**3GPP TSG-WG SA2 Meeting #164S2-2407626**

**Maastricht, Netherlands, 19 August – 23 August, 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **23.502** | **CR** | **4854** | **rev** | **----** | **Current version:** | **17.12.0** |  |
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| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Align H-PCF selection with H-SMF selection in 23.502 R17 |
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| ***Source to WG:*** | Oracle, Verizon UK Ltd, Ericsson. |
| ***Source to TSG:*** | SA2 |
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| ***Work item code:*** | 5GS\_Ph1, 5G\_eSBA, TEI17? |  | ***Date:*** | 2024-08-19 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | This is a 23.502 corresponding paper to a 23.501 paper (S2-2407625).1. Currently during PDU session establishment procedure for HR roaming scenario, the AMF discovers both vSMF and hSMF. It provides both hSMF ID and hSMF URI (e.g FQDN/IP-address) to vSMF. This obviates the need for vSMF to re-discover hSMF.2. Similarly to (1), Currently during UE registration procedure for a roaming UE, the AMF discovers both vPCF and hPCF. However, based on 23.501 6.3.7, it provides only hPCF ID to vPCF (it does not provide hPCF URI). This requires vPCF to discover the FQDN/IP-addr/port of the hPCF by querying the NRF. In addition, it creates a misalignment, between the above two discoveries (i.e. H-SMF discovery vs H-PCF discovery), which was not the original intention. |
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| ***Summary of change:*** | This CR proposes to update Npcf\_UEPolicyControl service such that H-PCF address can be provided to V-PCF along H-PCF ID (same as it is done for the H-SMF). |
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| ***Consequences if not approved:*** | Misalignment between H-SMF discovery and H-PCF discovery.  |
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| ***Clauses affected:*** | 5.2.8.2.5, 5.2.5.6.2 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\* 1st Change \*\*\*

##### 5.2.8.2.5 Nsmf\_PDUSession\_CreateSMContext service operation

**Service operation name:** Nsmf\_PDUSession\_CreateSMContext.

**Description:** It creates an AMF-SMF association to support a PDU Session.

**Input, Required:** SUPI or PEI, DNN, AMF ID (AMF Instance ID), RAT Type, Serving Network (PLMN ID, or PLMN ID and NID, see clause 5.18 of TS 23.501 [2]).

**Input, Optional:** PEI, S-NSSAI(s), PDU Session Id, N1 SM container, UE location information, UE Time Zone, AN type, H-SMF ID, address(es) of Nsmf\_PDUSession service(es) of H-SMF, list of alternative H-SMF(s) if available, old PDU Session ID (if the AMF also received an old PDU Session ID from the UE as specified in clause 4.3.5.2), Subscription For PDU Session Status Notification, Subscription for DDN Failure Notification, NEF Correlation ID, indication that the SUPI has not been authenticated, PCF ID, PCF Group ID, Same PCF Selection Indication, DNN Selection Mode, UE PDN Connection Context, GPSI, UE presence in LADN service area, GUAMI, backup AMF(s) (if NF Type is AMF), Trace Requirements, Control Plane CIoT 5GS Optimisation indication, Small Data Rate Control Status, APN Rate Control Status. Backup AMF(s) sent only once by the AMF to the SMF in its first interaction with the SMF, UE's Routing Indicator optionally with Home Network Public Key identifier or UDM Group ID for the UE, EPS Bearer Status. Target ID (for EPS to 5GS handover), "Invoke NEF" flag, target DNAI, additional following for SM context transfer: SMF transfer indication, Old SMF ID, SM context ID in old SMF (see clause 4.26.5.3), HO Preparation Indication, indication of no NG-RAN change. MA PDU request indication, MA PDU Network-Upgrade Allowed indication, Indication on whether the UE is registered in both accesses, Satellite backhaul category, PVS FQDN(s) and/or PVS IP address(es) and Onboarding Indication in the case of ON-SNPN, Disaster Roaming service indication.

**Output, Required:** Result Indication and if successful SM Context ID.

**Output, Optional:** Cause, PDU Session ID, N2 SM information, N1 SM container, S-NSSAI(s).

When the PDU Session is for Emergency services for a UE without USIM, the AMF provides the PEI and not the SUPI as identifier of the UE. When the PDU Session is for Emergency services of an unauthenticated UE with an USIM, the AMF shall provide both the SUPI and the PEI and shall provide an indication that the SUPI has not been authenticated.

See clause 4.3.2.2.1 clause 4.3.2.2.2 clause 4.11.1.2.2 and clause 4.11.1.3.3 for details on the usage of this service operation.

See clauses 4.22.2.1 and 4.22.3 for detailed usage of this service operation for ATSSS.

\*\*\* 2nd Change \*\*\*

##### 5.2.5.6.2 Npcf\_UEPolicyControl\_Create service operation

**Service operation name:** Npcf\_UEPolicyControl\_Create

**Description:** NF Service Consumer can request the creation of a UE Policy Association by providing relevant parameters about the UE context to the PCF.

**Inputs, Required:** Notification endpoint, SUPI.

**Inputs, Optional:** H-PCF ID (if the NF service producer is V-PCF and AMF is NF service consumer), address(es) of Npf\_UEPolicyControl service(es) (if the NF service producer is V-PCF and AMF is NF service consumer), information provided by the AMF as define in 6.2.1.2 of TS 23.503 [20], such as Access Type, Permanent Equipment Identifier, GPSI, User Location Information, UE Time Zone, Serving Network (PLMN ID, or PLMN ID and NID, see clause 5.34 of TS 23.501 [2]), RAT type, UE policy information including the list of PSIs, OS id and Internal Group (see TS 23.501 [2]

**Outputs, Required:** Success or Failure, UE Policy Association ID.

**Outputs, Optional:** Policy Control Request Trigger of UE Policy Association. In the case of H-PCF is producer, UE policy information (see clause 5.2.5.6.1).

\*\*\* End of Change \*\*\*