**3GPP TSG-CT WG1 Meeting #131-eC1-2XXX**

**Electronic meeting, 19 – 27 Aug 2021 *was C1-214620 was C1-213741***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **27.007** | **CR** | **0730** | **rev** | **3** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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:*** | AT command for URSP | | | | | | | | | | |
|  |  | | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | | |
|  |  | | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17 | | | | | |  | ***Date:*** | | | 2021-08-12 |
|  |  | | | | |  | |  | | |  |
| ***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:*** | | | As the following text quoted from the clause 4.1 of TS 24.526 specified, the URSP can be delivered from the PCF, and also can be pre-configured in UE.  *The UE policies can be delivered from the PCF to the UE. The UE policy delivery procedure is specified in 3GPP TS 24.501 [11].*  *The UE policies can also be pre-configured in the UE. The pre-configured policy shall be applied by the UE only when the UE has not received the same type of policy from the PCF. The implementation of pre-configured UE policies is out of scope of this specification.*  There is only AT command (i.e., +CRUEPOLICY) for processing the URSP received from network, see the following text quoted from clause 10.1.51 of TS 24.502, but no AT command for processing the URSP pre-configured in UE. It is proposed to add a new AT command, so that UE can check if there is matched pre-configured URSP when there is no signaled URSP.  *The set command controls the presentation of policy information to the TE by an unsolicited result code +CRUEPOLICY: <UE\_policy\_section\_management\_list\_length>,<UE\_policy\_section\_management\_list> when policy information is received from the network.* | | | | | | | | |
|  | |  | | | | | | | | | |
| ***Summary of change:*** | | New AT command for processing the pre-configured URSP | | | | | | | | | |
|  | |  | | | | | | | | | |
| ***Consequences if not approved:*** | | No AT command to check the pre-configured URSP | | | | | | | | | |
|  | |  | | | | | | | | | |
| ***Clauses affected:*** | | 2, 10.1.X | | | | | | | | | |
|  | |  | | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | | |

\*\*\*\*\* start of 1st 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 TS 22.002: "Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".

[2] 3GPP TS 22.003: "Teleservices supported by a GSM Public Land Mobile Network (PLMN)".

[3] 3GPP TS 22.081: "Line identification supplementary services ‑ Stage 1".

[4] 3GPP TS 22.082: "Call Forwarding (CF) supplementary services ‑ Stage 1".

[5] 3GPP TS 22.083: "Call Waiting (CW) and Call Hold (HOLD) supplementary services ‑ Stage 1".

[6] 3GPP TS 22.088: "Call Barring (CB) supplementary services ‑ Stage 1".

[7] 3GPP TS 23.003: "Numbering, addressing and identification".

[8] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols-Stage 3".

[9] GSM MoU SE.13, GSM MoU Permanent Reference Document SE.13: "GSM Mobile Network Codes and Names".

[10] ITU‑T Recommendation E.212: "Identification plan for land mobile stations".

[11] ITU‑T Recommendation T.31: "Asynchronous facsimile DCE control, service class 1".

[12] ITU‑T Recommendation T.32: "Asynchronous facsimile DCE control, service class 2".

[13] ITU‑T Recommendation T.50: "International Reference Alphabet (IRA) (Formerly International Alphabet No. 5 or IA5) ‑ Information technology ‑ 7‑bit coded character set for information exchange".

[14] ITU‑T Recommendation V.250: "Serial asynchronous automatic dialling and control".

[15] TIA IS‑99: "Data Services Option Standard for Wideband Spread Spectrum Digital Cellular System".

[16] TIA IS‑135: "800 MHz Cellular Systems, TDMA Services, Async Data and Fax".

[17] PCCA STD‑101 Data Transmission Systems and Equipment: "Serial Asynchronous Automatic Dialling and Control for Character Mode DCE on Wireless Data Services".

[18] 3GPP TS 24.022: "Radio Link Protocol (RLP) for data and telematic services on the Mobile Station ‑ Base Station System (MS ‑ BSS) interface and the Base Station System ‑ Mobile‑services Switching Centre (BSS ‑ MSC) interface".

