**3GPP TSG-CT WG3 Meeting #116e C3-213217**

**E-Meeting, 19th – 28th May 2021 (Revision of C3-21xxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.122** | **CR** | **0441** | **rev** |  | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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:*** | Updates 204 No Content in RacsParameterProvisioning API | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NBI17 | | | | |  | ***Date:*** | | | 2021-05-10 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Response code 204 No Content in PATCH and PUT method is missing for modify or replace the existing RACS parameter provisioning in RacsParameterProvisioning API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding response code 204 No Content in PATCH and PUT method for modify or replacing the exisitng RACS parameter provisioning with no content in message body in RacsParameterProvisioning API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing 204 No Content response code for the successful modification or replacement of existing RACS parameter provisioning in PATCH or PUT method and no content in message body in RacsParameterProvisioning API, not effective for message handling. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.4.15, 5.16.3.3.3.2, 5.16.3.3.3.3, A.16 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 backward compatible correction into the OpenAPI file applicable to RacsParameterProvisioning API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

### 4.4.15 Procedures for RACS Parameter Provisioning

The procedures are used by an SCS/AS to request that the network to provision manufacturer specific UE radio capability information.

In order to create a new parameter provisioning, the SCS/AS shall send an HTTP POST request message to the SCEF to the resource "RACS Parameter Provisionings". The body of the HTTP POST request message shall include a list of RACS IDs, and for each provided RACS ID, its radio capability parameters and the related UE model(s) IMEI-TAC value(s).

In order to fully replace an existing RACS Parameter Provisioning, the SCS/AS may send an HTTP PUT message to the resource "Individual RACS Parameter Provisioning" requesting the SCEF to change all properties in the existing resource. The body of the HTTP PUT request message shall include a list of RACS IDs, and for each provided RACS ID, its radio capability parameters and the related UE model(s) IMEI-TAC value(s).

In order to partial update an existing RACS Parameter Provisioning, the SCS/AS may send an HTTP PATCH message to the resource "Individual RACS Parameter Provisioning" requesting the SCEF to change some properties in the existing resource.

Upon receipt of the HTTP POST, PUT or PATCH message, if the SCS/AS is authorized to perform the request, the SCEF shall interact with the UCMF as described in 3GPP TS 29.675 [61]. After receiving the response from the UCMF, if at least one RACS ID is succesfully provisioned, the SCEF shall create or update the resource "Individual RACS Parameter Provisioning" and respond with 201 Created or 200 OK to the SCS/AS respectively with the successfully provisioned RACS information or 204 No Content if the updates or replacement is successful with no content in the PATCH or PUT response message body, the SCEF may include RACS report(s) within attribute "racsReports" with a list of RACS ID(s) and the corresponding failure code for which the provisioning has failed as specified in table 5.16.2.2.3-1 in the body of the HTTP response. Otherwise, the SCEF shall send an HTTP response to the SCS/AS with a corresponding failure code as described in subclause 5.16.5.

In order to delete an existing RACS Parameter Provisioning at the SCEF, the SCS/AS shall send an HTTP DELETE message to the corresponding resource "Individual RACS Parameter Provisioning" at the SCEF. Upon receipt of the DELETE request message, the SCEF shall interact with the UCMF as described in 3GPP TS 29.675 [61]. After receiving the response from the UCMF, the SCEF shall remove the resource and respond with 204 No Content to the SCS/AS.

\*\*\* 2nd Change \*\*\*

###### 5.16.3.3.3.2 PATCH

The PATCH method shall be used to update some properties in an existing provisioning indicated by the Resource URI as defined in subclause 5.16.3.3.2. The SCS/AS shall initiate the HTTP PATCH request message and the SCEF shall respond to the message.

This method shall support the URI query parameters, request and response data structures, and response codes, as specified in the table 5.16.3.3.3.2-1 and table 5.16.3.3.3.2-2.

