**3GPP TSG- Meeting #-Bis**

**, 10th-13th July 2018**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v11.2.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0689** | **rev** | **4** | **Current version:** |  |  |
|  | | | | | | | | |
| *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 | **X** | ME | **X** | Radio Access Network |  | Core Network |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update the UICC Toolkit Data Connection Status Change Event for 5GS | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | CT6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_Ph1-CT | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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:*** | | The Data Connection Status Change Event updates for 5GS in C6-180292 (agreed in CT6#89) were made on top of non-implemented text from a CT#78 agreed CR C6-170638. Thus, the current CR introduces the changes from C6-170638 (already agreed) and then applies 5GS updates (from C6-180292, agreed in CT#80) on top of it.  Note that C6-170638 was implemented for Rel14 only and was not implemented for Rel15 in the past. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Updated Data Connection Status Change Event to take into account a previously agreed CT6 CR C6-170638. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Without this change, Rel15 and Rel14 are inconsistent that also affect how the 5GS updates are made to this section. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.2, 7.5.25, 8.61, 8.X (new), 9.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

## 3.2 Abbreviations

For the purpose of the present document, the abbreviations given in ETSI TS 102 223 [32] and TR 21.905 [33] and the following apply:

5GS 5G System

…

CSG Closed Subscriber Group

DNN Data Network Name

EGPRS EDGE General Packet Radio Service

…

WSID WLAN Specific Identifier

\*\*\*\*\* Next change \*\*\*\*\*

### 7.5.25 Data Connection Status Change Event

#### 7.5.25.1 Procedure

This and the following clauses apply if class "e" is supported.

If the Data Connection Status Change event is part of the current event list (as set up by the last SET UP EVENT LIST command, see clause 8.25 of this document), then, upon detection by the ME of a change in the data connection status, the terminal shall inform the UICC that this event has occurred, by using the ENVELOPE (EVENT DOWNLOAD – Data Connection Status Change) command as defined below.

#### 7.5.25.2 Structure of ENVELOPE (EVENT DOWNLOAD – Data Connection Status Change)

Direction: ME to UICC

The command header is specified in TS 31.101 [13].

Command parameters/data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Clause | M/O/C | Min | Length |
| Event download tag | 9.1 | M | Y | 1 |
| Length (A+B+C+D+E+F+G+H+I+J+K+L+M) | - | M | Y | 1 or 2 |
| Event list | 8.25 | M | Y | A |
| Device identities | 8.7 | M | Y | B |
| Data connection status | 8.137 | M | Y | D |
| Data connection type | 8.138 | M | Y | E |
| (E/5G)SM cause | 8.139 | C | Y | F |
| Transaction identifier | 8.28 | M | Y | G |
| Date-Time and Time zone | 8.39 | M | Y | H |
| Location Information | 8.19 | C | Y | I |
| Access Technology | 8.62 | C | Y | J |
| Location status | 8.27 | M | Y | K |
| Network Acces Name | 8.61 | C | Y | L |
| PDP/PDN/PDU type | 8.142 | C | Y | M |

- Event list: the Event list data object shall contain only one event (value part of length 1 byte), and the ME shall set the event to:

• Data Connection Status Change.

- Device identities: the terminal shall set the device identities to:

• source: Network for network originated messages. ME for ME originated messages;

• destination: UICC.

- Data connection status: This data object shall contain the status of the data connection.

- (E/5G)SM cause: If an (E)SM cause is available, this data object shall contain either the SM cause as defined in 3GPP TS 24.008 [9] or the ESM cause as defined in 3GPP TS 24.301 [46], or the 5GSM cause as defined in 3GPP TS 24.501 [XX].

- Transaction identifier: The Transaction identifier data object shall contain one transaction identifier as defined in clause 8.28.

- Date-Time and Time zone: This data object shall contain the Date-Time and Time zone at the ME detected moment of occurrence of the event.

- Location Information: This data object contains the identification (MCC, MNC, LAC/TAC, Cell Identity) of the current serving cell of the UE. The comprehension required flag of this data object in this command shall be set to '0'. This data object shall be present if the data connection is performed over GERAN, UTRAN, E-UTRAN or NG-RAN.

