO Geostationary Satellite Orbit

GFBR Guaranteed Flow Bit Rate

GMLC Gateway Mobile Location Centre

GPSI Generic Public Subscription Identifier

GUAMI Globally Unique AMF Identifier

HR Home Routed (roaming)

IAB Integrated access and backhaul

IMEI/TAC IMEI Type Allocation Code

IPUPS Inter PLMN UP Security

I-SMF Intermediate SMF

I-UPF Intermediate UPF

LADN Local Area Data Network

LBO Local Break Out (roaming)

LMF Location Management Function

LoA Level of Automation

LPP LTE Positioning Protocol

LRF Location Retrieval Function

MCX Mission Critical Service

MDBV Maximum Data Burst Volume

MFBR Maximum Flow Bit Rate

MICO Mobile Initiated Connection Only

MPS Multimedia Priority Service

MPTCP Multi-Path TCP Protocol

N3IWF Non-3GPP InterWorking Function

N5CW Non-5G-Capable over WLAN

NAI Network Access Identifier

NEF Network Exposure Function

NF Network Function

NGAP Next Generation Application Protocol

NID Network identifier

NPN Non-Public Network

NR New Radio

NRF Network Repository Function

NSI ID Network Slice Instance Identifier

NSSAA Network Slice-Specific Authentication and Authorization

NSSAAF Network Slice-Specific Authentication and Authorization Function

NSSAI Network Slice Selection Assistance Information

NSSF Network Slice Selection Function

NSSP Network Slice Selection Policy

NTN Non Terrestrial NetworkNW-TT Network-side TSN translator

NWDAF Network Data Analytics Function

PCF Policy Control Function

PDB Packet Delay Budget

PDR Packet Detection Rule

PDU Protocol Data Unit

PEI Permanent Equipment Identifier

PER Packet Error Rate

PFD Packet Flow Description

PNI-NPN Public Network Integrated Non-Public Network

PPD Paging Policy Differentiation

PPF Paging Proceed Flag

PPI Paging Policy Indicator

PSA PDU Session Anchor

PTP Precision Time Protocol

QFI QoS Flow Identifier

QoE Quality of Experience

RACS Radio Capabilities Signalling optimisation

(R)AN (Radio) Access Network

RG Residential Gateway

RIM Remote Interference Management

RQA Reflective QoS Attribute

RQI Reflective QoS Indication

RSN Redundancy Sequence Number

SA NR Standalone New Radio

SBA Service Based Architecture

SBI Service Based Interface

SCP Service Communication Proxy

SD Slice Differentiator

SEAF Security Anchor Functionality

SEPP Security Edge Protection Proxy

SMF Session Management Function

SMSF Short Message Service Function

SN Sequence Number

SNPN Stand-alone Non-Public Network

S-NSSAI Single Network Slice Selection Assistance Information

SSC Session and Service Continuity

SSCMSP Session and Service Continuity Mode Selection Policy

SST Slice/Service Type

SUCI Subscription Concealed Identifier

SUPI Subscription Permanent Identifier

SV Software Version

TNAN Trusted Non-3GPP Access Network

TNAP Trusted Non-3GPP Access Point

TNGF Trusted Non-3GPP Gateway Function

TNL Transport Network Layer

TNLA Transport Network Layer Association

TSC Time Sensitive Communication

TSCAI TSC Assistance Information

TSN Time Sensitive Networking

TSN GM TSN Grand Master

TSP Traffic Steering Policy

TT TSN Translator

TWIF Trusted WLAN Interworking Function

UCMF UE radio Capability Management Function

UDM Unified Data Management

UDR Unified Data Repository

UDSF Unstructured Data Storage Function

UL Uplink

UL CL Uplink Classifier

UPF User Plane Function

URLLC Ultra Reliable Low Latency Communication

URRP-AMF UE Reachability Request Parameter for AMF

URSP UE Route Selection Policy

VID VLAN Identifier

VLAN Virtual Local Area Network

W-5GAN Wireline 5G Access Network

W-5GBAN Wireline BBF Access Network

W-5GCAN Wireline 5G Cable Access Network

W-AGF Wireline Access Gateway Function

**\* \* \* \* Next Change \* \* \* \***

## 5.X Support for Satellite Access

### 5.x.y Delay in Satellite

If the UE is using the GEO satellite access, then the UE and the AMF shall use the extended NAS-MM timer for GEO satellite access for the UE as specified in TS 24.501 [47].If the UE is using the GEO satellite access, then the UE shall use the extended NAS-SM timer for GEO satellite access for the UE as specified in TS 24.501 [47]. Based on the GEO satellite access RAT type, the SMF shall use the extended NAS-SM timer for GEO satellite access for the UE as specified in TS 24.501 [47].

NOTE: The detailed values for the extended NAS-MM timer and NAS-SM timer for GEO satellite access are determined by stage 3.

**\* \* \* \* End of Changes \* \* \* \***