**3GPP TSG-CT WG1 Meeting #141eC1-232344**

**Online 17– 21 April 2023**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **5259** | **rev** | **1** | **Current version:** | **18.2.1** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update of general aspects of PIN | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | vivo, InterDigital | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | PIN | | | | |  | ***Date:*** | | | 2023-04-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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 can be 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | SA2 updates the general description of PIN service, including high level description and the delivery of URSP for PIN.  Such enhancement shall be updated in stage 3 based on the newest progress of SA2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the general description of PIN service and delete the corresponding Editor’s note. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | No completed support of PIN service in stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.26 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \*

## 4.26 Support for Personal IoT Network service

The 5GS can support the Personal IoT Network (PIN) service (see 3GPP TS 23.501 [8]).

The PIN enables the Personal IoT Network Elements (PINEs) to communicate with each other via PINE-to-PINE direct communication or via PINE-to-PINE indirect communication. For the PINE-to-PINE indirect communication, a UE acting as a PIN Element with Gateway Capability (PEGC) enables the PINEs behind the UE to connect to the network when the UE is registered for 5GS services. A PEGC may serve one or more PINs via the PDU sessions, and the PEGC establishes at least one PDU sessions for each PIN.

NOTE 1: The PINE-to-PINE direct communication is out of the scope of 3GPP.

The PIN, PEGC, and PINEs are managed by PIN Element with Management Capability (PEMC) and optionally the corresponding application function. Each PIN contains at least one PEGC and at least one PEMC. The PEGC is a UE with a PIN subscription within the 5GS. The PEMC does not have a PIN subscription within the 5GS. The PIN architecture is captured in 3GPP TS 23.501 [8].

The 5GS supports the delivery of URSP rules which include the PIN ID to a UE acting as a PEGC registered to 5GS (see 3GPP TS 23.501 [8] and 3GPP TS 23.503 [10]). The 5GS is enhanced to support the PDU session management for PIN to ensure the end-to-end QoS requirement.

The end-to-end QoS requirement for each PINE over PINE-to-PINE indirect communication includes:

a) the QoS requirement in the 3GPP access network; and

b) the QoS requirement in the non-3GPP access network.

The Non-3GPP QoS Assistance Information (N3QAI) is introduced to enable a PEGC to perform the QoS differentiation for the PINEs in the non-3GPP access network. If the UE supports receiving the N3QAI, the network may provide the N3QAI associated with the QoS flow during the PDU session establishment procedure as defined in subclause 6.4.1 or during the PDU session modification procedure as defined in subclause 6.4.2.

NOTE 2: How the PEGC applies N3QAI is outside the scope of the present document.

The non-3GPP delay refers to the delay budget between the PEGC and the PINE in the non-3GPP access network. If the UE supports providing the non-3GPP delay budget, the UE may provide the network with the non-3GPP delay budget for the one or more QoS flows associated with the PDU sessions for a PIN during the PDU session establishment procedure as defined in subclause 6.4.1 or during the PDU session modification procedure as defined in subclause 6.4.2. The network takes into account the received non-3GPP delay budget to ensure the end-to-end QoS requirement of a PINE.

NOTE 3: The support of a 5G-RG acting as a PEGC is not specified in this release of specification.

Editor’s Note: (CR 5081, WIC PIN) It is FFS whether and how to limit the frequency with which the UE sends the non-3GPP delay budget to the network.

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