**3GPP TSG-CT WG3 Meeting #134 *C3-242412***

**Changsha, China, 15 - 19 April, 2024**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1269** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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:*** | Update the 5G VN group communication indication Datatype | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Mobile, China Southern Power Grid | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | GMEC | | | | |  | ***Date:*** | | | 2024-04-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Based on SA2 solution for 5G VN group communication, CT4 identified that there are two different scenarios for 5G VN group communication that may impact the PFCP speficiation. “The 5G VN group communication may be either among the UEs within a 5G VN group and the devices on the DN, or among the UEs within a 5G VN group only.” (Refer to the agreed CR #C4-234660)  So CT4 specified different SMF behavior (PDR/FAR) to instruct the UPF to support these two different 5G VN group communication scenarios in TS29.244. (Refer to the agreed CR #C4-234660 in previous meeting)  Based on that conclusion, CT4 has disscuessed that the 5G VN group communication indication needs to be extended to distinguish these two different scenarios based on the following reasons:  - 1st: the two diffent scenarios identified by CT4 can be explicitly required by customer which means the AF is able to provide such information and it is valuable.  - 2nd: the main purpose of introducing this indication from SA2 is, based on different indicator value in UE subscription data, the SMF shall apply different PDU session managements for UE and send different instructions to UPF. So, it is also necessary for SMF get such indication from UE subscription data to distinguish these two different scenarios and apply different PDU session management.  CT4 CR 1234 of TS 29.503 is also update on the same topic and that CR introduce the same solution to align with each other. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | - Clause 5.7.2.2. Add the 5GVnGroupCommunicationType data type to the reused data type table.  - Clause 5.7.2.3.3. Add new attribute vnGroupCommunicationTypeInd as enumeration type and reused the detailed data type definition in 3GPP TS 29.503 .  - A.5. Update the corresponding 5GLANParameterProvision API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The solution is not completed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.7.2.2, 5.7.2.3.3, A.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 29.503 CR 1234 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduce backward compatible correction to the OpenAPI description of the 5GLANParameterProvision API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1:  - Undo the changes to the existing attribute vnGroupCommInd.  - Add new attribute vnGroupCommunicationTypeInd as enumeration type and reused the detailed data type definition in 3GPP TS 29.503 .  - Update the corresponding 5GLANParameterProvision API.  - Update the reason for change and summary of change in cover page. | | | | | | | | |

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

#### 5.7.2.2 Reused data types

The data types reused by the 5GLANParameterProvision API from other specifications are listed in table 5.7.2.2-1.

Table 5.7.2.2-1: Re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| AfReqDefaultQoS | Clause 5.33.5.2.5 | Represents the AF requested default QoS. |
| AppliedParameterConfiguration | 3GPP TS 29.122 [4] | Represents the parameter configuration applied in the network. |
| ApplicationId | 3GPP TS 29.571 [8] | Represents the identifier of an application. |
| AcsInfo | 3GPP TS 29.571 [8] | Contains the ACS information. |
| BitRate | 3GPP TS 29.571 [8] | Represents a bit rate. |
| CpParameterSet | 3GPP TS 29.122 [4] | Represents an offered Communication Pattern parameter set. |
| CpReport | 3GPP TS 29.122 [4] | Represents a CP report. |
| ConfigResult | 3GPP TS 29.122 [4] | Represents one configuration processing result for a group's members. |
| DateTime | 3GPP TS 29.122 [4] | Represents a data and a time. |
| Dnn | 3GPP TS 29.571 [8] | Identifies a DNN. |
| DurationSec | 3GPP TS 29.122 [4] | Indicates a time duration. |
| EcsServerAddr | 3GPP TS 29.571 [8] | Represents the Edge Configuration Server (ECS) address configuration information. |
| ExternalGroupId | 3GPP TS 29.122 [4] | External Group Identifier for a user group. |
| Gpsi | 3GPP TS 29.571 [8] | Identifies a GPSI. |
| Ipv4Addr | 3GPP TS 29.571 [8] | Identifies an IPv4 address. |
| Ipv6Addr | 3GPP TS 29.571 [8] | Identifies an IPv6 address. |
| LadnServArea | Clause 5.33.5.2.6 | Represents an LADN Service Area. |
| Link | 3GPP TS 29.122 [4] | Represents a referenced resource. |
| Lpi | 3GPP TS 29.503 [17] | Represents the Location Privacy Indication information. |
| MtcProviderInformation | 3GPP TS 29.571 [8] | Indicates MTC provider information for 5G VN Group Configuration authorization. |
| OsId | 3GPP TS 29.519 [23] | Operating System. |
| PduSessionType | 3GPP TS 29.571 [8] | PDU session type. |
| Snssai | 3GPP TS 29.571 [8] | Identifies the S-NSSAI. |
| SpatialValidityCond | 3GPP TS 29.571 [8] | Represents the Spatial Validity Condition. |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of the optional features. |
| WebsockNotifConfig | 3GPP TS 29.122 [4] | Contains the configuration parameters to set up notification delivery over Websocket protocol. |
| 5GVnGroupCommunicationType | 3GPP TS 29.503 [17] | Represents the 5G VN group communication type. |