- Access Technology: This data object shall contain the access technology of the rejecting or accepting network.

- Location Status: This data object indicates the current service state of the terminal.

- Network Access Name: This data object shall contain the Access Point Name value present in the Activate PDP context request (for a PDP context activation, as defined in TS 24.008 [9]) or the PDN connectivity request (for an EPS PDN connection activation, as defined in TS 24.301 [46]), or it shall contain the Data Network Name value present in the UL NAS TRANSPORT message for PDU Session Establishment request, as defined TS 24.501 [70]. It is present only when Data connection status is either successful or rejected.

- PDP/PDN/PDU type: This data object shall contain the PDP/PDN/PDU type requested in the Activate PDP context request (for a PDP context activation, as defined in TS 24.008 [9]) or the PDN connectivity request (for an EPS PDN connection activation, as defined in TS 24.301 [46]), or the PDU Session Establishment request (as defined in TS 24.501 [70]). It is present only when Data connection status is either successful or rejected.

Response parameters/data: None for this type of ENVELOPE command.

\*\*\*\*\* Next change \*\*\*\*\*

## 8.61 Network Access Name

|  |  |  |
| --- | --- | --- |
| Byte(s) | Description | Length |
| 1 | Network Access Name tag | 1 |
| 2 | Length (X) | 1 |
| 3 to 3+X-1 | Network Access Name | X |

Content:

- The Network Access Name is used to identify the Gateway entity (GGSN) or a Packet Data Network Gateway (PDN-GW), which provides interworking with an external packet data network. For GPRS, UTRAN packet service and E-UTRAN, the Network Access Name is an APN. For NG-RAN, the Network Access Name is a DNN (which is coded same as an APN).

Coding:

- As defined in TS 23.003 [30].

\*\*\*\*\* Next change \*\*\*\*\*

## 8.142 PDP/PDN/PDU type

This data object shall contain the PDP, PDN or PDU Session type, as defined in 3GPP TS 24.008 [9] for GERAN and UTRAN, in 3GPP TS 24.301 [46] for E-UTRAN or in 3GPP TS 24.501 [70] for NG-RAN.

|  |  |  |
| --- | --- | --- |
| Byte(s) | Description | Length |
| 1 | PDP/PDN/PDU type tag (see Note) | 1 |
| 2 | Length = '01' | 1 |
| 3 | PDP/PDN type or PDU Session type | 1 |
| NOTE: Interpretation of the type depends on the value for the Access Technology (see clause 8.62) | | |

PDP/PDN type coding:

* '00' = IPv4
* '01' = IPv6
* '03' = IPv4v6
* '04' = PPP
* '05' = non IP

All other values are RFU.

PDU Session type coding:

* '00' = IPv4
* '01' = IPv6
* '03' = IPv4v6
* '04' = Unstructured
* '05' = Ethernet

All other values are RFU.

* \*\*\*\*\* Next change \*\*\*\*\*

#### 7.3.1.6 Structure of ENVELOPE (CALL CONTROL)

Direction: ME to UICC.

The command header is specified in TS 31.101 [13].

Command parameters/data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Clause | M/O/C | Min | Length |
| Call control tag | 9.1 | M | Y | 1 |
| Length (A+B+C+D+E+F+G) | - | M | Y | 1 or 2 |
| Device identities | 8.7 | M | Y | A |
| Address or SS string or USSD string or PDP context activation parameters or EPS PDN connection activation parameters or IMS URI or PDU session establishment parameters | 8.1, 8.14 or 8.17 or 8.72 or 8.98 or 8.108 or 8.143 | M | Y | B |
| Capability configuration parameters 1 | 8.4 | O | N | C |
| Subaddress | 8.3 | O | N | D |
| Location information | 8.19 | C | N | E |
| Capability configuration parameters 2 | 8.4 | O | N | F |
| Media Type | 8.132 | C | N | G |
| URI truncated | 8.135 | C | N | 2 |

* \*\*\*\*\* Next change \*\*\*\*\*

## 8.143 PDU Session Establishment parameters

|  |  |  |
| --- | --- | --- |
| Byte(s) | Description | Length |
| 1 | PDU Session Establishment parameters tag | 1 |
| 2 to (Y+1) | Length (X) | Y |
| (Y+2) to (Y+X+1) | PDU Session Establishment parameters | X |

The PDU Session Establishment parameters are coded as the PDU SESSION ESTABLISHMENT REQUEST message as specified in TS 24.501 [70].