[19] 3GPP TS 22.030: "Man Machine Interface (MMI) of the Mobile Station (MS)".

[20] 3GPP TS 45.008: "Radio subsystem link control".

[21] 3GPP TS 22.085: "Closed User Group (CUG) supplementary services ‑ Stage 1".

[22] 3GPP TS 22.084: "MultiParty (MPTY) supplementary services ‑ Stage 1".

[23] 3GPP TS 22.090: "Unstructured Supplementary Service Data (USSD) ‑ Stage 1".

[24] 3GPP TS 27.005: "Use of Data Terminal Equipment ‑ Data Circuit terminating Equipment (DTE ‑ DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)".

[25] 3GPP TS 23.038: "Alphabet and language specific information".

[26] 3GPP TS 22.024: "Description of Charge Advice Information (CAI)".

[27] 3GPP TS 22.086: "Advice of Charge (AoC) supplementary services ‑ Stage 1".

[28] 3GPP TS 51.011: "Specification of the Subscriber Identity Module ‑ Mobile Equipment (SIM‑ME) interface".

[29] 3GPP TS 22.034: "High Speed Circuit Switched Data (HSCSD) - Stage 1".

[30] 3GPP TS 22.091: "Explicit Call Transfer (ECT) supplementary service - Stage 1".

[31] 3GPP TS 22.072: "Call Deflection (CD) supplementary service - Stage 1".

[32] ISO/IEC 10646: "Universal Multiple-Octet Coded Character Set (UCS)"; UCS2, 16 bit coding.

[33] 3GPP TS 22.022: "Personalization of GSM Mobile Equipment (ME) Mobile functionality specification".

[34] 3GPP TS 27.060: "General requirements on Mobile Stations (MS) supporting General Packet Radio Bearer Service (GPRS)".

[35] Void.

[36] CCITT Recommendation V.120: "Support by an ISDN of data terminal equipment with V-Series type interfaces with provision for statistical multiplexing".

[37] Void.

[38] 3GPP TS 45.005: "Radio transmission and reception".

[39] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting GPRS and Packet Data Networks (PDN)".

[40] 3GPP TS 23.081: "Line identification supplementary services ‑ Stage 2".

[41] 3GPP TS 27.001: "General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

[42] 3GPP TS 29.007: "General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".

[43] Infrared Data Association; Specification of Ir Mobile Communications (IrMC).

[44] IrDA Object Exchange Protocol.

[45] 3GPP TS 27.010: "Terminal Equipment to User Equipment (TE-UE) multiplexer protocol User Equipment (UE)".

[46] 3GPP TS 23.107: "Quality of Service, Concept and Architecture".

[47] 3GPP TS 23.060: "General Packet Radio Service (GPRS) Service description; Stage 2".

[48] Void.

[49] 3GPP TS 43.068: "Voice Group Call service (VGCS) - Stage 2".

[50] 3GPP TS 43.069: "Voice Broadcast Service (VBS) - Stage 2".

[51] Void.

[52] 3GPP TS 44.068: "Voice Group Call service (VGCS) - Stage 3".

[53] 3GPP TS 44.069: "Voice Broadcast Service (VBS) - Stage 3".

[54] 3GPP TS 22.067: "enhanced Multi‑Level Precedence and Pre‑emption service (eMLPP) ‑ Stage 1".

[55] 3GPP TS 42.068: "Voice Group Call service (VGCS) - Stage 1".

[56] 3GPP TS 42.069: "Voice Broadcast Service (VBS) - Stage 1".

[57] Void.

[58] 3GPP TS 22.087: "User-to-User Signalling (UUS) - Stage 1".

[59] 3GPP TS 31.102: "Characteristics of the Universal Subscriber Identity Module (USIM) Application".

[60] ETSI TS 102 221 "Smart Cards; UICC-Terminal interface; Physical and logical characteristics (Release 1999)".

