**3GPP TSG-WG SA2 Meeting #170S2-2506833**

**25 - 29 August 2025, Goteborg, Sweden (revision of S2-250xxxx)**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **23.503** | **CR** |  | **rev** |  | **Current version:** | **19.4.0** |  |
|  |
| *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)*.* |
|  |

X

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Support for Dynamic Network Identity |
|  |  |
| ***Source to WG:*** | China Mobile |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | DNI |  | ***Date:*** | 2025-05-09 |
|  |  |  |  |  |
| ***Category:*** | ***B*** |  | ***Release:*** | *Rel-20* |
|  | *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-16 (Release 17)Rel-17 (Release 18)Rel-18 (Release 19)Rel-19 (Release 20)* |
|  |  |
| ***Reason for change:*** | Network Identity has long been introduced in stage 1, for the purpose of presenting the PLMN name of the service network, and is allowed to be changed at any time as defined in TS 22.042. While in existing stage 2 specifications, how the network identity can be changed is not defined, which may further prevent the flexibility of network identity such as transferring updated information via dynamically assigned network identity to the end user behind the UE, e.g., specific tariff plan or relationship plan of the UE, thus the user can be aware of these service related inforamtion which is currently invisible to the user.Considering the requirements above and potential extensions on the dynamic information presentation, it would be beneficial for both the Operator and the end user to enhance the dynamically assigned Network Identity as bridge of mutual awareness. |
|  |  |
| ***Summary of change:*** | Network Identity management is involved as Access and Mobility management related policy and can be provided by the PCF to the UE via AMF. |
|  |  |
| ***Consequences if not approved:*** | Dynamic change of network identity would remain unsupported in stage 2, and it is still not possible to present specific information to the end users. |
|  |  |
| ***Clauses affected:*** | 2, 6.1.2.1, 6.5 |
|  |  |
|  | **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 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "Technical Specification Group Services and System Aspects; System Architecture for the 5G System".

[3] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[4] 3GPP TS 23.203: "Policies and Charging control architecture; Stage 2".

[5] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".

[6] 3GPP TS 23.179: "Functional architecture and information flows to support mission-critical communication service; Stage 2".

[7] Void.

[8] 3GPP TS 32.240: "Charging management; Charging architecture and principles".

[9] 3GPP TS 23.402: "Architecture enhancements for non-3GPP accesses".

[10] 3GPP TS 23.161: "Network-Based IP Flow Mobility (NBIFOM); Stage 2".

[11] 3GPP TS 23.261: "IP flow mobility and seamless Wireless Local Area Network (WLAN) offload; Stage 2".

[12] 3GPP TS 23.167: "3rd Generation Partnership Project; Technical Specification Group Services and Systems Aspects; IP Multimedia Subsystem (IMS) emergency sessions".

[13] 3GPP TS 29.507: "Access and Mobility Policy Control Service; Stage 3".

[14] Void.

[15] 3GPP TS 22.011: "Service Accessibility".

[16] 3GPP TS 23.221: "Architectural requirements".

[17] 3GPP TS 29.551: "5G System; Packet Flow Description Management Service; Stage 3".

[18] 3GPP TS 32.421: "Telecommunication management; Subscriber and equipment trace; Trace concepts and requirements".

[19] 3GPP TS 24.526: "UE Equipment (UE) policies for 5G System (5GS); Stage 3".

[20] 3GPP TS 32.291: "Charging management; 5G system, Charging service; stage 3".

[21] 3GPP TS 32.255: "Telecommunication management; Charging management; 5G Data connectivity domain charging; Stage 2".

[22] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[23] 3GPP TS 23.280: "Common functional architecture to support mission critical services; Stage 2".

[24] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

[25] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC); Stage 2".

[26] 3GPP TS 23.272: "Circuit Switched (CS) fallback in Evolved Packet System (EPS); Stage 2".

[27] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System (5GS)".

[28] 3GPP TS 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".

[29] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".

[30] 3GPP TS 24.237: "IP Multimedia (IM) Core Network (CN) subsystem IP Multimedia Subsystem (IMS) Service Continuity; Stage 3".

[31] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia telephony; Media handling and interaction".

[32] 3GPP TS 29.510: "5G System; Network Function Repository Services; Stage 3".

[33] 3GPP TS 23.548: "5G System Enhancements for Edge Computing; Stage 2".

[34] 3GPP TS 23.304: "Proximity based Services (ProSe) in the 5G System (5GS)".

[35] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[36] 3GPP TS 29.514: "Policy Authorization Service; Stage 3".

