**3GPP TSG-CT WG1 Meeting #135-eC1-22xxxx**

**E-Meeting, 6th – 12th April 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.501** | **CR** |  | **rev** | **2** | **Current version:** | **17.6.1** |  |
|  |
| *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:***  | Network slice AS group – General aspects |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | NR\_slice-Core |  | ***Date:*** | 2022-05-15 |
|  |  |  |  |  |
| ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | According to R2-2203807, RAN2 completed their work on Rel-17 NR\_Slice-Core and expected other WGs to finalize their relevant specifications.In light of this, SA2 has started working on stage 2 requirements (see the CRs mentioned in the “Other specs affected” field below). |
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| ***Summary of change:*** | A new section introducing NSAG information is added. How the NSAG information is stored is specified. |
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| ***Consequences if not approved:*** | The feature is not available in Rel-17. |
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| ***Clauses affected:*** | 3.2, 4.6.2.x (new) |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 23.501 CR 3539, CR3317TS 23.502 CR 3300 |
| ***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 3GPP 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 3GPP TR 21.905 [1].

4G-GUTI 4G-Globally Unique Temporary Identifier

5GCN 5G Core Network

5G-GUTI 5G-Globally Unique Temporary Identifier

5GMM 5GS Mobility Management

5G-RG 5G Residential Gateway

5G-BRG 5G Broadband Residential Gateway

5G-CRG 5G Cable Residential Gateway

5GS 5G System

5GSM 5GS Session Management

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

5G-TMSI 5G Temporary Mobile Subscription Identifier

5QI 5G QoS Identifier

ACS Auto-Configuration Server

AKA Authentication and Key Agreement

AKMA Authentication and Key Management for Applications

A-KID AKMA Key Identifier

A-TID AKMA Temporary Identifier

AMBR Aggregate Maximum Bit Rate

AMF Access and Mobility Management Function

APN Access Point Name

AS Access stratum

ATSSS Access Traffic Steering, Switching and Splitting

AUSF Authentication Server Function

CAG Closed access group

CGI Cell Global Identity

CHAP Challenge Handshake Authentication Protocol

DDX Downlink Data Expected

DL Downlink

DN Data Network

DNN Data Network Name

DNS Domain Name System

eDRX Extended DRX cycle

DS-TT Device-Side TSN Translator

EUI Extended Unique Identifier

E-UTRAN Evolved Universal Terrestrial Radio Access Network

EAC Early Admission Control

EAP-AKA' Improved Extensible Authentication Protocol method for 3rd generation Authentication and Key Agreement

EAS Edge Application Server

EASDF Edge Application Server Discovery Function

ECIES Elliptic Curve Integrated Encryption Scheme

ECS Edge Configuration Server

EDC Edge DNS Client

EEC Edge Enabler Client

EPD Extended Protocol Discriminator

EMM EPS Mobility Management

EPC Evolved Packet Core Network

EPS Evolved Packet System

EPS-UPIP User-plane integrity protection in EPS

ESM EPS Session Management

FN-RG Fixed Network RG

FN-BRG Fixed Network Broadband RG

FN-CRG Fixed Network Cable RG

Gbps Gigabits per second

GFBR Guaranteed Flow Bit Rate

GUAMI Globally Unique AMF Identifier

IAB Integrated access and backhaul

IMEI International Mobile station Equipment Identity

IMEISV International Mobile station Equipment Identity and Software Version number

