**3GPP TSG-CT WG4 Meeting #103-eC4-212xyz**

**E-Meeting, 14th – 23rd April 2021 (was C4-212106)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0610** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | IP Index in UDM | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Verizon | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc17 | | | | |  | ***Date:*** | | | 2021-03-25 |
|  |  | | | |  | |  | | |  |
| ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Stage-2 (TS 23.501 CR#2544 and TS 23.502 CR#2476) has added the possiblity to define an "IP Index" parameter that can be retrieved by SMF from UDM, as part of the subscription data, to assist in selecting how the IP address of the UE is to be allocated.  Currently, a similar concept exists for PCF, but the IP Index is defined as an integer value.  In order to provide a higher flexibility for the allocation of IP indexes, based of feedback from operators, it has been deemed as useful to allow as well the definition of the IP index as a string. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | - Add the IP Index attribute to the DNN Configuration data type.  - Define the IP Index as a choice between integer and string (note that, as defined in stage-2, in case IP index is defined for both the UDM and PCF interfaces towards the SMF, the value defined in the PCF is used). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The functionality defined by stage-2 is not implemented. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.2.9, 6.1.6.3.xx (new), A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduces backwards-compatible new features, with impacts on the following APIs:  - TS29503\_Nudm\_SDM.yaml  - TS29504\_Nudr\_DataRepository.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

##### 6.1.6.2.9 Type: DnnConfiguration

Table 6.1.6.2.9-1: Definition of type DnnConfiguration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| pduSessionTypes | PduSessionTypes | M | 1 | Default/Allowed session types |
| sscModes | SscModes | M | 1 | Default/Allowed SSC modes |
| iwkEpsInd | IwkEpsInd | O | 0..1 | Indicates whether interworking with EPS is subscribed:  true: Subscribed; false: Not subscribed; If this attribute is absent it means not subscribed. |
| 5gQosProfile | SubscribedDefaultQos | O | 0..1 | 5G QoS parameters associated to the session for a data network |
| sessionAmbr | Ambr | O | 0..1 | The maximum aggregated uplink and downlink bit rates to be shared across all Non-GBR QoS Flows in each PDU Session |
| 3gppChargingCharacteristics | 3GppChargingCharacteristics | O | 0..1 | Subscribed charging characteristics data associated to the session for a data network. (NOTE 1) |
| staticIpAddress | array(IpAddress) | O | 1..2 | Subscribed static IP address(es) of the IPv4 and/or IPv6 type |
| upSecurity | UpSecurity | O | 0..1 | When present, this IE shall indicate the security policy for integrity protection and encryption for the user plane. |
| pduSessionContinuityInd | PduSessionContinuityInd | O | 0..1 | When present, this IE shall indicate how to handle a PDU Session when UE the moves to or from NB-IoT.  If this attribute is absent it means that Local policy shall be used. |
| niddNefId | NefId | C | 0..1 | Indicates the identity of the NEF to be selected for NIDD service for this DNN. It is required if invokeNefSelection attribute is present with value "true". |
| niddInfo | NiddInformation | O | 0..1 | When present, this IE shall indicate information used for SMF-NEF Connection.  This attribute may be present if "Invoke NEF Selection" indicator is set. |
| redundantSessionAllowed | boolean | O | 0..1 | Indicates whether redundant PDU Sessions are allowed:  true: Allowed; false: Not allowed; If this attribute is absent it means not allowed. |
| acsInfo | AcsInfo | O | 0..1 | When present, this IE shall include the ACS information for the 5G-RG as defined in BBF TR-069 [42] or in BBF TR-369 [43]. |
| ipv4FrameRouteList | array(FrameRouteInfo) | O | 1..N | List of Frame Route information of IPv4, see clause 5.6.14 of 3GPP TS 23.501 [2]. |
| ipv6FrameRouteList | array(FrameRouteInfo) | O | 1..N | List of Frame Route information of IPv6, see clause 5.6.14 of 3GPP TS 23.501 [2]. |
| atsssAllowed | boolean | O | 0..1 | Indicates whether this DNN supports ATSSS, i.e. whether Multi-Access PDU session is allowed to this DNN.  true: Allowed; false (default): Not allowed; If this attribute is absent it means this DNN does not allow ATSSS. |
| secondaryAuth | boolean | O | 0..1 | Indicates whether secondary authentication and authorization is needed.  true: required.  false: not required.  If absent, it indicates that secondary authentication is not required by subscription data, but it still may be required by local policies at the SMF.  (NOTE 2) |
| dnAaaIpAddressAllocation | boolean | O | 0..1 | Indicates whether the SMF is required to request the UE IP address from the DN-AAA server for PDU Session Establishment.  true: required  false: not required  If absent, it indicates that the request by SMF of the UE IP address from the DN-AAA server is not required by subscription data, but it still may be required by local policies at the SMF. |
| dnAaaAddress | IpAddress | O | 0..1 | The address information of DN-AAA server used for secondary authentication and authorization.  (NOTE 2) |
| iptvAccCtrlInfo | string | O | 0..1 | The IPTV access control information used in IPTV access procedure, see clause 7.7.1.1.2 of 3GPP TS 23.316 [37]. |
| ipv4Index | IpIndex | O | 0..1 | Indicates the "IP Index" (i.e. information that identifies an address pool or an external server) to be sent to the SMF for allocation of an IPv4 address to the UE, for this DNN configuration. |
| ipv6Index | IpIndex | O | 0..1 | Indicates the "IP Index" (i.e. information that identifies an address pool or an external server) to be sent to the SMF for allocation of an IPv6 address to the UE, for this DNN configuration. |
| NOTE 1: When present, this attribute shall take precedence over the "3gppChargingCharacteristics" attribute in the SessionManagementSubscriptionData level.  NOTE 2: These attributes shall be consistent with the information received on the 5GVnGroupData (see clause 6.5.6.2.7), in the Nudm\_PP API. | | | | |