[37] IETF RFC 9633: "Deterministic Networking (DetNet) YANG Model".

[38] IETF RFC 5279: "A Uniform Resource Name (URN) Namespace for the 3rd Generation Partnership Project (3GPP)".

[39] GSMA PRD NG.141, Version 3.0: ""Guidelines for URSP.

[40] 3GPP TS 26.522: "5G Real-time Media Transport Protocol Configurations".

[41] 3GPP TS 23.586: "Architectural Enhancements to support Ranging based services and Sidelink Positioning".

[42] IETF RFC 8939: "Deterministic Networking (DetNet) Data Plane: IP".

[43] 3GPP TS 23.256: "Support of Uncrewed Aerial Systems (UAS) connectivity, identification and tracking; Stage 2".

[44] 3GPP TS 29.512: "Session Management Policy Control Service; Stage 3".

[45] 3GPP TS 23.204: "Support of Short Message Service (SMS) over generic Internet Protocol (IP) access; Stage 2".

[46] IETF draft-ietf-moq-transport: "Media over QUIC Transport".

[xx] 3GPP TS 22.042: "Network Identity and Time Zone (NITZ) service description; Stage 1".

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

#### 6.1.2.1 Access and mobility related policy control

The access and mobility related policy control encompasses the management of service area restrictions, the management of the RFSP Index, the management of the UE-AMBR, the management of the UE Slice-MBR, the slice replacement management, the management of the SMF selection and the management of the Network Identity within the NITZ (Network Identity and Time Zone) as defined in 3GPP TS 22.042 [xx]. This clause defines the management of service area restrictions and RFSP Index for a UE registered over 3GPP access. The management of service area restrictions for a 5G-RG or a FN-CRG using W-5GAN are specified in TS 23.316 [27].

The management of service area restrictions enables the PCF of the serving PLMN (e.g. V-PCF in roaming case) to modify the service area restrictions used by AMF as described in clause 5.3.4 of TS 23.501 [2].

A UE's subscription may contain service area restrictions, which may be further modified by PCF based on operator defined policies at any time, either by expanding a list of allowed TAIs or by reducing a non-allowed TAIs or by increasing the maximum number of allowed TAIs. Operator defined policies in the PCF may depend on input data such as UE location, time of day, information provided by other NFs such as an AF request to change the service coverage, network analytics from NWDAF, etc.

The AMF may report the subscribed service area restrictions received from UDM during Registration procedure or when the AMF changed, the conditions for reporting are that local policies in the AMF indicate that access and mobility related policy control is enabled. The AMF reports the subscribed service area restrictions to the PCF also when the policy control request trigger for service area restrictions changes, as described in clause 6.1.2.5, is met. The AMF receives the modified service area restrictions from the PCF. The AMF stores them and then uses it to determine mobility restriction for a UE. The PCF may indicate to the AMF that there is an unlimited service area.

The service area restrictions consist of a list of allowed TAI(s) or a list of non-allowed TAI(s) and optionally the maximum number of allowed TAIs.

NOTE 1: The enforcement of the service area restrictions is performed by the UE, when the UE is in CM-IDLE state or in CM-CONNECTED state when in RRC Inactive, and in the RAN/AMF when the UE is in CM-CONNECTED state.

The management of the RFSP Index enables the PCF to modify the RFSP Index used by the AMF to perform radio resource management functionality as described in clause 5.3.4 of TS 23.501 [2]. The PCF may determine to modify the RFSP Index at any time based on operator policies that take into consideration e.g. accumulated usage, load level information per network slice instance, the indication that high throughput is desired for a specific application traffic or independently of the application in use and other information described in clause 6.1.1.3. If the modified RFSP index value indicates that EPC/E-UTRAN access is prioritized over the 5G access for the UE, the PCF may, based on operator policy, include a RFSP Index in Use Validity Time of the RFSP Index.

The determination of the RFSP Index value requires to configure the PCF with the mapping of RAT Type and/or Frequency value to the RFSP Index that will be sent to RAN.

Operator policies in the PCF may modify the RFSP index based on the Allowed NSSAI, Target NSSAI, Partially Allowed NSSAI, S-NSSAI(s) rejected partially in the RA, rejected S-NSSAI(s) for the RA, Alternative S-NSSAI(s) mapped to some Replaced S-NSSAI(s) or Pending NSSAI as defined in clause 5.15 of TS 23.501 [2].

