The UIA\_ARC WID is [SP-240971](https://www.3gpp.org/ftp/tsg_sa/TSG_SA/TSGS_104_Shanghai_2024-06/Docs/SP-240971.zip).

The conclusions related to the UIA\_ARC WID are in [TR 23.700-32](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=4257), section 8.4.

This document is meant to be an initial list of the clauses that will be impacted by the CRs that are needed to implement the objectives of the UIA\_ARC WID.

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| --- | --- | --- | --- | --- |
| **Topic** | **Specification** | **Impacted Clause** | **Reason for Change** | **Interested Companies** |
| **General Text** | | | | |
| **Summary** | TS 23.501 | New section 5.x (e.g. 5.48). Titled “Identifying non-3GPP Devices Connecting behind a UE or 5G-RG.” | Summarize the feature. SP-240971: “The objective is that the 5GC is able to associate the traffic from each individual non-3GPP device with a Device Identifier and use the Device Identifier to obtain QoS Settings for the traffic.”  Nokia: Also add clarifications on which aspects are outside the scope of 3GPP in related to the provisioning and binding.  This section I assume would become a sub bullet under a new section when the KI1,2,3 are concluded. | Huawei  Nokia  CATT  LGE |
| **Device Identifier** | TS 23.501 | Section 5.9 is titled “Identifiers”. A new section 5.9.x can be added.  In Definitions and abbreviations, the definition and abbreviation of the identifier for non-3GPP Devices connecting behind a UE or 5G-RG can be added | SP-240971: “A Device Identifier will be specified. A Device Identifier is a permanent identifier and will be a generic string, and the allocation of the Device Identifier is out of scope of 3GPP.” | Nokia  OPPO |
| **5G-RG** | TS 23.316 | New section 4.5.x (e.g. 4.5.4). Titled “Identifying non-3GPP Devices Connecting behind a UE or 5G-RG.”  New section 4.7.x. to define the device identifier.  New section 4.10e to define the Non-3GPP device and distinguish it this feature with the AUN3 devices.  9.5.2.1 enhance the URSP rules | A new section under “4.5 QoS Model” to refer the details that are added in TS 23.501, TS 23.502, and TS 23.503 and to say that this feature can be used by a 5G-RG. | Huawei  Nokia  OPPO |
| **Registration procedure** | | | | |
| **Registration procedure** | TS 23.502 | 4.2.2.2.2 | Network capability indication for the support of the Device ID feature.  UE/5G-RG indicates the support of non-3GPP device behind UE/5G-RG  AMF may retrieve ID, and/or provide a list of subscribed IDs to the UE  Network may decide to store/update/remove one or more IDs associated with the UE/5G-RG | Huawei  OPPO |
|  |  |  |  |  |
| **PDU Session Procedures** | | | | |
| **PDU session establishment procedure** | TS 23.502 | 4.3.2.2 | Sending Device Identifier from the UE to the network for policy control. | Huawei  OPPO  CATT  LGE |
| **PDU Session Modification -General Description** | TS 23.502 | 4.3.3.1 | Update the sentence that says when the PDU Session Modification Procedure is used (see below). | Nokia  LGE |
| **PDU Session Modification - Procedure** | TS 23.502 | 4.3.3.2 | SP-240971: “Once a UE/5G-RG binds the Device Identifier to a non-3GPP device, QoS differentiation can be performed within a PDU Session (using different QoS Flows) or between PDU Sessions. In the case of non-3GPP devices sharing a PDU Session, QoS Flows are provisioned in the UE/5G-RG using PDU Session Modification procedures.” and “UE/5G-RG may send the Device Identifier and user plane address of the non-3GPP device to the SMF in a NAS-SM message, and the SMF will forward the Device Identifier and user plane address to the PCF. The PCF will take it into account for policy decisions based on the Device Identifier information retrieved from the UDR. Device Identifier is used to retrieve the information from the UDR. The user plane address for a non-3GPP device can be the UE IP Address and/ Port ranges in case of IPv4 or an IPv6 address for IP PDU session type and the MAC address and/or the VLAN tag ID that is associated with the non-3GPP device’s traffic for Ethernet PDU Session type.” | Huawei (focusing on IP PDU Session)  Nokia  CATT  LGE |