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

##### 5.7.2.3.3 Type: 5GLanParameters

This type represents the 5G LAN service related parameters need to be provisioned.

Table 5.7.2.3.3-1: Definition of type 5GLanParameters

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Attribute name | | Data type | | P | | Cardinality | | Description | | Applicability | |
| exterGroupId | | ExternalGroupId | | M | | 1 | | Identifies an 5G Virtual Network Group. | |  | |
| gpsis | | map(Gpsi) | | M | | 1..N | | Represents the list of 5G VN Group members, each member is identified by GPSI.  Any string value can be used as a key of the map. | |  | |
| dnn | | Dnn | | M | | 1 | | DNN for the 5G VN group, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. | |  | |
| aaaIpv4Addr | | Ipv4Addr | | O | | 1 | | Identifies the DN-AAA server IPv4 address provided by AF, for the secondary authentication/authorization and/or UE IP address allocation by DN-AAA server. | |  | |
| aaaIpv6Addr | | Ipv6Addr | | O | | 1 | | Identifies the DN-AAA server IPv6 address provided by AF, for the secondary authentication/authorization and/or UE IP address allocation by DN-AAA server. | |  | |
| aaaUsgs | | array(AaaUsage) | | O | | 1..N | | Identifies the usage needs for secondary authentication/authorization and/or UE IP address allocation from the DN-AAA server. (NOTE 3) | |  | |
| mtcProviderId | | MtcProviderInformation | | O | | 0..1 | | Indicates MTC provider information for 5G VN Group Configuration authorization. (NOTE 1) | |  | |
| snssai | | Snssai | | M | | 1 | | S-NSSAI for the 5G VN group. | |  | |
| sessionType | | PduSessionType | | M | | 1 | | PDU Session Type allowed for 5G VN group. | |  | |
| sessionTypes | | array(PduSessionType) | | O | | 1..N | | If further PDU Session Types (in addition to the PDU Session Type indicated in the "sessionType" attribute) are allowed for the 5G VN group, they are provided in this attribute. (NOTE 2) | | multipleSessionTypes | |
| appDesps | | map(AppDescriptor) | | M | | 1..N | | Describes the operation systems and the corresponding applications for each operation systems. The key of map is osId. | |  | |
| vnGroupCommInd | | boolean | | O | | 0..1 | | Indicates whether the 5G VN group is associated with 5G VN group communication.  When set to "true", it indicates that the 5G VN group is associated with 5G VN group communication. When set to "false", it indicates that the 5G VN group is not associated with 5G VN group communication.  The default value when omitted is "false". | | GMEC | |
| vnGroupCommType | | 5GVnGroupCommunicationType | | O | | 0..1 | | Contains the 5G VN group communication type.  This attribute shall be present only when the "vnGroupCommInd" is present and set to "true". | | GMEC | |
| maxGrpDataRateInfo | | MaxGrpDataRateInfo | | O | | 0..1 | | Represents the Maximum Group Data Rate related information. | | GMEC | |
| cpParams | | CpParams | | O | | 0..1 | | Contains Communication Pattern Parameters for the 5G VN group. | | GMEC | |
| npConfigParams | | NpConfigParams | | O | | 0..1 | | Contains Network Parameters Configuration information for the 5G VN group. | | GMEC | |
| lpiParams | | LpiParams | | O | | 0..1 | | Contains Location Privacy Indication parameters for the 5G VN group. | | GMEC | |
| acsParams | | Acs | | O | | 0..1 | | Contains ACS configuration parameters for the 5G VN group. | | GMEC | |
| ecsAddrParams | | ECSAddrParams | | O | | 0..1 | | Contains ECS address parameters for the 5G VN group. | | GMEC | |
| dnnSnssaiParams | | DnnSnssaiParams | | O | | 0..1 | | Contains DNN and S-NSSAI specific parameters for the 5G VN group. | | GMEC | |
| notifUri | | Link | | O | | 0..1 | | Contains a URI indicating the notification destination where notification requests shall be delivered.  This attribute may be provided only if 5G LAN Parameters Provisioning notifications (e.g., Network Parameter Configuration notifications) need to be delivered. | | GMEC | |
| requestTestNotification | | boolean | | O | | 0..1 | | Set to true by the AF to request the NEF to send a test notification as defined in clause 5.2.5.3 of 3GPP TS 29.122 [4]. Set to false or omitted otherwise.  This attribute may be provided only if 5G LAN Parameters Provisioning notifications (e.g., Network Parameter Configuration notifications) need to be delivered. | | GMEC, Notification\_test\_event | |
| websockNotifConfig | | WebsockNotifConfig | | O | | 0..1 | | Contains configuration parameters to set up notification delivery over Websocket protocol as defined in clause 5.2.5.4 of 3GPP TS 29.122 [4].  This attribute may be provided only if 5G LAN Parameters Provisioning notifications (e.g., Network Parameter Configuration notifications) need to be delivered. | | GMEC, Notification\_websocket | |
| NOTE 1: The NEF should check received MTC Provider information and then the NEF may:  - override it with local configured value and send it to UDM;  - send it directly to the UDM; or  - reject the 5G VN Group Configuration request.  NOTE 2: Only one PDU Session type is applied for a PDU Session of a VN group at a time.  NOTE 3: This attribute shall contain at most 2 array elements. It is however kept defined as it is (i.e. with a cardinality of "1..N") for backward compatibility considerations. | | | | | | | | | | | |

