**3GPP TSG-CT WG1 Meeting #133e-bisC1-22**

**E-meeting, 17-21 January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **27.007** | **CR** | **0758** | **rev** | **1** | **Current version:** | **17.4.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Adding new parameter for EDC policy indication | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eEDGE\_5GC | | | | |  | ***Date:*** | | | 2022-01-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | According to TS 23.548, EDC is controlled by the network:   * the SMF indicated that the PDU session allows the use of EDC and the application mapped onto the PDU Session explicitly requested the use of EDC, or,   - the SMF indicated that the PDU Session requires the use of EDC for specific DNN(s). In this case UE shall force the use of EDC for all the applications mapped onto the PDU Session.  These indications have to be provided to the upper layers in the UE which are managing EDC. Using an AT command provides a mean to convey them. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add parameter to +CGCONTRDP AT command | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Informatino about EDC for the PDU session will not be available via +CGDCONTRDP AT command. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.1.23 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | |  | | | | | | | | |

\*\*\* First change \*\*\*

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

5GCN 5G Core Network

5GS 5G System

AT ATtention; this two‑character abbreviation is always used to start a command line to be sent from TE to TA

ASCI Advanced Speech Call Items, including VGCS, VBS and eMLPP

BCD Binary Coded Decimal

BL Bandwidth reduced Low complexity

CAG Closed Access Group

CBR Channel Busy Ratio

CSG Closed Subscriber Group

eMLPP Enhanced Multi-Level Precedence and Pre-emption Service

EDC Edge DNS Client

ETSI European Telecommunications Standards Institute

FTM Frame Tunnelling Mode (refer 3GPP TS 27.001 [41] and 3GPP TS 29.007 [42])

HRNN Human-Readable Network Name

HSCSD High Speed Circuit Switched Data

IMEI International Mobile station Equipment Identity

IRA International Reference Alphabet (ITU‑T Recommendation T.50 [13])

IrDA Infrared Data Association

ISO International Standards Organization

ITU‑T International Telecommunication Union ‑ Telecommunications Standardization Sector

ME Mobile Equipment

MMTEL Multimedia Telephony

MoU Memorandum of Understanding (GSM operator joint)

MT Mobile Termination

MTU Maximum Transfer Unit

NB-IoT NarrowBand Internet of Things

NG-RAN Next Generation Radio Access Network

NSLPI NAS Signalling Low Priority Indication

PCCA Portable Computer and Communications Association

PTT Push to Talk

RDI Restricted Digital Information

RLP Radio Link Protocol

RSN Redundancy Sequence Number

SIM Subscriber Identity Module

TA Terminal Adaptor, e.g. a GSM data card (equal to DCE; Data Circuit terminating Equipment)

TE Terminal Equipment, e.g. a computer (equal to DTE; Data Terminal Equipment)

TIA Telecommunications Industry Association

UDI Unrestricted Digital Information

UE User Equipment

UICC Universal Integrated Circuit Card

USAT USIM Application Toolkit

USIM Universal Subscriber Identity Module

VAE V2X Application Enabler

VBS Voice Broadcast Service

VGCS Voice Group Call Service

\*\*\* Second change \*\*\*

### 10.1.23 PDP context read dynamic parameters +CGCONTRDP

Table 10.1.23-1: +CGCONTRDP action command syntax

|  |  |
| --- | --- |
| Command | Possible response(s) |
| +CGCONTRDP[=<cid>] | [+CGCONTRDP: <cid>,<bearer\_id>,<apn>[,<local\_addr and subnet\_mask>[,<gw\_addr>[,<DNS\_prim\_addr>[,<DNS\_sec\_addr>[,<P-CSCF\_prim\_addr>[,<P-CSCF\_sec\_addr>[,<IM\_CN\_Signalling\_Flag>[,<LIPA\_indication>[,<IPv4\_MTU>[,<WLAN\_Offload>[,<Local\_Addr\_Ind>[,<Non-IP\_MTU>[,<Serving\_PLMN\_rate\_control\_value>[,<Reliable\_Data\_Service>[,<PS\_Data\_Off\_Support>[,<PDU\_session\_id>,<QFI>[,<SSC\_mode>[,<S-NSSAI>[,<Access\_type>[,<RQ\_timer>[,<Always-on\_ind>[,<Ethernet\_MTU>[,<Unstructured\_Link\_MTU>[,<PDP\_type>[,<EDC\_policy\_ind>]]]]]]]]]]]]]]]]]]]]]]]]]]  [<CR><LF>+CGCONTRDP: <cid>,<bearer\_id>,<apn>[,<local\_addr and subnet\_mask>[,<gw\_addr>[,<DNS\_prim\_addr>[,<DNS\_sec\_addr>[,<P-CSCF\_prim\_addr>[,<P-CSCF\_sec\_addr>[,<IM\_CN\_Signalling\_Flag>[,<LIPA\_indication>[,<IPv4\_MTU>[,<WLAN\_Offload>[,<Local\_Addr\_Ind>[,<Non-IP\_MTU>[,<Serving\_PLMN\_rate\_control\_value>[,<Reliable\_Data\_Service>[,<PS\_Data\_Off\_Support>[,<PDU\_session\_id>,<QFI>[,<SSC\_mode>[,<S-NSSAI>[,<Access\_type>[,<RQ\_timer>[,<Always-on\_ind>[,<Ethernet\_MTU>[,<Unstructured\_Link\_MTU>[,<PDP\_type>[,<EDC\_policy\_ind>]]]]]]]]]]]]]]]]]]]]]]]]]  [...]] |
| +CGCONTRDP=? | +CGCONTRDP: (list of <cid>s associated with active contexts) |
| NOTE: The syntax of the AT Set Command is corrected to be according to ITU‑T Recommendation V.250 [14]. Older versions of the specification specify incorrect syntax +CGCONTRDP=[<cid>] | |

