**3GPP TSG-CT WG3 Meeting #135 *C3-243352***

**Hyderabad, IN, 27 - 31 May, 2024**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.122** | **CR** | **0849** | **rev** | **-** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Data rate and congestion report | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM | | | | |  | ***Date:*** | | | 2024-04-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | It is not detailed the description of the congestion and data rate report. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | As specified in TS 29.564:  - The data rate report indicates an average data throughput  - The congestion report indicates congestion information, expressed as an integer value in the range 0 to 10000, representing the percentage of congestion level in the downlink direction, up to two decimal points, for the QoS flow.  Example: the value 9574 corresponds to a percentage of 95.74%. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incomplete specification, with ambiguities about the received measurements | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 5.14.2.1.8 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 have any impact in the OpenAPI specifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First 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 TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.682: "Architecture enhancements to facilitate communications with packet data networks and applications".

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

[4] Void.

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

[6] Hypertext Transfer Protocol (HTTP) Status Code Registry at IANA, <http://www.iana.org/assignments/http-status-codes>.

[7] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

[8] IETF RFC 9457: "Problem Details for HTTP APIs".

[9] 3GPP TS 29.154: "Service capability exposure functionality over Nt reference point".

[10] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".

[11] 3GPP TS 29.336: "Home Subscriber Server (HSS) diameter interfaces for interworking with packet data networks and applications".

[12] 3GPP TS 29.128: "Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) interfaces for interworking with packet data networks and applications".

[13] 3GPP TS 29.201: "Representational State Transfer (REST) reference point between Application Function (AF) and Protocol Converter (PC)".

[14] 3GPP TS 23.003: "Numbering, addressing and identification".

[15] IETF RFC 3339: "Date and Time on the Internet: Timestamps".

[16] IETF RFC 9112: "HTTP/1.1".

[17] IETF RFC 9110: "HTTP Semantics".

[18] Void.

[19] Void.

[20] IETF RFC 9111: "HTTP Caching".

[21] Void.

[22] IETF RFC 9113: "HTTP/2".

[23] 3GPP TS 29.155: "Traffic steering control; Representational state transfer (REST) over St reference point".

[24] 3GPP TS 29.368: "Tsp interface protocol between the MTC Interworking Function (MTC-IWF) and Service Capability Server (SCS)".

[25] 3GPP TS 29.337: "Diameter-based T4 interface for communications with packet data networks and applications".

[26] 3GPP TS 29.250: "Nu reference point between SCEF and PFDF for sponsored data connectivity".

[27] Open API: "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.

[28] IETF RFC 1166: "Internet Numbers".

[29] IETF RFC 5952: "A recommendation for Ipv6 address text representation".

[30] 3GPP TS 29.153: "Service capability exposure functionality over Ns reference point".

[31] 3GPP TS 24.250: "Protocol for Reliable Data Service; Stage 3".

[32] IETF RFC 6455: "The Websocket Protocol".

[33] 3GPP TS 29.272: "Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol".

[34] 3GPP TS 29.338: "Diameter based protocols to support Short Message Service (SMS) capable Mobile Management Entities (MMEs)".

[35] 3GPP TS 33.187: "Security aspects of Machine-Type Communications (MTC) and other mobile data applications communications enhancements".

[36] 3GPP TS 29.468: "Group Communication System Enablers for LTE (GCSE\_LTE);MB2 Reference Point;Stage 3".

[37] 3GPP TS 29.116: "Presentational state transfer over xMB reference point between Content Provider and BM-SC".

[38] IETF RFC 5789: "PATCH method for HTTP".

[39] IETF RFC 7396: "JSON Merge Patch".

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

[41] YAML (10/2009): "YAML Ain't Markup Language (YAML™) Version 1.2", <http://www.yaml.org/spec/1.2/spec.html>.

[42] 3GPP TS 29.572: "5G System; Location Management Services; Stage 3".

[43] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[44] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[45] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces Stage 3".

[46] IETF RFC 6733: "Diameter Base Protocol".

[47] 3GPP TS 23.222: "Common API Framework for 3GPP Northbound APIs; Stage 2".

[48] 3GPP TS 29.222: "Common API Framework for 3GPP Northbound APIs; Stage 3".

[49] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[50] 3GPP TS 29.554: "5G System; Background Data Transfer Policy Control Service; Stage 3".

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

[52] 3GPP TS 29.514: "5G System; Policy Authorization Service; Stage 3".

[53] 3GPP TS 33.122: "Security Aspects of Common API Framework for 3GPP Northbound APIs".