Operator policies in the PCF may determine that the access and mobility related policy information (e.g. RFSP index value or service area restrictions) can change at the start and stop of an application traffic detection, at the start and stop of a SM Policy Association to a DNN and S-NSSAI, or immediately. In the former case, the PCF subscribes to the SMF for application traffic detection as described in clause 6.2.2.5. In addition, when the PCF evaluates that the access and mobility related policy information need any changes, the PCF reports it to the AF if the AF has subscribed to the notification on outcome of service area coverage change as defined in clause 6.1.3.18.

Operator policies in the PCF may determine that the access and mobility related policy information (e.g. RFSP index value or service area restrictions) can change based on the Spending Limits information from CHF as defined in clause 6.1.1.4.

Operator policies in the PCF may determine that the access and mobility related policy information can change based on the Energy Saving Indicator received from the AMF as described in clause 5.51.6 of TS 23.501 [2].

For radio resource management, the AMF may report the subscribed RFSP Index received from UDM during the Registration procedure or when the AMF changed. The conditions for reporting are that local policies in the AMF indicate that access and mobility related policy control is enabled. The AMF reports the subscribed RFSP Index to the PCF when the subscription to the RFSP Index change to the PCF is met. The AMF receives the modified RFSP Index from the PCF.

NOTE 2: The enforcement of the RFSP Index is performed in the RAN.

Upon change of AMF, the source AMF informs the PCF that the UE context was removed in the AMF in the case of inter-PLMN mobility.

The management of UE-AMBR enables the PCF to provide the UE-AMBR information to the AMF based on serving network policy. The AMF may report the subscribed UE-AMBR received from UDM. The conditions for reporting are that the PCF provided Policy Control Request Triggers the AMF to report subscribed UE-AMBR. The AMF receives the modified UE-AMBR from the PCF. The AMF provides a UE-AMBR value of the serving network to the RAN as specified in clause 5.7.2.6 of TS 23.501 [2].

The management of the SMF selection enables the PCF to instruct the AMF to contact the PCF during the PDU Session Establishment procedure to perform a DNN replacement, as specified in clause 5.6.1 of TS 23.501 [2]. To indicate the conditions to check whether to contact the PCF at PDU Session establishment (as specified in clause 6.1.2.5), the PCF provides the Policy Control Request Triggers SMF selection management and, if necessary Change of the Allowed NSSAI, together with SMF selection management related policy information (see clause 6.5) during UE Registration procedure and at establishment of the AM Policy Association.

The PCF may update the SMF selection management information based on a PCF local decision or upon being informed about a new Allowed NSSAI. The AMF applies the updated SMF selection management information to new PDU Sessions only, i.e. already established PDU Sessions are not affected.

The management of the slice replacement enables the PCF to instruct the AMF to contact the PCF to provide the Alternative S-NSSAI for each S-NSSAI that requires slice replacement as specified in clause 5.15.19 of TS 23.501 [2]. The AMF reports S-NSSAI(s) of the serving network that requires slice replacement. The conditions for reporting are defined in clause 6.1.2.5. The PCF returns the Alternative S-NSSAI for the S-NSSAI of the serving network received from the AMF. The AMF receives the Alternative S-NSSAI for each S-NSSAI that requires slice replacement for which it has provided to the PCF.

If the AMF has indicated support of the Network Slice Replacement for the UE and the PCF detects the change in the availability of the S-NSSAI in the Allowed NSSAI (i.e. the S-NSSAI becomes unavailable or available) based on a PCF local decision (e.g. based on OAM or NWDAF analytics output), the PCF notifies the S-NSSAI availability information (see clause 6.5) based on the implicit subscription from the AMF. The AMF may also interact with the PCF to determine the Alternative S-NSSAI for S-NSSAI to be replaced based on Policy Control Request Triggers as defined in clause 6.1.2.5.

The PCF may receive AF triggered network slice replacement requirement from the AF, NEF, or UDR including the Replaced S-NSSAI and the corresponding Alternative S-NSSAI. Based on the implicit subscription from the AMF, the PCF notifies the AMF with the Slice replacement management information policy including the Replaced S-NSSAI, the corresponding Alternative S-NSSAI and a Network Slice Replacement Type with the Type set to AF initiated (see clause 6.5 and clause 5.15.5.2.2a of TS 23.501 [2].

