**3GPP TSG-CT WG4 Meeting #111-eC4-224xxx**

**E-Meeting, 18th – 26th August 2022 *Revision of C4-224284***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0919** | **rev** | **1** | **Current version:** | **17.7.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Correction of ECS Address Configuration Information | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eEDGE\_5GC | | | | |  | ***Date:*** | | | 2022-07-19 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | As defined in clause 6.5.2.1 of 3GPP TS 23.548:  *The ECS Address Configuration Information consists of one or more ECS Configuration Information as defined in clause 8.3.2.1 of TS 23.558 [5].*  *…*  *A UE may receive multiple instances of ECS Address Configuration Information e.g., corresponding to different ECSPs (e.g., the MNO or a 3rd party service provider).*  *The ECS Address Configuration Information is sent to the UE on a per PDU Session basis. The same PDU session can be used by multiple ECS providers.*  Several ECS address configuration information related to different ECSPs shall be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Support providing multiple instances of ECS Address Configuration Information corresponding to different ECSPs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Multiple ECS address configuration information related to different ECSPs cannot be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.2.9, 6.5.6.2.19, A.2, A.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 contribution introduces backward compatible corrections to the OpenAPI files of Nudm\_SDM API and Nudm\_PP API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1:  Update the description of new attributes in DnnConfiguration. | | | | | | | | |

\* \* \* 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 DN-AAA based secondary authentication and authorization is needed.  true: required.  false: not required.  If absent, it indicates that DN-AAA based secondary authentication is not required by subscription data, but it still may be required by local policies at the SMF.  (NOTE 2) |
| uavSecondaryAuth | boolean | O | 0..1 | Indicates whether SBI-based secondary authentication and authorization for Uncrewed Aerial Vehicles (UAV) is needed.  true: required.  false or absent: not required. |
| 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.  (NOTE 2) |
| dnAaaAddress | IpAddress | O | 0..1 | The IP address of the DN-AAA server used for secondary authentication and authorization.  (NOTE 2) |
| additionalDnAaaAddresses | array(IpAddress) | O | 1..N | Additional IP addresses of the DN-AAA server used for secondary authentication and authorization.  (NOTE 2) |
| dnAaaFqdn | Fqdn | O | 0..1 | The FQDN of the 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. |
| ecsAddrConfigInfo | EcsAddrConfigInfo | O | 0..1 | ECS Address Configuration Information Parameters. See 3GPP TS 23.502 [3] |
| additionalEcsAddrConfigInfos | array(EcsAddrConfigInfo) | O | 1..N | This IE may be present when ecsAddrConfigInfo IE is present.  When present, this IE shall contain the additional ECS Address Configuration Information Parameters. See 3GPP TS 23.548 [60] |
| sharedEcsAddrConfigInfoId | SharedDataId | O | 0..1 | Identifier of shared data indicating an ECS Configuration Information. |
| additionalSharedEcsAddrConfigInfoIds | array(SharedDataId) | O | 1..N | This IE may be present when sharedEcsAddrConfigInfoId IE is present.  When present, this IE shall contain the identifiers of shared data indicating the additional ECS Address Configuration Information. |
| easDiscoveryAuthorized | boolean | O | 0..1 | Indicates whether the UE is authorized to use 5GC assisted EAS discovery via EASDF.  true: Authorized; false (default): Not authorized; See 3GPP TS 23.548 [60] |
| onboardingInd | boolean | O | 0..1 | Indicates whether the UE is allowed to use this DNN for onboarding. UE subscription allows, or does not allow the UE to access the PLMN as the Onboarding Network using PLMN credentials (see clause 5.30.2.10.4.4 in 3GPP TS 23.501 [2]).  - false (default): not restricted to onboarding only;  - true: allowed for onboarding only. |
| aerialUeInd | AerialUeIndication | O | 0..1 | This IE shall indicate Aerial service for the UE is allowed or not allowed. |
| subscribedMaxIpv6PrefixSize | integer | O | 0..1 | maximum size of the IPv6 prefix that may be allocated for the PDU Session. See 3GPP TS 23.316 [37] clause 4.6.2.3. |
| 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. If both FQDN and IP addresses are provided, the IP addresses should be preferred to target the DN-AAA server. | | | | |

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

##### 6.5.6.2.19 Type: PpDataEntry

Table 6.5.6.2.19-1: Definition of type PpDataEntry

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| communicationCharacteristics | CommunicationCharacteristicsAF | O | 0..1 | Communication characteristics for the AF |
| referenceId | ReferenceId | M | 1 | Transaction Reference ID |
| validityTime | DateTime | O | 0..1 | When present, this IE shall identify the point of time up to which the provisioned parameters will be expire and shall be deleted. If absent, it indicates that there is no expiration time for the provisioned parameters.  If this IE is in request body, it indicates the expected validity time by consumer.  If this IE is in response body, it indicates the confirmed validity time by UDM. |
| mtcProviderInformation | MtcProviderInformation | O | 0..1 | When present, this IE shall indicate the MTC provider information for Parameter Provisioning authorization. |
| supportedFeatures | SupportedFeatures | O | 0..1 | Supported Features |
| ecsAddrConfigInfo | EcsAddrConfigInfo | O | 0..1 | ECS Address Configuration Information Parameters; see 3GPP TS 23.502 [3] |
| additionalEcsAddrConfigInfos | array(EcsAddrConfigInfo) | O | 1..N | Additional ECS Address Configuration Information Parameters. See 3GPP TS 23.548 [60] |

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

# A.2 Nudm\_SDM API

openapi: 3.0.0

info:

version: '2.2.0'

title: 'Nudm\_SDM'

description: |

Nudm Subscriber Data Management Service.

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[…]

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

uavSecondaryAuth:

type: boolean

default: false

dnAaaIpAddressAllocation:

type: boolean

dnAaaAddress:

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

additionalDnAaaAddresses:

type: array

items:

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

minItems: 1

dnAaaFqdn:

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

iptvAccCtrlInfo:

type: string

ipv4Index:

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

ipv6Index:

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

ecsAddrConfigInfo:

$ref: 'TS29503\_Nudm\_PP.yaml#/components/schemas/EcsAddrConfigInfo'

additionalEcsAddrConfigInfos:

type: array

items:

$ref: 'TS29503\_Nudm\_PP.yaml#/components/schemas/EcsAddrConfigInfo'

minItems: 1

sharedEcsAddrConfigInfo:

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

additionalSharedEcsAddrConfigInfoIds:

type: array

items:

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

minItems: 1

easDiscoveryAuthorized:

type: boolean

default: false

onboardingInd:

type: boolean

default: false

aerialUeInd:

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

subscribedMaxIpv6PrefixSize:

type: integer

[…]

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

# A.6 Nudm\_PP API

openapi: 3.0.0

info:

version: '1.2.0'

title: 'Nudm\_PP'

description: |

Nudm Parameter Provision Service.

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[…]

PpDataEntry:

type: object

properties:

communicationCharacteristics:

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

referenceId:

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

validityTime:

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

mtcProviderInformation:

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

supportedFeatures:

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

ecsAddrConfigInfo:

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

additionalEcsAddrConfigInfos:

type: array

items:

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

minItems: 1

nullable: true

[…]

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