Table 5.16.3.3.3.2-1: URI query parameters supported by the PATCH method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Cardinality | Remarks |
| none specified |  |  |  |

Table 5.16.3.3.3.2-2: Data structures supported by the PATCH request/response by the resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Request body | Data type | Cardinality | Remarks | |
| RacsProvisioningDataPatch | 1 | Partial update an existing parameter provisioning. | |
| Response body | Data type | Cardinality | Response  codes | Remarks |
| RacsProvisioningData | 1 | 200 OK | The provisioning data was updated successfully.  The SCEF shall return an updated provisioning information in the response. |
| none |  | 204 No Content | The provisioning data was updated successfully, and no content is to be sent in the response message body. |
| array(RacsFailureReport) | 1..N | 500 Internal Server Error | The RACS data for all RACS IDs were not provisioned successfully. |
| none |  | 307 Temporary Redirect | Temporary redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative SCEF.  Redirection handling is described in subclause 5.2.10. |
| none |  | 308 Permanent Redirect | Permanent redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative SCEF.  Redirection handling is described in subclause 5.2.10. |
| NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.6-1 also apply. | | | | |

Table 5.16.3.3.3.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative SCEF. |

Table 5.16.3.3.3.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative SCEF. |

\*\*\* 3rd Change \*\*\*

###### 5.16.3.3.3.3 PUT

The PUT method shall be used to update all properties in an existing provisioning indicated by the Resource URI as defined in subclause 5.16.3.3.2. The SCS/AS shall initiate the HTTP PUT request message and the SCEF shall respond to the message.

This method shall support the URI query parameters, request and response data structures, and response codes, as specified in the table 5.16.3.3.3.3-1 and table 5.16.3.3.3.3-2.

Table 5.16.3.3.3.3-1: URI query parameters supported by the PUT method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Cardinality | Remarks |
| none specified |  |  |  |

Table 5.16.3.3.3.3-2: Data structures supported by the PUT request/response by the resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Request body | Data type | Cardinality | Remarks | |
| RacsProvisioningData | 1 | Replace an existing parameter provisioning. | |
| Response body | Data type | Cardinality | Response  codes | Remarks |
| RacsProvisioningData | 1 | 200 OK | The provisioning data was replaced successfully.  The SCEF shall return an updated provisioning information in the response. |
| none |  | 204 No Content | The existing RACS Parameter Provisioning has been replaced successfully and no content is to be sent in the response message body. |
| array(RacsFailureReport) | 1..N | 500 Internal Server Error | The RACS data for all RACS IDs were not provisioned successfully. |
| none |  | 307 Temporary Redirect | Temporary redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative SCEF.  Redirection handling is described in subclause 5.2.10. |
| none |  | 308 Permanent Redirect | Permanent redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative SCEF.  Redirection handling is described in subclause 5.2.10. |
| NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.6-1 also apply. | | | | |

Table 5.16.3.3.3.3-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative SCEF. |

Table 5.16.3.3.3.3-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative SCEF. |

\*\*\* 2nd Change \*\*\*

## A.16 RacsParameterProvisioning API

openapi: 3.0.0

info:

title: 3gpp-racs-parameter-provisioning

version: 1.1.0-alpha.1

description: |

API for provisioning UE radio capability parameters.

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externalDocs:

description: 3GPP TS 29.122 V17.1.0 T8 reference point for Northbound APIs

url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.122/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-racs-pp/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

paths:

/{scsAsId}/provisionings:

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

required: true

schema:

type: string

get:

responses:

'200':

description: OK. The provisioning information related to the request URI is returned.

content:

application/json:

schema:

type: array

items:

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

minItems: 0

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

requestBody:

description: create new provisionings for a given SCS/AS.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Created. The provisioning was created successfully.

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

description: The RACS data for all RACS IDs were not provisioned successfully.

content:

application/json:

schema:

type: array

items:

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

minItems: 1

application/problem+json:

schema:

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

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{scsAsId}/provisionings/{provisioningId}:

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

required: true

schema:

type: string

- name: provisioningId

in: path

description: Provisioning ID

required: true

schema:

type: string

get:

responses:

'200':

description: OK. The provisioning information related to the request URI is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

requestBody:

description: update an existing parameter provisioning.