IMSI International Mobile Subscriber Identity

IP-CAN IP-Connectivity Access Network

KSI Key Set Identifier

LADN Local Area Data Network

LCS LoCation Services

LMF Location Management Function

LPP LTE Positioning Protocol

MAC Message Authentication Code

MA PDU Multi-Access PDU

MBS Multicast/Broadcast Services

Mbps Megabits per second

MCS Mission Critical Service

MFBR Maximum Flow Bit Rate

MICO Mobile Initiated Connection Only

MINT Minimization of Service Interruption

MPS Multimedia Priority Service

MSK MBS Service Key

MTK MBS Traffic Key

MUSIM Multi-USIM

N3IWF Non-3GPP Inter-Working Function

N5CW Non-5G-Capable over WLAN

N5GC Non-5G Capable

NAI Network Access Identifier

NITZ Network Identity and Time Zone

ngKSI Key Set Identifier for Next Generation Radio Access Network

NPN Non-public network

NR New Radio

NSAC Network Slice Admission Control

NSACF Network Slice Admission Control Function

NSAG Network slice AS group

NSSAA Network slice-specific authentication and authorization

NSSAAF Network Slice-Specific and SNPN authentication and authorization Function

NSSAI Network Slice Selection Assistance Information

NSSRG Network Slice Simultaneous Registration Group

NSWO Non-Seamless WLAN Offload

ON-SNPN Onboarding Standalone Non-Public Network

OS Operating System

OS Id OS Identity

PAP Password Authentication Protocol

PCO Protocol Configuration Option

PEI Permanent Equipment Identifier

PEIPS Paging Early Indication with Paging Subgrouping

PNI-NPN Public Network Integrated Non-Public Network

ProSe Proximity based Services

ProSeP 5G ProSe policy

PTI Procedure Transaction Identity

PVS Provisioning Server

QFI QoS Flow Identifier

QoS Quality of Service

QRI QoS Rule Identifier

RACS Radio Capability Signalling Optimisation

(R)AN (Radio) Access Network

RFSP RAT Frequency Selection Priority

RG Residential Gateway

RPLMN Registered PLMN

RQA Reflective QoS Attribute

RQI Reflective QoS Indication

RSN Redundancy Sequence Number

RSNPN Registered SNPN

S-NSSAI Single NSSAI

SA Security Association

SDF Service Data Flow

SMF Session Management Function

SGC Service Gap Control

SNN Serving Network Name

SNPN Stand-alone Non-Public Network

SOR Steering of Roaming

SOR-CMCI Steering of Roaming Connected Mode Control Information

SUCI Subscription Concealed Identifier

SUPI Subscription Permanent Identifier

TA Tracking Area

TAC Tracking Area Code

TAI Tracking Area Identity

Tbps Terabits per second

TMGI Temporary Mobile Group Identity

TNGF Trusted Non-3GPP Gateway Function

TSC Time Sensitive Communication

TSCTSF Time Sensitive Communication and Time Synchronization Function

TWIF Trusted WLAN Interworking Function

TSN Time-Sensitive Networking

UAS Uncrewed Aerial System

UAV Uncrewed Aerial Vehicle

UDM Unified Data Management

UL Uplink

UPDS UE policy delivery service

UPF User Plane Function

UPSC UE Policy Section Code

UPSI UE Policy Section Identifier

URN Uniform Resource Name

URSP UE Route Selection Policy

USS UAS Service Supplier

UUAA USS UAV Authorization/Authentication

V2X Vehicle-to-Everything

V2XP V2X policy

W-AGF Wireline Access Gateway Function

WLAN Wireless Local Area Network

WUS Wake-up signal

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

#### 4.6.2.x NSAG information handling

NSAG information includes a list of NSAG IDs each of which is associated with:

a) a list of S-NSSAIs, which shall be the ones included in the configured NSSAI:

b) (optionally) an NSAG area, a list of TAIs identifying an area where the mapping between the S-NSSAI(s) in bullet a) and the NSAG ID is valid; and

c) (optionally) a priority value, where a lower priority value has higher priority. A priority value shall be associated with either each and every NSAG ID in the NSAG information or none of the NSAG IDs in the NSAG information;

If NSAG information is available and the NSAG IDs in the NSAG information are associated with priority values, the UE NAS layer shall provide the lower layers with one or more NSAG IDs for cell reselection each of which is associated with a priority value and, optionally, an NSAG area when:

a) the UE enters 5GMM-IDLE mode or 5GMM-CONNECTED mode with RRC inactive indication; and

b) there is any change in the NSAG ID(s) and the priority value(s) provided to the lower layers earlier while the UE is in 5GMM-IDLE mode or 5GMM-CONNECTED mode with RRC inactive indication;

where the UE determines:

a) the NSAG ID(s) for cell reselection and, if applicable, the NSAG area(s) based on:

1) an NSSAI which corresponds to:

i) if the UE needs to initiate the registration procedure for mobility and periodic registration update due to case i) in subclause 5.5.1.3.2 or no allowed NSSAI is available in the UE, the requested NSSAI; or

ii) otherwise, the allowed NSSAI; and

2) the NSAG information; and

b) the priority value(s) based on:

1) the NSAG ID(s) determined in bullet a); and

2) the NSAG information.

If NSAG information is available, the UE NAS layer shall provide the lower layers with one or more NSAG IDs for random access each of which is associated with a priority value when the UE in 5GMM-IDLE mode or 5GMM-CONNECTED mode with RRC inactive indication requires a transition to 5GMM-CONNECTED mode, where the UE determines:

Editor's note [WIC: NR\_slice-Core; CR#: 4199]: It is FFS whether the condition that the NSAG IDs in the NSAG information are associated with priority values can be applied with respect to enabling NSAG-based random access or not.

a) the NSAG ID(s) for random access based on:

1) an NSSAI;

Editor's note [WIC: NR\_slice-Core; CR#: 4199]: It is FFS which S-NSSAIs are included in the NSSAI.

2) the current TAI; and

3) the NSAG information; and

b) the priority value(s) based on:

1) the NSAG ID(s) determined in bullet a); and

2) the NSAG information.

If the UE support handling NSAG information, the UE shall indicate the support via the 5GMM capability IE in a REGISTRATION REQUEST message.

The AMF may indicate, via the NSAG information IE of a REGISTRATION ACCEPT message or a CONFIGURATION UPDATE COMMAND message, NSAG information if the UE indicated, via the NSAG bit in the 5GMM capability IE in the most recent REGISTRATION REQUEST message, that the UE supports NSAG information.

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