**3GPP TSG-CT WG1 Meeting #136-eC1-223643**

**E-Meeting, 12th – 20th May 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **27.007** | **CR** | **0779** | **rev** | **-** | **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 | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** | Correction on AT command +C5GURSPQRY | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17 | | | | |  | ***Date:*** | | | 2022-05-01 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | There are some inappropriate definitions about AT command +C5GURSPQRY. Inappropriate definitions are:   1. snssai: the original intention is a list of S-NSSAI, but from snssai it seems only a single S-NSSAI. Hence, “snssai” is changed to be “NSSAI”; 2. Connection\_capabilities is a bitmap data type: acctually, it is not. See current spec TS 24.526; 3. Location\_criteria\_type is an integer date type. it is not, from TS 24.526, location criterion type is encoded as a list of location area, and each location area is encoded as list of cell id or GNB id. So it is better to call it a string data type. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Change snssai to be NSSAI; 2. Remove the bitmap description about Connection\_capabilities; 3. Correction the description about Location\_criteria\_type. | | | | | | | | |
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| ***Consequences if not approved:*** | | Inappropriate or incorrect definitions exists in AT command +C5GURSPQRY. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.1.75 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\*\*\*

### 10.1.75 5GS URSP query +C5GURSPQRY

Table 10.1.75-1: +C5GURSPQRY parameter command syntax

|  |  |
| --- | --- |
| Command | Possible response(s) |
| +C5GURSPQRY=[<APPID>][,<OSID&APPID>][,<DNNs>][,<FQDN>][,<Connection\_capabilities>][,<remote\_ipv4\_address\_and\_mask>][,<remote\_ipv6\_address\_and\_prefix\_length>][,<protocol number (ipv4)/next header (ipv6)>][,<single\_remote\_port>][,<remote port range>][,<security para index>][,<type of service (tos) (ipv4) and mask / traffic class (ipv6) and mask>][,<flow label>][,<ether\_type>][,<destination\_mac\_address>][,<cTagVid>][,<sTagVid>][,<cTagPcpDei>][,<sTagPcpDei>][,<Regular\_expression>] | +C5GURSPQRY: [<ursp\_rule\_type>],[<ursp\_rule\_precedence>],[<route\_selection\_descriptor\_precedence>],[<SSC\_mode>],[<NSSAI>],[<DNNs>],[<pdp\_type>],[<preferred\_access\_type>],[<Non-seamless\_non-3GPP\_offload\_indication>],[<Location\_criteria\_type>],[<Time\_window\_type>]  [<CR><LF>+C5GURSPQRY: [<ursp\_rule\_type>],[<ursp\_rule\_precedence>],[<route\_selection\_descriptor\_precedence>],[<SSC\_mode>],[<NSSAI>],[<DNNs>],[<pdp\_type>],[<preferred\_access\_type>],[<Non-seamless\_non-3GPP\_offload\_indication>],[<Location\_criteria\_type>],[<Time\_window\_type>]  […]] |
| +C5GURSPQRY? | +C5GURSPQRY: [<ursp\_rule\_type>],[<ursp\_rule\_precedence>],[<APPID>],[<OSID&APPID>],[<DNNs>],[<FQDN>],[<Connection\_capabilities>],[<remote\_ipv4\_address\_and\_mask>],[<remote\_ipv6\_address\_and\_prefix\_length>],[<protocol number (ipv4)/next header (ipv6)>],[<single\_remote\_port>],[<remote port range>],[<security para index>],[<type of service (tos) (ipv4) and mask / traffic class (ipv6) and mask>],[<flow label>],[<ether\_type>],[<destination\_mac\_address>],[<cTagVid>],[<sTagVid>],[<cTagPcpDei>],[<sTagPcpDei>],[<Regular\_expression>],[<route\_selection\_descriptor\_precedence>],[<SSC\_mode>],[<NSSAI>],[<DNNs>],[<pdp\_type>],[<preferred\_access\_type>],[<Non-seamless\_non-3GPP\_offload\_indication>],[<Location\_criteria\_type>],[<Time\_window\_type>]  [<CR><LF>+C5GURSPQRY: [<ursp\_rule\_type>],[<ursp\_rule\_precedence>],[<APPID>],[<OSID&APPID>],[<DNNs>],[<FQDN>],[<Connection\_capabilities>],[<remote\_ipv4\_address\_and\_mask>],[<remote\_ipv6\_address\_and\_prefix\_length>],[<protocol number (ipv4)/next header (ipv6)>],[<single\_remote\_port>],[<remote port range>],[<security para index>],[<type of service (tos) (ipv4) and mask / traffic class (ipv6) and mask>],[<flow label>],[<ether\_type>],[<destination\_mac\_address>],[<cTagVid>],[<sTagVid>],[<cTagPcpDei>],[<sTagPcpDei>],[<Regular\_expression>],[<route\_selection\_descriptor\_precedence>],[<SSC\_mode>],[<NSSAI>],[<DNNs>],[<pdp\_type>],[<preferred\_access\_type>],[<Non-seamless\_non-3GPP\_offload\_indication>],[<Location\_criteria\_type>],[<Time\_window\_type>]  […]] |
| +C5GURSPQRY=? | +C5GURSPQRY: (list of supported<Connection\_capabilities>s),(list of supported <remote\_ipv4\_address\_and\_mask>s),(list of supported <remote\_ipv6\_address\_and\_prefix\_length>s),(list of supported <protocol number (ipv4) / next header (ipv6)>s),(list of supported<single\_remote\_port>s),(list of supported<remote port range>s),(list of supported<security para index>s),(list of supported< type of service (tos) (ipv4) and mask / traffic class (ipv6) and mask>s),(list of supported<flow label>s),(list of supported<ether\_type>s),(list of supported<destination\_mac\_address>s),(list of supported<cTagVid>s),(list of supported<sTagVid>s),(list of supported<cTagPcpDei>s),(list of supported<sTagPcpDei>s) |