| PCF and SMF services | TS 23.502 | 5.2.5.4.2, 5.2.8.2.5, 5.2.8.2.6 | Adding the Device Identifier and user plane address of the non-3GPP device to PCF and SMF service operations. | CATT |
| **PCF** | TS 23.503 | 6.2.1.2 Input for PCC decision | SP-240971: “The PCF will take it into account for policy decisions based on the Device Identifier information retrieved from the UDR.” | Nokia |
| **PCF** | TS 23.503 | 6.6.2.1 | URSP extension on the Device ID  Update Table 6.6.2.1-2 | Huawei  OPPO |
| **UE Policy Control** | TS 23.503 | 6.1.2.2.1 | Device ID can be associated to an PDU session | OPPO |
| **SM policy control** | TS 23.503 | 6.1.3.xx (new), 6.3.1 | PCF decides QoS information (over 3GPP and N3GPP (i.e. N3QAI)) based on the Device Identifier and related information from the UDR. | CATT |
| **UDR** | | | | |
| **UDR Description** | TS 23.501 | 6.2.11 UDR | Update to say that the UDR supports this functionality. See below | CATT |
| **UDR Services** | TS 23.502 | 5.2.12 UDR Services | SP-240971: “Device Identifiers and their corresponding QoS/Policies associated with a UE/5G-RG subscription are provisioned into the UDR.” | Nokia  OPPO  LGE |
| **UDM Services** | TS 23.502 | 5.2.3 UDM Services | Update to support Device ID subscriber data management | OPPO |
| **Provisioning of the UDR** | | | | |
| **Provisioning of the UDR** | TS 23.502 | Section 4.15.6 is “External Parameter Provisioning”. New section 4.15.6 (e.g. 4.15.6.15). Titled “Provisioning Parameters for non-3GPP Devices”  Update clause 4.15.6.6 and/or 4.15.6.x to include non-3GPP devices behind UE/5G-RG support | SP-240971: “This provisioning can be done by AF.” | Nokia  OPPO  LGE |
| **NEF Services** | TS 23.502 | 5.2.6 NEF Services | SP-240971: “This provisioning can be done by AF.” | Nokia  LGE |
| **UDR Description** | TS 23.501 | 6.2.5 UDR | Update to say that the NEF supports the provisioning functionality. | Nokia  LGE |
| **UDR Data keys** | TS 23.502 | 5.2.12.2.1 | Update Data keys table (Table 5.2.12.2.1-1: Data keys) to add e.g. Device Identifier Control Data in the Policy Data | LGE |
| **Policy control subscription information** | TS 23.503 | 6.2.1.3 | Add e.g. Device Identifier Control Data | LGE |
| **DHCPv6** | | | | |
| **DHCPv6** | TS 23.501 | Section 5.8.2.2 is “UE IP Address Management”. New section 5.8.2.2.x (e.g. 5.8.2.2.5). Titled “Using DHCPv6 to Associate a non-3GPP Device Identifier with User Plane Traffic.” | SP-240971: “UE/5G-RG may also send the Device Identifier of the non-3GPP device to the SMF in DHCPv6 message to associate the Device Identifier with the user plane address” |  |
| **Restriction on max number of simultaneously active Device Identifiers per UE/5G-RG** | | | | |
| **Registration procedure** | TS 23.502 | 4.2.2.2.2 | AMF obtains the Max number of Device ID from UE subscription data | Huawei |
| **Registration procedure** | TS 23.502 | 4.2.2.2.2 | UE/5G-RG receives a list of subscribed IDs and the maximum number of simultaneously active IDs in the Registration Accept | OPPO |
| **PDU Session Modification - Procedure** | TS 23.502 | 4.3.3.2 | Update to show when / how enforcement happens.  SP-240971: “The optional restriction within the 5GS on max number of simultaneously active Device Identifiers per UE/5G-RG for devices whose traffic need to be differentiated will be handled as part of this work.” | Huawei  Nokia |
|  | TS 23.316 | 4.10x | Add a section to specify that 5G-RG could enforce the maximum number of simultaneously active IDs restrcition | OPPO |
| **UDM Services** | TS 23.502 | 5.2.3 UDM Services | Update for retrieving the per UE/5G-RG restriction on the max number of simultaneously active Device Identifiers. | Huawei  Nokia  OPPO |
| **Max number of IDs enforcement** | TS 23.503 | 6.1.2.2.1 | Update to support UE/5G-RG may enforce the max number of IDs | OPPO |