The optional management of UE-Slice-MBR enables the PCF to modify the value in the list of Subscribed UE-Slice-MBR assigned to a SUPI based on serving network policies, if the HPLMN permits based on roaming agreement. The AMF reports the Subscribed UE-Slice-MBR for each S-NSSAI of the serving network. The S-NSSAI of the VPLMN is derived from the Subscribed S-NSSAI by the AMF and provided to the PCF. The AMF may provide the Subscribed S-NSSAI together with the S-NSSAI of the VPLMN. The conditions for reporting are defined in clause 6.1.2.5. The PCF returns the authorized UE-Slice-MBR for the S-NSSAI of the serving network. The AMF receives the authorized list of UE-Slice-MBR value for each S-NSSAI for which it has provided the Subscribed UE-Slice-MBR from the PCF. Then the AMF provides the authorized list of UE-Slice-MBR for the S-NSSAIs in the Allowed S-NSSAI to the RAN as specified in clause 5.7.1.10 of TS 23.501 [2].

The optional management of 5G access stratum time distribution enables the PCF for the UE to instruct the AMF about the 5G access stratum time distribution parameters, i.e. 5G access stratum time distribution indication (enable, disable). Optionally, when 5G access stratum time distribution or (g)PTP time synchronization is enabled, the PCF for the UE instructs the AMF about the Uu Time synchronization error budget. Optionally, when 5G access stratum time distribution is enabled, the PCF for UE instructs the AMF about the clock quality reporting control information (clock quality detail level, clock quality acceptance criteria).

The management of Network Identity enables the PCF to provide the authorized Network Identity to the AMF based on serving network policies, which may also depend on input data such as UE location, time of day, information provided by other NFs as defined in clause 6.2.1.2. The AMF receives the authorized Network Identity from the PCF, and then provides the authorized Network Identity to the UE via UE Configuration Update procedure as specified in clause 4.2.4.2 of TS 23.502 [3].

In the case that the PCF for the UE (providing the access and mobility related policy information) and the PCF for the PDU Session of this UE (providing the Session Management related policies) are separate PCF instances, the following applies:

- If the PCF for the UE determines that the access and mobility related policy information can change at the start and stop of an application traffic detection, the following applies:

- The PCF for the UE may subscribe to be notified when a PCF for the PDU Session is serving a DNN and S-NSSAI for a SUPI, this is achieved by either:

- a subscription request to be notified about the PCF binding information when a PCF for the PDU Session (of this UE) registers in the BSF, the PCF for the UE includes the SUPI, DNN, S-NSSAI in the subscription request to BSF. The DNN, S-NSSAI is either provided by the AF or locally configured in the PCF for certain Application Identifier(s).

- Or the PCF for the PDU Session of this UE is to request the AMF to send to the PCF for the PDU Session of the DNN, S-NSSAI, via SMF, the PCF binding information (i.e. address(es) of PCF for the UE, instance id of PCF for the UE). In detail, the PCF for the UE provides its PCF binding information to the AMF together with DNN, S-NSSAI and Request for notification of SM Policy Association establishment and termination and the AMF will then forward the PCF binding to the SMF for every PDU Session with this DNN and S-NSSAI. In this case, the PCF for the PDU Session shall be notified via Request for reporting the PCF binding information Policy Control Request Trigger as described in clause 6.1.3.5.

 In both cases above, the DNN, S-NSSAI is either provided by the AF or locally configured in the PCF for certain Application Identifier(s).

- When the PCF for the UE is notified that PCF for the PDU Session is registered, either via the BSF that provides the UE address, DNN and the PCF address, PCF instance Id and PCF set id if available or via PCF for the PDU Session when it received PCF binding information from the SMF. The PCF for the UE may subscribe to the "start/stop of application traffic detection" event defined in clause 6.1.3.18 or trigger a policy decision if there is a SM Policy Association to the DNN, S-NSSAI.

- The reporting of "start/stop of application traffic detection" to the PCF for the UE is used as input for a policy decision to change the access and mobility related policy information.

NOTE 3: The PCF for the UE may subscribe to the notifications of newly registered PCF for the PDU Session and subscribe to the "start/stop of application traffic detection" events for multiple applications with different application identifiers. When PCF receives the notifications for multiple applications, the PCF for the UE can determine which access and mobility related policy information to apply based on local configuration and operator policy.

- If the PCF for the UE determines that the access and mobility related policy information can change at the establishment and termination of a SM Policy Association to a DNN and S-NSSAI base on the notification sent by the BSF, the PCF may indicate to the BSF to report the registration of a PCF for the PDU Session when the first SM Policy Association is established and the deregistration of the PCF for the PDU Session when the last SM Policy Association is terminated for a DNN, S-NSSAI.

