**3GPP TSG-SA5 Meeting #162 *S5-254070***

Goteborg, Sweden, 25 - 29 August 2025

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.423** | **CR** | **0213** | **rev** | **1** | **Current version:** | **19.3.0** |  |
|  | | | | | | | | |
| *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 | **x** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Rel-19 CR TS 32.423 Add additional TRSR on Trace Record Header for continuous MDT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT, Ericsson, Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TraceQoE\_OAM | | | | |  | ***Date:*** | | | 2025-08-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | This CR propose to enhancement on the Trace Record Header with associatedTraceRecordingSessionReference. This is used to ensure trace correlation and address security considerations for continuous MDT. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Enhancement on Trace Record Header. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing support to trace record correlation for continuous MDT. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2, G.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 NEXT CHANGE \*\*\*

### 5.2.2 Trace Record Header

The trace record header contains the common fields as specified in the Table 5.2.2-1, in addition it may also contain vendor specific extensions.

Table 5.2.2.1 : Common fields in the trace record header

|  |  |
| --- | --- |
| Trace Record Header field name | Description |
| timeStamp (M) | Time stamp (in milliseconds since Epoch) of when the streaming trace record is produced internally in the Producer encoded as (64 bit integer) |
| nfInstanceId (M) | Unique id of the Producer NF instance that produced this trace record represented by a (String) |
| nfType (M) | Type of the Producer NF that produced this trace record represented by a (String) |
| traceReference (M) | Trace Reference (see clause 5.6 of 3GPP TS 32.422 [3]) (represented by a 6 bytes octet string) See Note 6. |
| traceRecordingSessionReference (M) | Trace Recording Session Reference (see clause 5.7 of 3GPP TS 32.422 [3]) represented by a (2 byte octet string. See Note 1.) |
| traceRecordTypeId (M) | Identifier of the trace record type (see clause 5.2.4 for details) represented by an ENUM with the following values:  NORMAL,  TRACE\_SESSION\_START,  TRACE\_SESSION\_STOP, TRACE\_RECORDING\_SESSION\_START, TRACE\_RECORDING\_SESSION\_STOP, TRACE\_STREAM\_HEARTBEAT,  TRACE\_RECORDING\_SESSION\_NOT\_STARTED, TRACE\_RECORDING\_SESSION\_DROPPED\_EVENTS,  TRACE\_FILE\_OPEN,  TRACE\_FILE\_CLOSE,  TRACE\_FILE\_ABNORMAL\_CLOSED,  TRACE\_RECORDING\_SESSION\_THROTTLED\_START,  TRACE\_RECORDING\_SESSION\_THROTTLED\_STOP.  (See Note 2). |
| ranUeId (O) | RAN defined id to represent a UE (8 byte octet string. See Note 3.) |
| payloadSchemaURI (O) | URI identifying the schema to be used in order to decode the payload represented by a (String. See Note 4.) |
| globalGnbId (CM) | Global gNB ID, as defined in subclause 9.3.1.6 of 3GPP TS 38.413 [23]. Applied for trace reported by gNB-CU-CP, gNB-CU-UP, gNB-DU. |
| vendorExtension (O) | Vendor-specific extension(s) (See Note 5.) |
| associatedTraceRecordingSessionReference (O) | Associated Trace Recording Session Reference used in continuous MDT represented by a 2 byte octet string. |
| CHOICE 1.1: traceRecordName (O) | A unique name string of a Trace Record. This attribute is not required for Administration events. |
| CHOICE 1.2: traceRecordId (O) | A unique integer ID of a Trace Record. |
| NOTE 1: The *traceRecordingSessionReference* must be present for the Streaming Trace Records with non-zero size payload where the payload carries data captured for a Trace Recording Session and in administrative messages related to a Trace Recording Session (e.g. "Trace Recording Session Start" or "Trace Recording Session Stop").  NOTE 2: The *traceRecordTypeId* with value "NORMAL" is used for Streaming Trace Records that do not carry an administrative message.  NOTE 3: The *ranUeId* field is present in the trace record header when the identifier is supported by RAN. If RAN UE Id (see 3GPP TS 37.483 [46] and 3GPP TS 38.473 [26]) has been captured in the traced signaling messages that value is used.  NOTE 4: The *payloadSchemaURI* is not required for Streaming Trace Records with payload of zero-size, or payload using common payload format (e.g. used to convey Streaming Trace administrative messages).  NOTE 5: The *vendorExtension* is typically a generic list of key-value pairs.  NOTE 6: The encoding of the Trace Reference is a 6-byte Octet String in BCD format. The first 3-byte Octet String is the PLMN ID which consists of MCC and MNC. The next 3-byte Octet String is the Trace ID. The PLMN ID is encoded as specified in clause 9.3.3.5 of 3GPP TS 38.413 [23]. | |

\*\*\* NEXT CHANGE \*\*\*

# G.2 Trace Record Protocol Buffer (GPB) definitions

Normative GPB Trace Record schema, defined per clause 5.2:

syntax = “proto3”;

/\* Trace Record per 3GPP 32.423 specification.

