**3GPP TSG-CT WG4 Meeting #97eC4-20xxxx**

**E-Meeting, 15th – 24th April 2020 *Revision of C4-202184***

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.518** | **CR** | **0325** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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:*** | Stage 2 procedures for wireline access | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, CableLabs, Charter Communications | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5WWC | | | | |  | ***Date:*** | | | 2020-03-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Procedures for wireline access are specified in 3GPP TS 23.316, which may use the services provided by AMF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | References to the stage 2 procedures defined for wireline access are added. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Misalignment with stage2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 5.2.2.3.1.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not change the open API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* Begin of Change \* \* \* \*

# 2 References

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

[7] 3GPP TS 23.503: "Policy and Charging Control Framework for the 5G System; Stage 2".

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

[9] IETF RFC 2387: "The MIME Multipart/Related Content-type".

[10] IETF RFC 2045: "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies".

[11] 3GPP TS 24.501: "Non-Access-Stratum (NAS) Protocol for 5G System (5GS); Stage 3".

[12] 3GPP TS 38.413: "NG Radio Access Network (NG-RAN); NG Application Protocol (NGAP)".

[13] 3GPP TS 36.355: "Evolved Universal Terrestrial Radio Access (E-UTRA); LTE Positioning Protocol (LPP)".

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

[15] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General Aspects".

[16] 3GPP TS 29.502: "5G System, Session Management Services; Stage 3".

[17] 3GPP TS 38.455: "NR Positioning Protocol A (NRPPa)".

[18] 3GPP TS 29.531: "Network Slice Selection Services; Stage 3".

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

[20] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[21] Void.

[22] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[23] OpenAPI Initiative, "OpenAPI 3.0.0 Specification", <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/3.0.0.md>.

[24] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".

[25] 3GPP TS 29.572: "5G System, Location Management Services; Stage 3".

[26] Void.

[27] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

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

[29] 3GPP TS 29.510: "Network Function Repository Services; Stage 3".

[30] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".

[31] Void.

[32] 3GPP TS 29.507: "5G System; Access and Mobility Policy Control Service; Stage 3".

[33] 3GPP TS 23.527: "5G System; Restoration Procedures".

[34] 3GPP TS 29.525: "5G System; UE Policy Control Service; Stage 3".

[35] 3GPP TS 29.503: "5G System; Unified Data Management Services; Stage 3".

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

[37] 3GPP TR 21.900: "Technical Specification Group working methods".

[38] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

[39] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC); Stage 2".

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

[41] 3GPP TS 29.274: "3GPP Evolved Packet System (EPS); Evolved General Packet Radio Service (GPRS) Tunnelling Protocol for Control plane (GTPv2-C); Stage 3".

[42] 3GPP TS 23.273: "5G System (5GS) Location Services (LCS); Stage 2".

[43] 3GPP TS 24.080: "Mobile radio interface layer 3 supplementary services specification; Formats and coding".

[44] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[45] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[46] 3GPP TS 29.515: "5G System; Gateway Mobile Location Services Stage 3".

[47] 3GPP TS 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".

[x] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System (5GS)".

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

##### 5.2.2.3.1 N1N2MessageTransfer

###### 5.2.2.3.1.1 General

The N1N2MessageTransfer service operation is used by a NF Service Consumer to transfer N1 and/or N2 information to the UE and/or 5G-AN through the AMF in the following procedures:

- Network triggered Service Request (see clause 4.2.3.3 of 3GPP TS 23.502 [3])

- PDU Session establishment (see clause 4.3.2 of TS 23.502 [3])

- PDU Session modification (see clause 4.3.3 of TS 23.502 [3])

- PDU Session release (see clause 4.3.4 of TS 23.502 [3])

- Session continuity, service continuity and UP path management (see clause 4.3.5 of TS 23.502 [3])

- Inter NG-RAN node N2 based handover (see clause 4.9.1.3 of TS 23.502 [3])

- SMS over NAS procedures (see clause 4.13.3 of TS 23.502 [3]

- UE assisted and UE based positioning procedure (see clause 4.13.5.4 of TS 23.502 [3])

- Network assisted positioning procedure (see clause 4.13.5.5 of TS 23.502 [3])

- LCS Event Report, LCS Cancel Location and LCS Periodic-Triggered Invoke procedures (see clause 6.3 of 3GPP TS 23.273 [42])

- UE configuration update procedure for transparent UE policy delivery (see clause 4.2.4.3 of 3GPP TS 23.502 [3])

- UPF anchored Mobile Terminated Data Transport in Control Plane CIoT 5GS Optimisation (see clause 4.24.2 of 3GPP TS 23.502 [3])

- NEF Anchored Mobile Terminated Data Transport (see clause 4.25.5 of 3GPP TS 23.502 [3])

- System interworking procedures with EPC (see clause 4.3 in 3GPP TS 23.501 [2] and clause 4.11 in 3GPP TS 23.502 [3])