- The PCF for the UE checks if an AF is subscribed to be notified on outcome of service area coverage change, using the related event defined in clause 6.1.3.18.

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

## 6.5 Access and mobility related policy information

To enable the enforcement in the 5GC system of the access and mobility policy decisions made by the PCF for the control as described in clause 6.1.2.1, the 5GC system may provide the Access and mobility related policy information from the PCF to the AMF.

Table 6.5-1 lists the AMF access and mobility related policy information.

Table 6.5-1: Access and mobility related policy information

| Information name | Description | Category | PCF permitted to modify in a UE context in the AMF | Scope |
| --- | --- | --- | --- | --- |
| **Aggregate maximum bit rate** | *This part defines the aggregate maximum bit rate* |  |  |  |
| UE-AMBR | This defines the UE-AMBR value that applies for a UE | Conditional(NOTE 5) | Yes | UE context |
| List of UE-Slice-MBR | This defines the List of UE-Slice-MBR (UL/DL) that each applies to the network slice of the UE. | Conditional(NOTE 8) | Yes | UE context |
| **Service Area Restrictions**  | *This part defines the service area restrictions* |  |  |  |
| List of allowed TAIs. | List of allowed TAIs(NOTE 3) (NOTE 4). | Conditional(NOTE 1) | Yes | UE context |
| List of non-allowed TAIs. | List of non-allowed TAIs (NOTE 3). | Conditional(NOTE 1) | Yes | UE context |
| Maximum number of allowed TAIs | The maximum number of allowed TAIs.(NOTE 4) | Conditional(NOTE 1) | Yes | UE context |
| **RFSP Index** | *This part defines the RFSP index related information* |  |  |  |
| RFSP Index for Allowed NSSAI | Defines the RFSP Index associated with Allowed NSSAI that applies for a UE | Conditional(NOTE 2) | Yes | UE context |
| RFSP Index for Target NSSAI | Defines the RFSP Index associated with Target NSSAI that applies for a UE | Conditional(NOTE 2) | Yes | UE context |
| RFSP Index in Use Validity Time | Defines the time by which the RFSP Index will be used in MME after 5GS to EPS mobility. | Conditional(NOTE 2, NOTE 11) | Yes | UE context |
| **5G access stratum time distribution** | *This part defines the 5G access stratum time distribution* |  |  |  |
| 5G access stratum time distribution indication | Defines if 5G access stratum time distribution via Uu reference point is enabled or disabled | Conditional(NOTE 9) | Yes | UE context |
| Uu interface time synchronization error budget | Indicates the Uu Time Synchronization error budget for 5G access stratum time distribution | Conditional(NOTE 10) | Yes | UE context |
| Clock quality detail level | Defines which clock quality information (clock quality metrics or acceptable/not acceptable indication) to report to the UE as defined in clause 5.27.1.12 of TS 23.501 [2] | Conditional(NOTE 9) | Yes | UE context |
| Clock quality acceptance criteria | Indicates the acceptable criteria as defined in clause 5.27.1.12 of TS 23.501 [2] | Conditional(NOTE 9) | Yes | UE context |
| **SMF selection management** | This part defines the SMF selection management instructions |  |  |  |
| DNN replacement of unsupported DNNs | Defines if a UE requested unsupported DNN is requested for replacement by PCF | Conditional(NOTE 6) | Yes | UE context |
| List of S-NSSAIs | Defines the list of S-NSSAIs containing DNN candidates for replacement by PCF | Conditional(NOTE 6)(NOTE 7) | Yes | UE context |
| Per S-NSSAI: List of DNNs | Defines UE requested DNN candidates for replacement by PCF | Conditional(NOTE 6) | Yes | UE context |
| **Slice replacement management** | Defines slice replacement management |  | Yes | UE context |
| S-NSSAI availability information | Defines the S-NSSAI availability and/or alternative S-NSSAI for S-NSSAI | Conditional(NOTE 12) | Yes | UE context |
| Network Slice Replacement Type | Define the type of Network Slice Replacement. | Conditional(NOTE 12) | Yes | UE context |
| **Slice Related Restrictions** | Defines network policies for Slices subject to network control |  |  |  |
| List of S-NSSAIs | Defines the List of S-NSSAIs that are on demand | Conditional(NOTE 13) | No | UE context |
| Per S-NSSAI:Deregistration Inactivity Timer value | Defines the S-NSSAI deregistration inactivity timer value before removing the S-NSSAI from the Allowed Slices | (NOTE 14) | No | UE context |
| **Charging related information** | Defines information related to Charging |  |  |  |
| Charging information | Defines the containing CHF address and optionally the associated CHF instance ID, CHF set ID and CHF group ID | Conditional(NOTE 15) | Yes | UE context |
| **Network Identity** | This part defines the Network Identity |  |  |  |
| Network Identity | Defines the Network Identity to be provided to the UE. | Conditional(NOTE X) | Yes | UE context |
| Network Identity Applicability condition | Defines Time and/or area where Network Identity is applicable | Conditional(NOTE X) | Yes | UE context |
| NOTE 1: If management of service area restrictions by PCF is enabled.NOTE 2: If management of RFSP index by PCF is enabled.NOTE 3: Either the list of allowed TAIs or the list of non-allowed TAIs are provided by the PCF.NOTE 4: Both the maximum number of allowed TAIs and the list of allowed TAIs may be sent by PCF.NOTE 5: If management of UE-AMBR by PCF is enabled.NOTE 6: If SMF selection management by PCF is enabled.NOTE 7: The List of S-NSSAIs contains S-NSSAIs, valid in the serving network, of the Allowed NSSAI.NOTE 8: If management of UE-Slice-MBR by PCF is enabled.NOTE 9: If management of 5G access stratum time distribution is enabled.NOTE 10: If 5G access stratum time distribution or (g)PTP time synchronization is enabled.NOTE 11: If required based on operator policy when the RFSP index provided by the PCF indicates a change in priority from 5G access to E-UTRAN access.NOTE 12: If slice replacement management by PCF is enabled.NOTE 13: Includes only the list of subscribed slices with network restriction policies for slice use by the UE. The list is empty if there are no S-NSSAIs that are on demand or the timer value are not set by the PCF.NOTE 14: The S-NSSAI deregistration timer is mandatory for every S-NSSAI in the list of S-NSSAIs that are on demand S-NSSAI.NOTE 15: Shall be included If the home operator policies indicates that the same CHF is selected by the PCF for the UE and the AMF, otherwise optional.NOTE X: If Network Identity management by PCF is enabled. |