[61] 3GPP TS 44.065: "Mobile Station (MS) – Serving GPRS Support Node (SGSN); Subnetwork Dependent Convergence Protocol (SNDCP)".

[62] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP)".

[63] 3GPP TS 23.227 "Applications and User interaction in the UE-Principles and specific requirements", Release 5.

[64] Void.

[65] 3GPP TS 31.101: "UICC-Terminal Interface; Physical and Logical Characteristics."

[66] ETSI TS 102 310: "Smart Cards; Extensible Authentication Protocol support in the UICC".

[67] Void.

[68] RFC 3748: "Extensible Authentication Protocol (EAP)".

[69] RFC 3629: "UTF-8, a transformation format of ISO 10646".

[70] 3GPP TS 44.318: "Generic Access (GA) to the A/Gb interface; Mobile GA interface layer 3 specification".

[71] 3GPP TS 44.060: "General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/Medium Access Control (RLC/MAC) protocol".

[72] 3GPP TS 25.308: "High Speed Downlink Packet Access (HSDPA): Overall Description; Stage 2".

[73] 3GPP TS 25.319: "Enhanced Uplink; Overall Description; Stage 2".

[74] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[75] 3GPP TS 24.216: "Communication Continuity Management Object (MO)".

[76] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[77] 3GPP TS 25.305 "User Equipment (UE) positioning in Universal Terrestrial Radio Access Network (UTRAN); Stage 2".

[78] IEC 61162: "Maritime navigation and radio communication equipment and systems – Digital interfaces".

[79] 3GPP TS 44.031: "Location Services (LCS); Mobile Station (MS) - Serving Mobile Location Centre (SMLC), Radio Resource LCS Protocol (RRLP)".

[80] 3GPP TS 49.031: "Base Station System Application Part, LCS Extension (BSSAP-LE)".

[81] Void.

[82] 3GPP TS 23.401: "GPRS enhancements for E-UTRAN access".

[83] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS)".

[84] Void.

[85] 3GPP TS 23.203: "Policy and charging control architecture".

[86] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[87] 3GPP TS 24.173: "IMS multimedia telephony communication service and supplementary services; Stage 3".

[88] RFC 4291: "IP Version 6 Addressing Architecture".

[89] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP)".

[90] 3GPP TS 23.221: "Architectural requirements".

[91] 3GPP TS 24.237: "IP Multimedia Subsystem (IMS) Service Continuity".

[92] 3GPP TS 31.111: "Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)".

[93] 3GPP TS 22.096: "Name identification supplementary services ‑ Stage 1".

[94] 3GPP TS 23.096: "Name identification supplementary services ‑ Stage 2".

[95] 3GPP TS 25.133: "Requirements for support of radio resource management (FDD)".

[96] 3GPP TS 25.123: "Requirements for support of radio resource management (TDD)".

[97] 3GPP TS 36.133: "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management".

[98] 3GPP TS 31.102: "Characteristics of the Universal Subscriber Identity Module (USIM) application".

[99] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[100] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[101] 3GPP TS 24.341: "Support of SMS over IP networks".

[102] 3GPP TS 24.167: "3GPP IMS Management Object (MO); Stage 3".

[103] IETF STD 5: "Internet Protocol".

[104] IETF STD 51: "The Point-to-Point Protocol (PPP)".

[105] RFC 1144: "Compressing TCP/IP Headers for Low-Speed Serial Links".

[106] RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification".

[107] RFC 2507: "IP Header Compression".

[108] RFC 3095: "RObust Header Compression (ROHC): Framework and four profiles: RTP, UDP, ESP, and uncompressed".

[109] 3GPP TS 24.080: "Mobile radio interface Layer 3 supplementary service specification; Formats and coding".

[110] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[111] RFC 3261: "SIP: Session Initiation Protocol".

[112] RFC 3966: "The tel URI for Telephone Numbers".

[113] RFC 3969: "The Internet Assigned Number Authority (IANA) Uniform Resource Identifier (URI) Parameter Registryfor the Session Initiation Protocol (SIP)".