**Description**

The set command is used to request the MT to return all the route selection descriptors for the URSP rules with different precedence values matching the traffic descriptor indicated by the input parameters in <APPID>,<OSID&APPID>,<DNNs>,<FQDN>,<Connection\_capabilities>,<remote\_ipv4\_address\_and\_mask>,<remote\_ipv6\_address\_and\_prefix\_length>,<protocol number (ipv4)/next header (ipv6)>,<single\_remote\_port>,<remote port range>,<security para index>,<type of service (tos) (ipv4) and mask / traffic class (ipv6) and mask>,<flow label>,<ether\_type>,<destination\_mac\_address>,<cTagVid>,<sTagVid>,<cTagPcpDei>,<sTagPcpDei>,<Regular\_expression>.

A special form of the set command can be given as +C5GURSPQRY=. This form can be used as Match-all type to request the MT to return the default URSP rule.

The read command is used to return all of the URSP rules stored at MT.

Test command returns values supported as compound values.

**Defined values**

<APPID>: string type. Indicates an application.

<OSID&APPID>: string type. Indicates an operating system and an associated application.

<DNNs>: string type. The string can be separated by semicolon(s), indicates the list of <DNN> referred in clause 10.1.57.

<FQDN>: string type. Indicates a fully qualified Domain Name.

<Connection\_capabilities>: integer type. A decimal value indicates the connection's supported services according to Table 5.2.1 of TS 24.526 [180].

<remote\_ipv4\_address\_and\_mask>: string type. The string is given as dot-separated numeric (0-255) parameters which indicates a remote IPv4 address and the associated mask, on the form of "a1.a2.a3.a4.m1.m2.m3.m4".

<remote\_ipv6\_address\_and\_prefix\_length>: string type. The string is given as dot-separated numeric (0-255) parameters which indicates a remote IPv6 address and the associated length of the prefix, on the form of "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".

When +CGPIAF is supported, its settings can influence the format of this parameter returned with the read form of +C5GURSPQRY.

<protocol number (ipv4) / next header (ipv6)>: integer type. Value range is from 0 to 255.

<single\_remote\_port>: integer type. Value range is from 0 to 65535.