The *list of allowed TAIs* indicates the TAIs where the UE is allowed to be registered, see clause 5.3.4 of TS 23.501 [2] for the description on how AMF uses this information.

The *list of non-allowed TAIs* indicates the TAIs where the UE is not allowed to be registered, see clause 5.3.4 of TS 23.501 [2] for the description on how AMF uses this information.

The *Maximum number of allowed TAs* indicates the maximum number of allowed Tracking Areas, the list of TAI is defined in the AMF and not explicitly provided by the PCF.

The *RFSP Index for Allowed NSSAI* and *RFSP Index for Target NSSAI* defines the RFSP Index for radio resource management functionality.

*RFSP Index in Use Validity Time* defines the time for which the RFSP Index in use will be used in MME after 5GS to EPS mobility as specified in clause 5.17.2.2 of TS 23.501 [2].

The *UE-AMBR* limits the aggregated bit rate across all Non-GBR QoS Flows of a UE in the serving network.

The *list of UE-Slice-MBR* defines the list of authorized UE-Slice-MBR allocated for a UE, how it is enforced is described in clause 5.7.1.10 of TS 23.501 [2].

The *DNN replacement of unsupported DNNs* indicates that the AMF shall contact the PCF for replacement of an unsupported DNN requested by the UE.

The *List of S-NSSAIs* defines the S-NSSAIs, valid in the serving network, of the Allowed NSSAI that contain DNN candidates for replacement by PCF.

The *List of DNNs* defines the DNN candidates for which the AMF shall contact the PCF for replacement if such a DNN is requested by a UE.

The *5G access stratum time distribution* indicates the 5G access stratum time distribution parameters to be indicated to the NG-RAN via AMF.

The *S-NSSAI availability information* indicates whether the S-NSSAI is not available or is available, and/or an alternative S-NSSAI that the S-NSSAI can be replaced with.

The *Network Slice Replacement Type* indicates the Type of Network Slice Replacement. This is described in detail in clause 5.15.5.2.2a of TS 23.501 [2]

The *Charging information* includes CHF address(es) and if available, the associated CHF instance ID(s) and/or CHF set ID(s) and CHF Group ID. This is described in detail in clause 6.3.11 of TS 23.501 [2] and in clause 6.1.1.4.

The *Network Identity* indicates the Network Identity value to be configured to the UE via the AMF.

*The Network Identity Applicability condition* indicates Time and/or area where Network Identity is applicable.

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