[114] RFC 5341: "The Internet Assigned Number Authority (IANA) tel Uniform Resource Identifier (URI) Parameter Registry".

[115] 3GPP TS 36.355: "Evolved Universal Terrestrial Radio Access (E-UTRA); LTE Positioning Protocol (LPP)".

[116] RFC 2141: "URN Syntax".

[117] RFC 3406: "Uniform Resource Names (URN) Namespace Definition Mechanisms".

[118] RFC 5031: "A Uniform Resource Name (URN) for Emergency and Other Well-Known Services".

[119] 3GPP TS 24.607: "Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[120] 3GPP TS 24.608: "Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[121] 3GPP TS 24.654: "Closed User Group (CUG) using IP Multimedia (IM) Core Network (CN) subsystem, Protocol Specification".

[122] RFC 4715: "The Integrated Services Digital Network (ISDN) Subaddress Encoding Type for tel URI".

[123] 3GPP TS 22.093: "Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1".

[124] 3GPP TS 22.094: "Follow Me service description; Stage 1".

[125] 3GPP TS 22.097: "Multiple Subscriber Profile (MSP) Phase 2; Service description; Stage 1".

[126] 3GPP TS 22.135: "Multicall; Service description; Stage 1".

[127] 3GPP TS 24.182: "IP Multimedia Subsystem (IMS) Customized Alerting Tones (CAT); Protocol specification".

[128] 3GPP TS 24.183: "IP Multimedia Subsystem (IMS) Customized Ringing Signal (CRS); Protocol specification".

[129] 3GPP TS 24.239: "Flexible Alerting (FA) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[130] 3GPP TS 24.259: "Personal Network Management (PNM)".

[131] 3GPP TS 24.390: "Unstructured Supplementary Service Data (USSD) using IP Multimedia (IM) Core Network (CN) subsystem IMS".

[131a] 3GPP TS 24.526: "User Equipment (UE) policies for 5G System (5GS)".

[132] 3GPP TS 24.604: "Communication Diversion (CDIV) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[133] 3GPP TS 24.605: "Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[134] 3GPP TS 24.606: "Message Waiting Indication (MWI) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[135] 3GPP TS 24.610: "Communication HOLD (HOLD) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[136] 3GPP TS 24.611: "Anonymous Communication Rejection (ACR) and Communication Barring (CB) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[137] 3GPP TS 24.615: "Communication Waiting (CW) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol Specification".

[138] 3GPP TS 24.616: "Malicious Communication Identification (MCID) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[139] 3GPP TS 24.629: "Explicit Communication Transfer (ECT) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[140] 3GPP TS 24.642: "Completion of Communications to Busy Subscriber (CCBS) and Completion of Communications by No Reply (CCNR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[141] 3GPP TS 24.647: "Advice Of Charge (AOC) using IP Multimedia (IM) Core Network (CN) subsystem".

[142] 3GPP TS 36.509: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Special conformance testing functions for User Equipment (UE)".

[143] 3GPP TS 25.102: "Multiplexing and channel coding (TDD)".

[144] 3GPP TS 25.212: "Multiplexing and channel coding (FDD)".

[145] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description".

[146] 3GPP TS 45.001: "Physical layer on the radio path; General description".

[147] 3GPP TS 22.101: "Service aspects; Service principles".

[148] 3GPP TS 24.090: "Unstructured Supplementary Service Data (USSD); Stage 3".

[149] 3GPP TS 23.682: "Architecture Enhancements to facilitate communications with Packet Data Networks and Applications".

[150] 3GPP TS 36.443: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); M2 Application Protocol (M2AP)".

[151] Wi-Fi Alliance: "Hotspot 2.0 (Release 2) Technical Specification, version 1.0.0", 2014-08-08.

[152] IEEE Std 802.11™-2012: "Information Technology- Telecommunications and information exchange between systems-Local and metropolitan area networks-Specific requirements-Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications".

