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

**E-Meeting, 18th – 26th August 2022 *Revision of C4-224298***

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.540** | **CR** | **0106** | **rev** | **1** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Partial success in PATCH | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc17 | | | | |  | ***Date:*** | | | 2022-07-18 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | For modification of UE Context in SMSF using HTTP PATCH method, if some of the modification instructions in the PATCH request have been discarded, and the NF service consumer has included in the supported-feature query parameter the "PatchReport" feature number, the SMSF shall respond with PatchResult.  As PatchReport is optional feature, if the NF service consumer does not support the feature, it is not clear what will be sent from SMSF to the NF service consumer in partial success. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | For partial success, 200 OK with UeSmsContextData will be included in PATCH response if the PatchReport feature is not supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | How to handle the partial success is not clear, which may cause inter-operation issue. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2.2.3, 6.1.3.3.3.3, 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 contribution introduces backward compatible corrections to the OpenAPI file of Nsmsf\_SMService API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1:  Updata the description in Table 6.1.3.3.3.3-2. | | | | | | | | |

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

##### 5.2.2.2.3 Modify UE Context in SMSF using HTTP PATCH Method

The NF Service Consumer (e.g. AMF) may update UE context in SMSF for a given service user by using the HTTP PATCH method as shown in Figure 5.2.2.2.3-1.



Figure 5.2.2.2.3-1: Modify UE Context in SMSF using HTTP PATCH Method

1. The NF Service Consumer (e.g. AMF) shall send a PATCH request to the resource representing the UE Context for SMS (i.e. …/ue-contexts/{supi}) in the SMSF to modify the UE Context in SMSF for a given service user. The request body shall contain a list of PatchItem for each the JSON pointer is set to the attribute to be modified.

2a. On success, the request is accepted, and all the modification instructions in the PATCH request have been implemented, the SMSF shall respond with "204 No Content".

2b. On partial success, the request is accepted, but some of the modification instructions in the PATCH request have been discarded:

* the SMSF shall respond with "200 OK" including PatchResult to indicate the failed modifications, if the NF service consumer has included in the supported-feature query parameter the "PatchReport" feature; or
* the SMSF shall respond with "200 OK" with the response body containing UeSmsContextData, if the NF service consumer does not support the "PatchReport" feature.

2c. On failure, the appropriate HTTP status code (e.g. "403 Forbidden") indicating the error shall be returned. A ProblemDetails IE shall be included in the payload body of PATCH response, with the "cause" attribute of ProblemDetails set to application error codes specified in table 6.1.7.3-1.

If the modification is not allowed, HTTP status code "403 Forbidden" should be returned including additional error information in the response body (in the "ProblemDetails" element).

If the resource does not exist, e.g. the attribute to be modified cannot be found, HTTP status code "404 Not Found" should be returned including additional error information in the response body (in the "ProblemDetails" element).

2d. On redirection, the appropriate HTTP status code (e.g. "307 Temporary Redirect") shall be returned. A RedirectResponse IE may be included in the payload body of PATCH response, as specified in table 6.1.3.3.3.1-3.

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

6.1.3.3.3.3 PATCH

This method shall support the URI query parameters specified in table 6.1.3.3.3.3-1.

Table 6.1.3.3.3.3-1: URI query parameters supported by the PATCH method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| supported-features | SupportedFeatures | O | 0..1 | see 3GPP TS 29.500 [4] clause 6.6 |

This method shall support the request data structures specified in table 6.1.3.3.3.3-2 and the response data structures and response codes specified in table 6.1.3.3.3.3-3.

Table 6.1.3.3.3.3-2: Data structures supported by the PATCH Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| array(PatchItem) | M | 1..N | Items describe the modifications to the Event Subscription |

Table 6.1.3.3.3.3-3: Data structures supported by the PATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Upon success, an empty response body shall be returned. |
| PatchResult | C | 0..1 | 200 OK | Upon partial success, if the NF service consumer has indicated "PatchReport" in the supported-feature, the execution report is returned.  (NOTE 3) |
| UeSmsContextData | C | 0..1 | 200 OK | Upon partial success, if the NF service consumer does not support the "PatchReport" feature, the SMSF shall return a UeSmsContextData object in the response.  (NOTE 3) |
| RedirectResponse | O | 0..1 | 307 Temporary Redirect | Temporary redirection. The NF service consumer shall generate a Location header field containing a URI pointing to the endpoint of another NF service consumer to which the notification should be sent.  If an SCP redirects the message to another SCP then the location header field shall contain the same URI or a different URI pointing to the endpoint of the NF service consumer to which the notification should be sent.  (NOTE 2) |
| RedirectResponse | O | 0..1 | 308 Permanent Redirect | Permanent redirection. The NF service consumer shall generate a Location header field containing a URI pointing to the endpoint of another NF service consumer to which the notification should be sent.  If an SCP redirects the message to another SCP then the location header field shall contain the same URI or a different URI pointing to the endpoint of the NF service consumer to which the notification should be sent.  (NOTE 2) |
| ProblemDetails | O | 0..1 | 403 Forbidden | One or more attributes are not allowed to be modified.  The "cause" attribute may be used to indicate one of the following application errors:  - MODIFICATION\_NOT\_ALLOWED, see 3GPP TS 29.500 [4] table 5.2.7.2-1. |
| ProblemDetails | O | 0..1 | 404 Not Found | The "cause" attribute may be used to indicate one of the following application errors:  - USER\_NOT\_FOUND  - CONTEXT\_NOT\_FOUND |
| NOTE 1: In addition common data structures as listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] are supported.  NOTE 2: RedirectResponse may be inserted by an SCP, see clause 6.10.9.1 of 3GPP TS 29.500 [4].  NOTE 3: One of UeSmsContextData or PatchResult shall be returned, depending on whether the NF service consumer support "PatchReport" feature or not. | | | | |

Table 6.1.3.3.3.3-4: 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 on an alternative service instance within the same SMSF or SMSF (service) set.  Or the same URI, if a request is redirected to the same target resource via a different SCP. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance ID towards which the request is redirected |

Table 6.1.3.3.3.3-5: 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 on an alternative service instance within the same SMSF or SMSF (service) set.  Or the same URI, if a request is redirected to the same target resource via a different SCP. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance ID towards which the request is redirected |

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

# A.2 Nsmsf\_SMService API

openapi: 3.0.0

info:

version: '2.2.0'

title: 'Nsmsf\_SMService Service API'

description: |

SMSF SMService.

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[…]

patch:

summary: Update a parameter in the UE SMS Context in SMSF

operationId: SMSServiceParameterUpdate

tags:

- Parameter update in the UE SMS Context in SMSF

parameters:

- name: supi

in: path

required: true

description: Subscriber Permanent Identifier (SUPI)

schema:

type: string

- name: supported-features

in: query

description: Features required to be supported by the target NF

schema:

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

requestBody:

content:

application/json-patch+json:

schema:

type: array

items:

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

minItems: 1

required: true

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

oneOf:

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

- $ref: '#/components/schemas/UeSmsContextData'

'204':

description: Successful response

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'422':

description: Unprocessable Request

content:

application/problem+json:

schema:

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

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

description: Unexpected error

[…]

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