**Description**

The execution command returns the relevant information <bearer\_id>, <apn>, <local\_addr and subnet\_mask>, <gw\_addr>, <DNS\_prim\_addr>, <DNS\_sec\_addr>, <P-CSCF\_prim\_addr>, <P-CSCF\_sec\_addr>, <IM\_CN\_Signalling\_Flag>, <LIPA\_indication>, <IPv4\_MTU>, <WLAN\_Offload>, <Non-IP\_MTU>, <Serving\_PLMN\_rate\_control\_value>, <Reliable\_Data\_Service>, <PS\_Data\_Off\_Support>, <PDU\_session\_id>, <QFI>, <SSC\_mode>, <S-NSSAI>, <Access\_type>, <RQ\_timer>, <Always-on\_ind> PDP\_type> and <EDC\_policy\_ind> for an active non secondary PDP context or a QoS flow of the default QoS rule with the context identifier <cid>.

If the MT indicates more than two IP addresses of P-CSCF servers or more than two IP addresses of DNS servers, multiple lines of information per <cid> will be returned.

If the MT has dual stack capabilities, at least one pair of lines with information is returned per <cid>. First one line with the IPv4 parameters followed by one line with the IPv6 parameters. If this MT with dual stack capabilities indicates more than two IP addresses of P-CSCF servers or more than two IP addresses of DNS servers, multiple of such pairs of lines are returned.

NOTE: If the MT doesn't have all the IP addresses to be included in a line, e.g. in case the UE received four IP addresses of DNS servers and two IP addresses of P-CSCF servers, the parameter value representing an IP address that can not be populated is set to an empty string or an absent string.

If the parameter <cid> is omitted, the relevant information for all active non secondary PDP contexts is returned.

The test command returns a list of <cid>s associated with active non secondary contexts.

**Defined values**

<cid>: integer type; specifies a particular non secondary PDP context definition. The parameter is local to the TE-MT interface and is used in other PDP context-related commands (see the +CGDCONT and +CGDSCONT commands).

<bearer\_id>: integer type; identifies the bearer, i.e. the EPS bearer and the NSAPI.

<apn>: string type; a logical name that was used to select the GGSN or the external packet data network.

<local\_addr and subnet\_mask>: string type; shows the IP address and subnet mask of the MT. The string is given as dot-separated numeric (0-255) parameters on the form:

"a1.a2.a3.a4.m1.m2.m3.m4" for IPv4 or  
"a1.a2.a3.a4.a5.a6.a7.a8.a9.a10.a11.a12.a13.a14.a15.a16.m1.m2.m3.m4.m5.m6.m7.m8.m9.m10.m11.m12.m13.m14.m15.m16" for IPv6.

When +CGPIAF is supported, its settings can influence the format of this parameter returned with the execute form of +CGCONTRDP.

<gw\_addr>: string type; shows the Gateway Address of the MT. The string is given as dot-separated numeric (0-255) parameters.   
  
When +CGPIAF is supported, its settings can influence the format of this parameter returned with the execute form of +CGCONTRDP.

<DNS\_prim\_addr>: string type; shows the IP address of the primary DNS server.

When +CGPIAF is supported, its settings can influence the format of this parameter returned with the execute form of +CGCONTRDP.

<DNS\_sec\_addr>: string type; shows the IP address of the secondary DNS server.

When +CGPIAF is supported, its settings can influence the format of this parameter returned with the execute form of +CGCONTRDP.

<P\_CSCF\_prim\_addr>: string type; shows the IP address of the primary P-CSCF server.

When +CGPIAF is supported, its settings can influence the format of this parameter returned with the execute form of +CGCONTRDP.

<P\_CSCF\_sec\_addr>: string type; shows the IP address of the secondary P-CSCF server.

When +CGPIAF is supported, its settings can influence the format of this parameter returned with the execute form of +CGCONTRDP.

<IM\_CN\_Signalling\_Flag>: integer type; shows whether the PDP context is for IM CN subsystem-related signalling only or not.

