**3GPP TSG-CT WG1 Meeting #134-eC1-221116-r1**

**E-Meeting, 17th – 25th February 2022**

**Source: Huawei, HiSilicon**

**Title: Structure of message segment**

**Spec: 3GPP TS 24.538**

**Agenda item: 17.2.30**

**Document for: Approval**

**1. Introduction**

This pCR is to propose the JSON schema about message segment.

**2. Reason for Change**

JSON schema is needed to specified.

**3. Conclusions**

<Conclusion part (optional)>

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 24.538 v0.3.0.

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

##### 6.5.1.2.2 Segments received confirmation procedure

If the Message Receiver determines that it receives all segments successfully, or the Message Receiver determines it is failed (including recovery failed) to receive all segments, the Message Receiver sends the message segments received confirmation to the Message Sender by a CoAP POST request, in the CoAP POST request, the Message Receiver:

a) shall set the "T" field in the CoAP header to 0 to indicate this request is the type of Confirmable;

b) shall include the Message Sender address in an CoAP Option, e.g. if the Message Sender address is a URI, include a Uri-Path Option with the value of the URI;

c) shall set the CoAP Content-Format to "50", i.e. application/json; and

d) shall include the following information elements in the CoAP payload encoded in JSON format:

1) the "MSGin5G service identifier" element to indicate that this CoAP POST request is used for MSGin5G service;

2) the "Message Type" element set with a value "SEGCONFIR" to indicate this request is for sending message segments received confirmation;

3) the "Segmentation Set Identifier" element copied from one of the previous received segments; and

4) the "Result" element to indicate the segments are received successful or failed;

The corresponding JSON Schema used in step d) is defined in 7.3.y.1.

\* \* \* Next Change \* \* \* \*

##### 6.5.1.2.1 Segments recovery procedure when failed to receive all segments

If not all segments are received within expected time, the Message Receiver shall send a CoAP POST request to the Message Sender for recovering the segments. In the CoAP POST request, the Message Receiver:

a) shall set the "T" field in the CoAP header to 0 to indicate this request is the type of Confirmable;

b) shall include the Message Sender address in an CoAP Option, e.g. if the Message Senderaddress is a URI, include a Uri-Path Option with the value of the URI;

c) shall set the CoAP Content-Format to "50", i.e. application/json; and

d) shall include the following information elements in the CoAP payload encoded in JSON format:

1) an "MSGin5G service identifier" element set to indicate that this CoAP POST request is used for MSGin5G service;

2) a "Message Type" element set with a value "SEGREC" to indicate this request is for segments recovery;

3) a "Segmentation Set Identifier" element copied from one of the previous received segments; and

4) a "List of Segment range" element to indicate the segments range which the client wants to recover, each segment range consist of start and end sequence number of missing segments e.g. (5-7, 10-10, 15-19);

If not all segments is not received within the expected time (based on configuration) then the Message Receiver may consider as recovery failed or may initiate the procedure again with updated list of segment range.

NOTE: The MSGin5G message segment recovery procedure may repeat based on the configuration.

The corresponding JSON Schema used in step d) is defined in 7.3.y.2.

\* \* \* Next Change \* \* \* \*

### 7.3.y Structure about message segment

The schema is based on JSON Schema Draft-07 [8]. For reducing the overhead of the message used in MSGin5G service, the properties are defined as shorten form and the relationship between the properties and IEs used in clause 6.5 are described in the description of the properties, The JSON schema is defined below.

#### 7.3.y.1 Segments received confirmation structure

{

 "$schema": "http://json-schema.org/draft-07/schema#",

 "$id": "http://www.3gpp.org/MSGin5G/Segments\_Received\_Confirmation\_schema",

 "title": "Message\_Received\_Confirmation",

 "type":"object",

 "properties": {

 "msgIden": {

 "type": "string",

 "format": "uri",

 "description": "Refer to Service identifier of MSGin5G service"

 },

 "msgType": {

 "type": "string",

 "enum": [

 "SEGCONFIR"

 ],

 "description": "the usage of this message. The value SEGCONFIR refers to message segments received confirmation"

 },

 "segId": {

 "type": "string",

 "description": "Refer to Segmentation Set Identifier"

 },

 "result": {

 "type": "boolean",

 "description": "Refer to segments received result. The value true refers to succcess"

 },

 "required": ["msgIden","msgType","segId","result"]

 }

}

#### 7.3.y.2 Segments recovery structure

{

 "$schema": "http://json-schema.org/draft-07/schema#",

 "$id": "http://www.3gpp.org/MSGin5G/Segments\_Recovery\_schema",

 "title": "Segments\_Recovery",

 "type":"object",

 "properties": {

 "msgIden": {

 "type": "string",

 "format": "uri",

 "description": "Refer to Service identifier of MSGin5G service"

 },

 "msgType": {

 "type": "string",

 "enum": [

 "SEGREC"

 ],

 "description": "the usage of this message. The value SEGREC refers to message segment recovery"

 },

 "segId": {

 "type": "string",

 "description": "Refer to Segmentation Set Identifier"

 },

 "segNoList": {

 "type": "string",

 "description": "Refer to List of Segment range, e.g. (5-7, 10-10, 15-19)"

 },

 "required": ["msgIden","msgType","segId","segNoList"]

 }

}

\* \* \* End of Changes \* \* \* \*