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

##### 6.1.6.3.xx Type: IpIndex

Table 6.1.6.3.xx-1: Definition of type IpIndex as a list of non-exclusive alternatives

|  |  |  |
| --- | --- | --- |
| Data Type | Cardinality | Description |
| integer | 1 | IP Index expressed as an integer value |
| string | 1 | IP Index expressed as a string |

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

## A.2 Nudm\_SDM API

*(... text not shown for clarity ...)*

DnnConfiguration:

type: object

required:

- pduSessionTypes

- sscModes

properties:

pduSessionTypes:

$ref: '#/components/schemas/PduSessionTypes'

sscModes:

$ref: '#/components/schemas/SscModes'

iwkEpsInd:

$ref: '#/components/schemas/IwkEpsInd'

5gQosProfile:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SubscribedDefaultQos'

sessionAmbr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ambr'

3gppChargingCharacteristics:

$ref: '#/components/schemas/3GppChargingCharacteristics'

staticIpAddress:

type: array

items:

$ref: '#/components/schemas/IpAddress'

minItems: 1

maxItems: 2

upSecurity:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UpSecurity'

pduSessionContinuityInd:

$ref: '#/components/schemas/PduSessionContinuityInd'

niddNefId:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NefId'

niddInfo:

$ref: '#/components/schemas/NiddInformation'

redundantSessionAllowed:

type: boolean

acsInfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AcsInfo'

ipv4FrameRouteList:

type: array

items:

$ref: '#/components/schemas/FrameRouteInfo'

minItems: 1

ipv6FrameRouteList:

type: array

items:

$ref: '#/components/schemas/FrameRouteInfo'

minItems: 1

atsssAllowed:

type: boolean

default: false

secondaryAuth:

type: boolean

dnAaaIpAddressAllocation:

type: boolean

dnAaaAddress:

$ref: '#/components/schemas/IpAddress'

iptvAccCtrlInfo:

type: string

ipIndex:

$ref: '#/components/schemas/IpIndex'

*(... text not shown for clarity ...)*

LcsClientId:

type: string

SorTransparentContainer:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Bytes'

IpIndex:

description: Represents the IP Index to be sent from UDM to the SMF (its value can be either an integer or a string)

anyOf:

- type: integer

- type: string

# ENUMS:

DataSetName:

*(... text not shown for clarity ...)*

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