\* v16

\*/

enum TraceRecordType {

    NORMAL = 0;

    TRACE\_SESSION\_START = 1;

    TRACE\_SESSION\_STOP = 2;

    TRACE\_RECORDING\_SESSION\_START = 3;

    TRACE\_RECORDING\_SESSION\_STOP = 4;

    TRACE\_STREAM\_HEARTBEAT = 5;

    TRACE\_RECORDING\_SESSION\_DROPPED\_EVENTS = 6;

    TRACE\_RECORDING\_SESSION\_NOT\_STARTED = 7;

TRACE\_FILE\_OPEN = 8;

    TRACE\_FILE\_CLOSE = 9;

    TRACE\_FILE\_ABNORMAL\_CLOSED = 10;

TRACE\_RECORDING\_SESSION\_THROTTLED\_START = 11;

TRACE\_RECORDING\_SESSION\_THROTTLED\_STOP = 12;

TRACE\_SESSION\_NOT\_STARTED = 13;

}

message GlobalGnbId {

    bytes plmn\_identity = 1;

    int64 gnb\_id = 2;

}

message TraceRecordHeader {

int64 time\_stamp = 1;

string nf\_instance\_id = 2;

string nf\_type = 3;

bytes trace\_reference = 4;

bytes trace\_recording\_session\_ref = 5;

TraceRecordType trace\_rec\_type\_id = 6;

optional bytes ran\_ue\_id = 7;

optional string payload\_schema\_uri = 8;

  GlobalGnbId global\_gnb\_id = 9;

map<string, string> vendor\_extension = 10;

optional bytes associated\_trace\_recording\_session\_ref = x;

}

message TraceSessionStart {

  map<string, string> vendor\_extension = 1;

}

message TraceSessionStop {

  map<string, string> vendor\_extension = 1;

}

message TraceRecordingSessionStart {

map<string, string> vendor\_extension = 1;

}

message TraceRecordingSessionStop {

string reason = 2;

  map<string, string> vendor\_extension = 1;

}

message TraceStreamHeartbeat {

  map<string, string> vendor\_extension = 1;

}

message TraceRecordingSessionDroppedEvents {

  int64 number\_of\_dropped\_events = 1;

  map<string, string> vendor\_extension = 2;

}

message TraceRecordingSessionNotStarted {

string reason = 1;

  map<string, string> vendor\_extension = 2;

}

message TraceFileOpen {

map<string, string> vendor\_extension = 1;

}

message TraceFileClose {

map<string, string> vendor\_extension = 1;

}

message TraceFileAbnormalClosed {

string reason = 1;

  map<string, string> vendor\_extension = 2;

}

message TraceRecordingSessionThrottledStart {

string reason = 1;

  map<string, string> vendor\_extension = 2;

}

message TraceRecordingSessionThrottledStop {

  map<string, string> vendor\_extension = 1;

}

message TraceSessionNotStarted {

string reason = 1;

  map<string, string> vendor\_extension = 2;

}

message CommonTracePayload {

  oneof record\_payload {

    TraceSessionStart trace\_session\_start = 1;

    TraceSessionStop trace\_session\_stop = 2;

    TraceRecordingSessionStart trace\_recording\_session\_start = 3;

    TraceRecordingSessionStop trace\_recording\_session\_stop = 4;

    TraceStreamHeartbeat trace\_stream\_heartbeat = 5;

    TraceRecordingSessionDroppedEvents trace\_recording\_session\_dropped\_events = 6;

    TraceRecordingSessionNotStarted trace\_recording\_session\_not\_started = 7;

  TraceFileOpen trace\_file\_open = 8;

    TraceFileClose trace\_file\_close = 9;

    TraceFileAbnormalClosed trace\_file\_abnormal\_closed = 10;

TraceRecordingSessionThrottledStart trace\_recording\_session\_throttled\_start = 11;

TraceRecordingSessionThrottledStop trace\_recording\_session\_throttled\_stop = 12;

TraceSessionNotStarted trace\_session\_not\_started = 13;

}

}

message TraceRecordPayload {

optional int64 payload\_size = 1;

bytes binary\_payload = 2;

}

message TraceRecord {

TraceRecordHeader header = 1;

TraceRecordPayload payload = 2;

}

message StreamingTraceRecord {

TraceRecord record = 1;

optional CommonTracePayload administrative\_message = 2;

}