**3GPP TSG-CT WG4 Meeting #110-eC4-223xyz**

**E-Meeting, 12th – 20th May 2022 (was C4-223266)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.510** | **CR** | **0725** | **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:*** | TSCTS Default Notification | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IIoT | | | | |  | ***Date:*** | | | 2022-04-22 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | TS 29.514 defines a notification sent by PCF to the TSCTSF, that can be triggered by PCF with no need for an explicit subscription from TSCTSF. The PCF is expected to find the notification URI from the NFProfile of the TSCTSF registered at the NRF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define a new NotificationType to support notifications from PCF to TSCTSF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The notification scenarios defined in TS 29.514 cannot be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.1.6.3.4, 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 corrections with impacts on the following APIs:  - TS29510\_Nnrf\_NFManagement.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[3] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[4] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[5] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[6] 3GPP TS 29.518: "5G System; Access and Mobility Management Services; Stage 3".

[7] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[8] ECMA-262: "ECMAScript® Language Specification", <https://www.ecma-international.org/ecma-262/5.1/>.

[9] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

[10] OpenAPI Initiative, "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.

[11] IETF RFC 7807: "Problem Details for HTTP APIs".

[12] 3GPP TS 23.003: "Numbering, Addressing and Identification".

[13] IETF RFC 6902: "JavaScript Object Notation (JSON) Patch".

[14] IETF RFC 6901: "JavaScript Object Notation (JSON) Pointer".

[15] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

[16] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[17] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

[18] IETF RFC 4122: "A Universally Unique IDentifier (UUID) URN Namespace".

[19] IETF RFC 7232: "Hypertext Transfer Protocol (HTTP/1.1): Conditional Requests".

[20] IETF RFC 7234: "Hypertext Transfer Protocol (HTTP/1.1): Caching".

[21] 3GPP TS 29.244: "Interface between the Control Plane and the User Plane Nodes; Stage 3".

[22] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

[23] IETF RFC 2782: "A DNS RR for specifying the location of services (DNS SRV)".

[24] IETF RFC 7515: "JSON Web Signature (JWS)".

[25] IETF RFC 7519: "JSON Web Token (JWT)".

[26] W3C HTML 4.01 Specification, <https://www.w3.org/TR/2018/SPSD-html401-20180327/>.

[27] 3GPP TS 23.527: "5G System; Restoration Procedures; Stage 2".

[28] 3GPP TS 29.513: "5G System; Policy and Charging Control signalling flows and QoS parameter mapping; Stage 3".

[29] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[30] IETF RFC 1952: "GZIP file format specification version 4.3".

[31] 3GPP TR 21.900: "Technical Specification Group working methods".

[32] 3GPP TS 29.520: "5G System; Network Data Analytics Services; Stage 3".

[33] 3GPP TS 29.572: "5G System; Location Management Services; Stage 3".

[34] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

[35] 3GPP TS 29.517: "Application Function Event Exposure Service".

[36] 3GPP TS 29.503: "Unified Data Management Services".

[37] 3GPP TS 29.336: "Home Subscriber Server (HSS) diameter interfaces for interworking with packet data networks and applications".

[38] IANA: "SMI Network Management Private Enterprise Codes", <http://www.iana.org/assignments/enterprise-numbers>.

[39] Semantic Versioning Specification: <https://semver.org>.

[40] IETF RFC 7231: "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content".

[41] IETF RFC 7694: "Hypertext Transfer Protocol (HTTP) Client-Initiated Content-Encoding".

[42] 3GPP TS 29.531: "5G System; Network Slice Selection Services; Stage 3".

[43] 3GPP TS 23.247: "Architectural enhancements for 5G multicast-broadcast services".

[44] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[45] 3GPP TS 23.380: "IMS Restoration Procedures".

[xx] 3GPP TS 29.514: "5G System; Policy Authorization Service; Stage 3".

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

##### 6.1.6.3.4 Enumeration: NotificationType

Table 6.1.6.3.4-1: Enumeration NotificationType

|  |  |
| --- | --- |
| Enumeration value | Description |
| "N1\_MESSAGES" | Notification of N1 messages.  This notification type may be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2) or as part of a specific service instance.  If the AMF registers a default notification subscription with this notification type in an NF Service Instance, it may be associated with the service "namf-comm" or with a custom service.  If the LMF registers a default notification subscription with this notification type in an NF Service Instance, it may be associated with the service "nlmf-loc" or with a custom service. |
| "N2\_INFORMATION" | Notification of N2 information.  This notification type may be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2) or as part of a specific service instance.  If the AMF registers a default notification subscription with this notification type in an NF Service Instance, it may be associated with the service "namf-comm" or with a custom service.  If the LMF registers a default notification subscription with this notification type in an NF Service Instance, it may be associated with the service "nlmf-loc" or with a custom service. |
| "LOCATION\_NOTIFICATION" | Notification of Location Information by AMF/LMF towards NF Service Consumers (e.g GMLC).  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |
| "DATA\_REMOVAL\_NOTIFICATION" | Notification of Data Removal by UDR (e.g., removal of UE registration data upon subscription withdrawal).  This notification type shall be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2). |
| "DATA\_CHANGE\_NOTIFICATION" | Notification of Data Changes by UDR.  This notification type shall be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2). |
| "LOCATION\_UPDATE\_NOTIFICATION" | Notification of UE Location Information Update by GMLC towards NF Service Consumers (e.g. NEF), during MO\_LR procedure.  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |
| "NSSAA\_REAUTH\_NOTIFICATION" | Re-authentication notification for slice-specific authentication and authorization by AAA-P/S towards NF Service Consumers (e.g. AMF).  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |
| "NSSAA\_REVOC\_NOTIFICATION" | Revocation notification for slice-specific authentication and authorization by AAA-P/S towards NF Service Consumers (e.g. AMF).  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |
| "MATCH\_INFO\_NOTIFICATION" | Notification of a matching result, and the information that can be used for charging purpose by 5G DDNMF towards NF Service Consumers (e.g. 5G DDNMF), during Discovery Reporting procedures.  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |
| "DATA\_RESTORATION\_NOTIFICATION" | Notification by UDR to its NF Service Consumers (e.g. UDM, PCF, NEF…) or by UDM to its NF Service Consumers (e.g. AMF, SMF, SMSF…) of a potential data-loss event originated at UDR. The content of the notification shall be as described in 3GPP TS 29.503 [36], clause 5.3.2.12.2 and 6.2.5.4.  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |
| "TSCTS\_NOTIFICATION" | Notification sent by PCF to TSCTSF of TSC user-plane node information. The content of the notification is described in 3GPP TS 29.514 [x1], clause 4.2.5.16.  This notification type should be registered by the NF Instance in a default notification subscription at NFProfile level (see clause 6.1.6.2.2); otherwise, it may be registered in a custom service instance. |

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

## A.2 Nnrf\_NFManagement API

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

NotificationType:

description: Types of notifications used in Default Notification URIs in the NF Profile of an NF Instance

anyOf:

- type: string

enum:

- N1\_MESSAGES

- N2\_INFORMATION

- LOCATION\_NOTIFICATION

- DATA\_REMOVAL\_NOTIFICATION

- DATA\_CHANGE\_NOTIFICATION

- LOCATION\_UPDATE\_NOTIFICATION

- NSSAA\_REAUTH\_NOTIFICATION

- NSSAA\_REVOC\_NOTIFICATION

- MATCH\_INFO\_NOTIFICATION

- DATA\_RESTORATION\_NOTIFICATION

- TSCTS\_NOTIFICATION

- type: string

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

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