[54] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[55] 3GPP TS 23.468: "Group Communication System Enablers for LTE (GCSE\_LTE); stage 2".

[56] 3GPP TS 26.348, "Northbound Application Programming Interface (API) for Multimedia Broadcast/Multicast Service (MBMS) at the xMB reference point".

[57] 3GPP TS 29.508: "5G System; Session Management Event Exposure Service; Stage 3".

[58] 3GPP TR 21.900: "Technical Specification Group working methods".

[59] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Resource Control (RRC); Protocol Specification".

[60] 3GPP TS 38.331: "NR; Radio Resource Control (RRC) protocol specification".

[61] 3GPP TS 29.675: "User Equipment (UE) radio capability provisioning service; Stage 3".

[62] 3GPP TS 29.522: "5G System; Network Exposure Function Northbound APIs; Stage 3".

[63] 3GPP TS 29.503: "5G System; Unified Data Management Services; Stage 3".

[64] 3GPP TS 24.526: "User Equipment (UE) policies for 5G System (5GS); Stage 3".

[65] 3GPP TS 29.515: "5G System; Gateway Mobile Location Services; Stage 3".

[66] IETF RFC 5322: "Internet Message Format".

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

[68] 3GPP TS 33.558: "Security aspects of enhancement of support for enabling edge applications; Stage 2".

[69] IETF RFC 5234: "Augmented BNF for Syntax Specifications: ABNF".

[70] 3GPP TS 29.523: "5G System; Policy Control Event Exposure Service; Stage 3".

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

[72] 3GPP TS 29.565: "5G System; Time Sensitive Communication and Time Synchronization Function Services; Stage 3".

[73] 3GPP TS 29.564: "5G System; User Plane Function Services; Stage 3".

\* \* \* First Change \* \* \* \*

##### 5.14.2.1.8 Type: QosMonitoringReport

Table 5.14.2.1.8-1: Definition of type QosMonitoringReport

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | Cardinality | Description | Applicability |
| ulDelays | array(Uinteger) | 0..N | Uplink packet delay in units of milliseconds. (NOTE 1) |  |
| dlDelays | array(Uinteger) | 0..N | Downlink packet delay in units of milliseconds. (NOTE 1) |  |
| rtDelays | array(Uinteger) | 0..N | Round trip delay in units of milliseconds. (NOTE 1) |  |
| pdmf | boolean | 0..1 | Packet delay measurement failure indicator. When set to true, it indicates that a packet delay failure has occurred.  Default value is false if omitted. (NOTE 2) | PacketDelayFailureReport, GMEC\_5G,  EnQoSMon |
| ulDataRate | BitRate | 0..1 | Average data throughput in uplink direction as specified in clause 6.1.6.2.4 of 3GPP TS 29.564 [73] (NOTE 3) | EnQoSMon, GMEC\_5G |
| dlDataRate | BitRate | 0..1 | Average data throughput in downlink direction as specified in clause 6.1.6.2.4 of 3GPP TS 29.564 [73]  (NOTE 3) | EnQoSMon, GMEC\_5G |
| ulAggrDataRate | BitRate | 0..1 | Indicates the uplink aggregated Data Rate for the applicable list of UEs provided by AF. | ListUE\_5G |
| dlAggrDataRate | BitRate | 0..1 | Indicates the downlink aggregated Data Rate for the applicable list of UEs provided by AF. | ListUE\_5G |
| ulConInfo | Uinteger | 0..1 | Percentage of congestion information in uplink direction as specified in clause 6.1.6.2.4 of 3GPP TS 29.564 [73] | EnQoSMon, GMEC\_5G |
| dlConInfo | Uinteger | 0..1 | Percentage of congestion information in uplink direction as specified in clause 6.1.6.2.4 of 3GPP TS 29.564 [73]. | EnQoSMon, GMEC\_5G |
| NOTE 1: In this release of the specification one element may be included in the array as difined in clause 4.4.9 in TS 29.522 [62].  NOTE 2: When the "pdmf" attribute is set to true, "ulDelays", "dlDelays" and "rtDelays" and when the feature "EnQoSMon" is supported, "ulDataRate" and "dlDataRate" shall not be present.  NOTE 3: When the "ulDataRate" and/or the "dlDataRate" attribute are included, the parameters related to packet delay and/or congestion information shall not be present. | | | | |

Editor’s Note: The presence conditions of the parameters of QosMonitoringReport are to be consolidated/detailed once all the possible reports are specified.

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