- 5G-RG requested PDU Session Establishment via W-5GAN (see clause 7.3.1 of 3GPP TS 23.316 [x])

- 5G-RG or Network requested PDU Session Modification via W-5GAN (see clause 7.3.2 of 3GPP TS 23.316 [x])

- 5G-RG or Network requested PDU Session Release via W-5GAN (see clause 7.3.3 of 3GPP TS 23.316 [x])

- FN-RG related PDU Session Establishment via W-5GAN (see clause 7.3.4 of 3GPP TS 23.316 [x])- CN-initiated selective deactivation of UP connection of an existing PDU Session associated with W-5GAN Access (see clause 7.3.5 of 3GPP TS 23.316 [x])

- FN-RG or Network Requested PDU Session Modification via W-5GAN (see clause 7.3.6 of 3GPP TS 23.316 [x])

- FN-RG or Network Requested PDU Session Release via W-5GAN (see clause 7.3.7 of 3GPP TS 23.316 [x])

- Non-5G capable device behind 5G-CRG and FN-CRG requested PDU Session Establishment via W-5GAN (see clause 4.10a of 3GPP TS 23.316 [x])

- Non-5G capable device behind 5G-CRG and FN-CRG or Network Requested PDU Session Modification via W-5GAN (see clause 4.10a of 3GPP TS 23.316 [x])

- Non-5G capable device behind 5G-CRG and FN-CRG or Network Requested PDU Session Release via W-5GAN (see clause 4.10a of 3GPP TS 23.316 [x])

- Handover procedures between 3GPP access / 5GC and W-5GAN access (see clause 7.6.3 of 3GPP TS 23.316 [x])

- Handover from 3GPP access / EPS to W-5GAN / 5GC (see clause 7.6.4.1 of 3GPP TS 23.316 [x])

NOTE: Though in 3GPP TS 23.502 [3] the procedure is called "UE configuration update procedure for transparent UE policy delivery", as per 3GPP TS 24.501 [11] clause 5.4.5.3.1, the network initiated NAS transport procedure is used.

The NF Service Consumer shall invoke the service operation by using HTTP method POST, to request the AMF to transfer N1 and/or N2 information for a UE and/or 5G-AN, with the URI of "N1 N2 Messages Collection" resource (see clause 6.1.3.5.3.1).

The NF Service Consumer may include the following information in the HTTP Request message body:

- SUPI

- PDU Session ID or LCS Correlation ID depending on the N1/N2 message class to be transferred

- N2 SM Information (PDU Session ID, QoS profile, CN N3 Tunnel Info, S-NSSAI)

- N1 Message Container, including a N1 SM, LPP message, LCS message, SMS, UPDP message

- N2 Information Container, including N2 SM, NRPPa message, PWS or RAN related information

- Mobile Terminated Data (i.e. CIoT user data container)

- Allocation and Retention Priority (ARP)

- Paging Policy Indication

- 5QI

- Notification URL (used for receiving Paging Failure Indication)

- Last Message Indication

- NF Instance Identifier and optionally Service Instance Identifier of the NF Service Consumer (e.g. an LMF)

- N1 SM Skipping Indication

- Area of Validity for N2 SM Information

- A MA PDU Session Accepted indication, if a MA-PDU session is established;

- Extended Buffering Support Indication, if SMF determines that Extended Buffering applies during Network triggered Service Request Procedure (see clause 4.2.3.3 of 3GPP TS 23.502 [3]), UPF anchored Mobile Terminated Data Transport in Control Plane CIoT 5GS Optimisation procedure (see clause 4.24.2 of 3GPP TS 23.502 [3]) or NEF Anchored Mobile Terminated Data Transport (see clause 4.25.5 of 3GPP TS 23.502 [3]);

- Target Access type towards which the SMF requests to send N2 information and optionally N1 information, for a Multi-Access (MA) PDU session.



Figure 5.2.2.3.1.1-1 N1N2MessageTransfer for UE related signalling

1. The NF Service Consumer shall send a POST request to transfer N1 and N2 information. The NF Service Consumer may include a N1N2MessageTransfer Notification URI to AMF in the request message.

2a. On success, i.e. if the request is accepted and the AMF is able to transfer the N1/N2 message to the UE and/or the AN, the AMF shall respond with a "200 OK" status code. The AMF shall set the cause IE in the N1N2MessageTransferRspData as "N1\_N2\_TRANSFER\_INITIATED" in this case.

2b. On failure or redirection, one of the HTTP status code listed in Table 6.1.3.5.3.1-3 shall be returned. For a 4xx/5xx response, the message body shall contain a N1N2MessageTransferError structure, including:

- a ProblemDetails structure with the "cause" attribute set to one of the application error listed in Table 6.1.3.5.3.1-3;

\* \* \* \* End of Change \* \* \* \*