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: OK. The provisioning data was updated successfully. The SCEF shall return an updated provisioning information in the response.

content:

application/json:

schema:

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

'204':

description: The provisioning data was updated successfully, and no content is to be sent in the response message body.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

description: The RACS data for all RACS IDs were not provisioned successfully.

content:

application/json:

schema:

type: array

items:

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

minItems: 1

application/problem+json:

schema:

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

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

requestBody:

description: update an existing parameter provisioning.

required: true

content:

application/json:

schema:

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

responses:

'200':

description: OK. The provisioning data was updated successfully. The SCEF shall return an updated provisioning information in the response.

content:

application/json:

schema:

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

'204':

description: The existing RACS parameter provisioning has been replaced successfully and no content is to be sent in the response message body.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

description: The RACS data for all RACS IDs were not provisioned successfully.

content:

application/json:

schema:

type: array

items:

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

minItems: 1

application/problem+json:

schema:

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

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

responses:

'204':

description: No Content. The provisioning was terminated successfully. The payload body shall be empty.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

RacsProvisioningData:

type: object

properties:

self:

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

supportedFeatures:

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

racsConfigs:

type: object

additionalProperties:

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

minProperties: 1

description: Identifies the configuration related to manufacturer specific UE radio capability. Each element uniquely identifies an RACS configuration for an RACS ID and is identified in the map via the RACS ID as key. The response shall include successfully provisioned RACS data.

racsReports:

type: object

additionalProperties:

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

minProperties: 1

description: Supplied by the SCEF. Contains the RACS IDs for which the RACS data are not provisioned successfully. Any string value can be used as a key of the map.

readOnly: true

required:

- racsConfigs

RacsFailureReport:

type: object

properties:

racsIds:

type: array

items:

type: string

minItems: 1

description: Identifies the RACS ID(s) for which the RACS data are not provisioned successfully.

failureCode:

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

required:

- racsIds

- failureCode

RacsConfiguration:

type: object

properties:

racsId:

type: string

description: The UE radio capability ID provided by the SCS/AS to identify the UE radio capability data. See 3GPP TS 23.003 for the encoding.

racsParamEps:

type: string

description: The UE radio capability data in EPS.

racsParam5Gs:

type: string

description: The UE radio capability data in 5GS.

imeiTacs:

type: array

items:

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

minItems: 1

description: Related UE model's IMEI-TAC values.

anyOf:

- required: [racsParamEps]

- required: [racsParam5Gs]

required:

- racsId

- imeiTacs

RacsProvisioningDataPatch:

type: object

properties:

racsConfigs:

type: object

additionalProperties:

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

minProperties: 1

description: Identifies the configuration related to manufactuer specific UE radio capability. Each element uniquely identifies an RACS configuration for an RACS ID and is identified in the map via the RACS ID as key.

RacsConfigurationRm:

type: object

properties:

racsParamEps:

type: string

description: The UE radio capability data in EPS.

nullable: true

racsParam5Gs:

type: string

description: The UE radio capability data in 5GS.

nullable: true

imeiTacs:

type: array

items:

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

minItems: 1

description: Related UE model's IMEI-TAC values.

nullable: true

RacsFailureCode:

anyOf:

- type: string

enum:

- MALFUNCTION

- RESOURCE\_LIMITATION

- RACS\_ID\_DUPLICATED

- OTHER\_REASON

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- MALFUNCTION: This value indicates that something functions wrongly in RACS provisioning or the RACS provisioning does not function at all.

- RESOURCE\_LIMITATION: This value indicates there is resource limitation for RACS data storage.

- RACS\_ID\_DUPLICATED: The received RACS identifier(s) are already provisioned.

- OTHER\_REASON: Other reason unspecified.

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