[152a] IEEE Std 802.1Q-2018: "IEEE Standard for Local and Metropolitan Area Networks—Bridges and Bridged Networks".

[153] 3GPP TS 24.312: "Access Network Discovery and Selection Function (ANDSF) Management Object (MO)".

[154] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception".

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

[156] 3GPP TS 44.018: "GSM/EDGE Radio Resource Control (RRC) protocol".

[157] CEN EN 15722:2015 (April 2015): "Intelligent transport systems - ESafety - ECall minimum set of data".

[158] 3GPP TS 36.321: "Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC) protocol specification".

[159] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description".

[160] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[161] 3GPP TS 24.501: "Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[162] 3GPP TS 37.340: "Evolved Universal Terresterial Radio Access (E-UTRA) and NR; Multi-Connectivity; Stage 2".

[163] 3GPP TS 24.196: "Enhanced Calling Name (eCNAM)".

[164] 3GPP TS 22.173: "IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services".

[165] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[166] 3GPP TS 36.213: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures".

[167] 3GPP TS 36.214: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer; Measurements".

[168] 3GPP TS 24.250: "Protocol for Reliable Data Service between UE and SCEF; Stage 3".

[169] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".

[170] 3GPP TS 22.011: "Service accessibility".

[171] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC); Stage 2".

[172] IEEE 1003.1-2004: "IEEE Standard for Information Technology - Portable Operating System Interface (POSIX(R)) - Base Definitions".

\*\*\*\*\* end of 1st change \*\*\*\*\*

\*\*\*\*\* start of 2nd change \*\*\*\*\*

### 10.1.X 5GS URSP query +C5GURSPQRY

Table 10.1.X-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>] | [<CR><LF>+C5GURSPQRY: [< ursp rule type>],[<ursp rule precedence>],[<route selection descriptor precedence>],[<SSC mode>],[<snssai>],[<DNNs>],[<pdu session type>],[<preferred access type>], [<Non-seamless non-3GPP offload indication>],[<Location criterion type>],[<Time window type>]  […]] |
| +C5GURSPQRY? | [<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>],[<route selection descriptor precedence>],[<SSC mode>],[<snssai>],[<DNNs>],[<pdu session type>],[<preferred access type>],[<Non-seamless non-3GPP offload indication>],[<Location criterion 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),(list of supported<Ethertype type>s) |

**Description**

The set command is used to request the UE to return the route selection descriptor for the URSP rule 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 UE to return the route selection descriptor for the URSP rule.

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

Test command returns values supported as a compound value.

**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 subclause 10.1.57.

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

<Connection capabilities>: integer type. A decimal value of the bitmap that indicates the connection's supported services according to Table 5.2.1 of TS 24.526 [131a].

<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".

<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 [152a].

<sTagVid>: integer type. See IEEE 802.1Q [152a].

<cTagPcpDei>: integer type. See IEEE 802.1Q [152a].

<sTagPcpDei>: integer type. See IEEE 802.1Q [152a].

<Regular expression>: string type. The regular expression value field shall take the form of Extended Regular Expressions (ERE) as defined in chapter 9 in IEEE 1003.1-2004 Part 1 [172].

<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

<snssai>: string type in hexadecimal character 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]. For the format and the encoding of S-NSSAI, see also 3GPP TS 23.003 [7]. 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

<pdu session type>: string type. Indicates the type of the PDU session.

IPv4 indicates that the PDU session type is IPv4 only

IPv6 indicates that the PDU session type is IPv6 only

IPv4v6 indicates that the PDU session type is IPv4v6

Unstructured indicates that the PDU session type is Unstructured only

Ethernet 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 [131a].

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>: integer type. Indicates the location area type.

1. indicates E-UTRA cell identities list
2. NR cell identities list
3. Global RAN node identities list
4. TAI list

<Time window type>: string type. The Time window type value field shall include a Starttime field and 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 IETF RFC 5905 [17], 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.

**Implementation**

Optional.

\*\*\*\*\* end of 2nd change \*\*\*\*\*