<remote port range>: string type. The string is given as dot-separated numeric (0-65535) parameters on the form "f.t".

<security para index>: numeric value in hexadecimal format. Value range is from 00000000 to FFFFFFFF.

<type of service (tos) (ipv4) and mask/traffic class (ipv6) and mask>: string type. The string is given as dot-separated numeric (0-255) parameters on the form "t.m".

<flow label>: numeric value in hexadecimal format. The value range is from 00000 to FFFFF. Valid for IPv6 only.

<ether\_type>: integer type. Value range is from 0 to 65535

<destination\_mac\_address>: string type, on the form of "a1.a2.a3.a4.a5.a6".

<cTagVid>: integer type. See IEEE 802.1Q [181].

<sTagVid>: integer type. See IEEE 802.1Q [181].

<cTagPcpDei>: integer type. See IEEE 802.1Q [181].

<sTagPcpDei>: integer type. See IEEE 802.1Q [181].

<Regular\_expression>: string type. The regular expression value field shall take the form of Extended Regular xpressions (ERE) as defined in chapter 9 in IEEE 1003.1-2004 Part 1 [182].

<ursp\_rule\_type>: integer type. Indicates if the type of the URSP rule.

0 non-default URSP rule

1 default URSP rule

<ursp\_rule\_precedence>: integer type. Indicates the precedence of the URSP rule.

<route\_selection\_descriptor\_precedence>: Indicates the precedence of the route selection descriptor.

<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

<NSSAI>: string type in hexadecimal character format. Dependent of the form, the string can be separated by dot(s), semicolon(s) and colon(s). The <NSSAI> is coded as a list of <S-NSSAI>s separated by colons. This parameter shall not be subject to conventional character conversion as per +CSCS. The <S-NSSAI> has one of the forms:

sst only slice/service type (SST) is present  
sst;mapped\_sst SST and mapped configured SST are present  
sst.sd SST and slice differentiator (SD) are present  
sst.sd;mapped\_sst SST, SD and mapped configured SST are present  
sst.sd;mapped\_sst.mapped\_sd SST, SD, mapped configured SST and mapped configured SD are present

<pdp\_type>: string type. Indicates the type of the PDU session. Specifies the type of packet data protocol.

IP Internet Protocol (IETF STD 5 [103]). Indicates that the PDU session type is IPv4 only

IPv6 Internet Protocol, version 6 (see RFC 2460 [106]). Indicates that the PDU session type is IPv6 only

IPv4v6 Virtual <PDP\_type> introduced to handle dual IP stack UE capability. (See 3GPP TS 24.301 [83]). Indicates that the PDU session type is IPv4v6

Unstructured Transfer of Unstructured data to the Data Network via N6 (see 3GPP TS 23.501 [165]). Indicatesthat the PDU session type is Unstructured only

Ethernet Ethernet protocol (IEEE 802.3). Indicates that the PDU session type is Ethernet only

<preferred\_access\_type>: integer type. Indicates the preferred access type for the PDU session in 5GS, see 3GPP TS 24.526 [180].

0 indicates that the preferred access type is 3GPP access

1 indicates that the preferred access type is non-3GPP access

<Non-seamless\_non-3GPP\_offload\_indication>: integer type.

0 indicates that the non-seamless non-3GPP offload is invalid

1 indicates that the non-seamless non-3GPP offload is valid

<Location\_criteria\_type>: string type. The route selection descriptor component value field may contain one or more types of location area and is encoded as shown in Figure 5.2.5 and Table 5.2.2 of 3GPP TS 24.526 [180].

<Time\_window\_type>: string type. The Time window type value field shall be encoded as a sequence of a Starttime field followed by a Stoptime field. The Starttime field is represented by the number of seconds since 00:00:00 on 1 January 1970 and is encoded as the 64-bit NTP timestamp format defined in RFC 5905 [183], where binary encoding of the integer part is in the first 32 bits and binary encoding of the fraction part in the last 32 bits. The encoding of the Stoptime field is the same as the Starttime field. The Starttime field and the Stoptime field are separated by a dot.

**Implementation**

Optional.

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