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

# A.5 5GLANParameterProvision API

openapi: 3.0.0

info:

title: 3gpp-5glan-pp

version: 1.2.0-alpha.4

description: |

API for 5G LAN Parameter Provision.

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externalDocs:

description: >

3GPP TS 29.522 V18.3.0; 5G System; Network Exposure Function Northbound APIs.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/'

security:

- {}

- oAuth2ClientCredentials: []

[…]

5GLanParameters:

description: Represents 5G LAN service related parameters that need to be provisioned.

type: object

properties:

exterGroupId:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'

gpsis:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the list of 5G VN Group members, each member is identified by GPSI.

Any string value can be used as a key of the map.

dnn:

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

aaaIpv4Addr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

aaaIpv6Addr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

aaaUsgs:

type: array

items:

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

minItems: 1

description: >

This attribute shall contain at most 2 array elements. It is however kept

defined as it is (i.e. with a cardinality of "1..N") for backward

compatibility considerations.

mtcProviderId:

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

snssai:

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

sessionType:

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

sessionTypes:

type: array

items:

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

minItems: 1

description: Further allowed PDU Session types.

appDesps:

type: object

additionalProperties:

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

minProperties: 1

description: >

Describes the operation systems and the corresponding applications for each

operation systems. The key of map is osId.

vnGroupCommInd:

type: boolean

description: >

Indicates whether the 5G VN group is associated with 5G VN group communication when

When set to "true", it indicates that the 5G VN group is associated with 5G VN group

communication. When set to "false", it indicates that the 5G VN group is not

associated with 5G VN group communication. The default value when omitted is "false".

vnGroupCommTypeInd:

$ref: 'TS29503\_Nudm\_PP.yaml#/components/schemas/5GVnGroupCommunicationType'

maxGrpDataRateInfo:

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

cpParams:

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

npConfigParams:

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

lpiParams:

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

acsParams:

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

ecsAddrParams:

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

dnnSnssaiParams:

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

notifUri:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

requestTestNotification:

type: boolean

description: >

Set to true to request to send a test notification as defined in clause 5.2.5.3.

Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

required:

- exterGroupId

- gpsis

- dnn

- snssai

- sessionType

- appDesps

[…]

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