Editor’s note: Handling of the case where the PDU Session Establishment parameters in the PDU SESSION ESTABLISHMENT REQUEST message is too large is FFS and is dependent on the coding of element(s) in the PDU SESSION ESTABLISHMENT REQUEST.

* \*\*\*\*\* Next change \*\*\*\*\*

## 9.3 COMPREHENSION-TLV tags in both directions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Length of tag | Tag value, bits 1-7 (Range: '01' - '7E') | Tag  (CR and Tag value) | Reassign (see NOTE) |
| SS string tag | 1 | '09' | '09' or '89' | yes |
| BSSID tag |
| PLMN ID tag | 1 | '09' | '09' or '89' | yes |
| E-UTRAN Timing Advance tag |
| USSD string tag | 1 | '0A' | '0A' or '8A' | yes |
| HESSID tag |
| SMS TPDU tag | 1 | '0B' | '0B' or '8B' | yes |
| PDP/PDN/PDU type tag |
| Cell Broadcast page tag | 1 | '0C' | '0C' or '8C' | yes |
| Cause tag | 1 | '1A' | '1A' or '9A' | yes |
| BCCH channel list tag | 1 | '1D' | '1D' or '9D' | yes |
| Data connection status tag |
| BC Repeat Indicator tag | 1 | '2A' | '2A' or 'AA' | yes |
| Data connection type tag |
| Timing Advance tag | 1 | '2E' | '2E' or 'AE' | yes |
| (E)SM cause tag |
| PDP context Activation parameters tag | 1 | ‘52’ | ‘52’ or ‘D2’ | yes |
| Surrounding macrocells tag |
| UTRAN/E-UTRAN Measurement Qualifier tag | 1 | '69' | '69' or 'E9' | yes |
| IP address list tag |
| I-WLAN Identifier tag | 1 | '4A' | '4A' or 'CA' | yes |
| SSID tag |
| (I-)WLAN Access Status tag | 1 | '4B' | '4B' or 'CB' | yes |
| PLMNwAcT List tag | 1 | '72' | '72' or 'F2' | yes |
| Routing Area Information tag | 1 | '73' | '73' or 'F3' | yes |
| URI truncated |
| Update/Attach Type tag | 1 | '74' | '74' or 'F4' | yes |
| ProSe Report Data Tag |
| Rejection Cause Code tag | 1 | '75' | '75' or 'F5' | yes |
| Geographical Location Parameters tag | 1 | '76' | '76' or 'F6' | yes |
| IARI tag |
| GAD shapes tag | 1 | '77' | '77' or 'F7' | yes |
| IMPU list tag |
| NMEA sentence tag | 1 | '78' | '78' or 'F8' | yes |
| IMS Status-Code tag |
| PLMN List tag | 1 | '79' | '79' or 'F9' | yes |
| E-UTRAN Inter-frequency Network Measurement Results tag |
| EPS PDN connection Activation parameters tag | 1 | '7C' | '7C' or 'FC' | yes |
| Tracking Area Identification tag | 1 | '7D' | '7D' or 'FD' | yes |
| CSG ID list tag | 1 | '7E' | '7E' or 'FE' | yes |
| Media type tag |
| CSG cell selection status tag | 1 | '55' | '55' or 'D5' | yes |
| IMS call disconnection cause tag |
| CSG ID tag | 1 | '56' | '56' or 'D6' | yes |
| HNB name tag | 1 | '57' | '57' or 'D7' | yes |
| Extended rejection cause code tag |
| IMS URI tag | 1 | '31' | '31' or 'B1' | yes |
| NOTE: Starting from Release 10, tag values are assigned in a context specific manner, i.e. the same tag value can be used for different data objects, provided that the object can be uniquely identified from the context of the proactive command or ENVELOPE command in which it is used.  The column "Reassign" indicates whether it is expected that a tag can be reassigned in a context specific manner (yes), whether that is not recommended (NR) because of potential future conflicts or if this shall not be done (no). | | | | |