0 PDP context is not for IM CN subsystem-related signalling only

1 PDP context is for IM CN subsystem-related signalling only

<LIPA\_indication>: integer type; indicates that the PDP context provides connectivity using a LIPA PDN connection. This parameter cannot be set by the TE.

0 indication not received that the PDP context provides connectivity using a LIPA PDN connection

1 indication received that the PDP context provides connectivity using a LIPA PDN connection

<IPv4\_MTU>: integer type; shows the IPv4 MTU size in octets.

<WLAN\_Offload>: integer type; indicates whether traffic can be offloaded using the specified PDN connection via a WLAN or not. This refers to bits 1 and 2 of the WLAN offload acceptability IE as specified in 3GPP TS 24.008 [8] clause 10.5.6.20.

0 offloading the traffic of the PDN connection via a WLAN when in S1 mode or when in Iu mode is not acceptable.

1 offloading the traffic of the PDN connection via a WLAN when in S1 mode is acceptable, but not acceptable in Iu mode.

2 offloading the traffic of the PDN connection via a WLAN when in Iu mode is acceptable, but not acceptable in S1 mode.

3 offloading the traffic of the PDN connection via a WLAN when in S1 mode or when in Iu mode is acceptable.

<Local\_Addr\_Ind>: integer type; indicates whether or not the MS and the network support local IP address in TFTs (see 3GPP TS 24.301 [83] and 3GPP TS 24.008 [8] clause 10.5.6.3).

0 indicates that the MS or the network or both do not support local IP address in TFTs

1 indicates that the MS and the network support local IP address in TFTs

<Non-IP\_MTU>: integer type; shows the Non-IP MTU size in octets.

<Serving\_PLMN\_rate\_control\_value>: integer type; indicates the maximum number of uplink messages the UE is allowed to send in a 6 minute interval. This refers to octet 3 to 4 of the Serving PLMN rate control IE as specified in 3GPP TS 24.301 [8] clause 9.9.4.28.

<Reliable\_Data\_Service>: integer type; indicates whether the UE is using Reliable Data Service for a PDN connection or not, see 3GPP TS 24.301 [83] and 3GPP TS 24.008 [8] clause 10.5.6.3.

0 Reliable Data Service is not being used for the PDN connection

1 Reliable Data Service is being used for the PDN connection

<PS\_Data\_Off\_Support>: integer type; indicates whether the network supports PS data off or not, see 3GPP TS 24.008 [8] clause 4.7.1.10 and 3GPP TS 24.301 [83] clause 6.3.10.

0 indicates that the network does not support PS data off

1 indicates that the network supports PS data off

<PDU\_session\_id>: integer type; identifies the PDU session, see 3GPP TS 24.501 [161].

<QFI>: integer type; identifies the QoS flow, see 3GPP TS 24.501 [161].

<SSC\_mode>: integer type; indicates the session and service continuity (SSC) mode for the PDU session in 5GS, see 3GPP TS 23.501 [165].

0 indicates that the PDU session is associated with SSC mode 1

1 indicates that the PDU session is associated with SSC mode 2

2 indicates that the PDU session is associated with SSC mode 3

<S-NSSAI>: string type in hexadecimal format. Dependent of the form, the string can be separated by dot(s) and semicolon(s). The S-NSSAI is associated with the PDU session for identifying a network slice in 5GS, see 3GPP TS 23.501 [165] and 3GPP TS 24.501 [161]. Refer parameter <S-NSSAI> in clause 10.1.1. This parameter shall not be subject to conventional character conversion as per +CSCS.

<Access\_type>: integer type; indicates the access type over which the PDU session is established in 5GS, see 3GPP TS 23.501 [165] and 3GPP TS 24.501 [161].

0 indicates that the established PDU is associated with 3GPP access

1 indicates that the established PDU is associated with non-3GPP access

<RQ\_timer>: integer type; indicates the timer value in seconds for reflective QoS, see 3GPP TS 23.501 [165] and 3GPP TS 24.501 [161].

<Always-on\_ind>: integer type; indicates whether the PDU session is an always-on PDU session, see 3GPP TS 24.501 [161].

0 indicates that the PDU session is not an always-on PDU session

1 indicates that the PDU session is an always-on PDU session

<Ethernet\_MTU>: integer type; shows the Ethernet frame payload MTU size in octets.

<Unstructure\_Link\_MTU>: integer type; shows the unstructured link MTU size in octets.

<PDP\_type>: string type; indicates the type of packet data protocol (see the +CGDCONT command)

<EDC\_policy\_ind>: integer type; indicates whether the network allows EDC for the PDU session or the network requires EDC for the PDU session, see 3GPP TS 24.501 [161].

0 indicates that the EDC is allowed for the PDU session

1 indicates that the EDC is required for the PDU session

**Implementation**

Optional.

\*\*\* End of changes \*\*\*