**3GPP TSG-SA WG6 Meeting #44 S6-211586\_rev2**

**e-meeting, 12th – 20th July 2021 (revision of S6-21xxxx)**

**Source: one2many**

**Title: Pseudo-CR on Corrections and changes to clause 8.7.1**

**Spec: 3GPP TS 23.554 v1.0.0**

**Agenda item: 8.2**

**Document for: Approval**

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**1. Introduction**

The pCR provides a number of corrections to clause 8.7.1. This includes a number of figures that were in the wrong place. I copied the figures from v0.3.0 and replaced the wrong figures from v1.0.0 without modifying them (so please check the figures).

Furthermore, the table of contents of v1.0.0 shows this:

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Clauses 8.7.1.1 to 8.7.1.5 suggest that most options of message exchange between UE types is covered. However, the text for 8.7.1.4 specifies a SMS UE replying to an earlier received message. Clause 8.7.1.4 is re-written as a generic Legacy 3GPP reply message procedure;.

The pCR also contains changes to adhere to the principle that a Delivery status report is a point-to-point message and not included in a response to the original message.

Another alignment is where the MSGin5G Server doesn't have to be aware of UE types; various pre-conditions and procedure steps that suggest that the MSGin5G Server does have to know about UE types is removed.

**2. Reason for Change**

Alignment of procedures and corrections to procedures.

**3. Conclusions**

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**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 23.554 v1.0.0.

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

### 8.7.1 Point-to-Point Message delivery procedures

#### 8.7.1.1 From MSGin5G UE to MSGin5G UE

Figure 8.7.1.1-1 shows the message delivery procedure from MSGin5G UE 1 to MSGin5G UE 2.

Pre-conditions:

1. Both MSGin5G Client 1 in MSGin5G UE 1 and MSGin5G Client 2 in MSGin5G UE 2 are registered with the MSGin5G server.



Figure 8.7.1.1-1 Message delivery between MSGin5G UEs

1) The MSGin5G Client 1 sends a MSGin5G message request to MSGin5G Server as specified in clause 8.3.2 with following clarifications:

a) The MSGin5G message request includes Originating MSGin5G Service ID, Recipient MSGin5G Service ID and Message ID information elements in Table 8.3.2-1, and may include Delivery status required, Application ID, Payload, Priority type information elements from Table 8.3.2-1.

b) Upon receiving the MSGin5G message request, the MSGin5G Server determines the recipient is a MSGin5G UE and the MSGin5G Client 1 is authorized to send message to MSGin5G Client 2.

2) The MSGin5G Server forwards the MSGin5G message request to MSGin5G Client 2 as specified in clause 8.3.3.

3) If Delivery status required is included in the MSGin5G message request, MSGin5G Client 2 sends delivery status report to the MSGin5G Client 1 as a point-to-point message as specified in the present clause.

#### 8.7.1.2 From MSGin5G UE to Legacy 3GPP UE

Figure 8.7.1.2-1 shows the message delivery procedure from MSGin5G UE to Legacy 3GPP UE.

Pre-conditions:

1) MSGin5G Client in MSGin5G UE is registered with the MSGin5G Server.

2) Legacy 3GPP Message Gateway is aware of the MSGin5G Service ID of Legacy 3GPP Message UE and maintains the mapping to IDs used in the legacy network.



Figure 8.7.1.2-1 Message delivery from MSGin5G UE to Legacy 3GPP UE

1) The MSGin5G Client sends a MSGin5G message request to MSGin5G Server as specified in clause 8.3.2 with following clarifications:

a) The MSGin5G message request includes Originating MSGin5G Service ID, Recipient MSGin5G Service ID and Message ID information elements in Table 8.3.2-1, and may include Delivery status required, Application ID, Payload, Priority type information elements from Table 8.3.2-1.

2) Upon receiving the MSGin5G message request, the MSGin5G Server determines the recipient is a Legacy 3GPP UE and the MSGin5G Client is authorized to send message to the Legacy 3GPP UE.

3) The MSGin5G Server forwards the MSGin5G message request to Legacy 3GPP Gateway as specified in 8.3.3.

4) The Legacy 3GPP Message Gateway determines which legacy 3GPP message delivery mechanism (e.g. SMS, NIDD, Device triggering, etc.) will be used based on Legacy 3GPP UE capability, the UE communication status, the MSGin5G service configuration, etc. When selected, the Legacy 3GPP Message Gateway maps the MSGin5GService ID to the corresponding identifier. For example (not an exhaustive list):

a) if the Legacy 3GPP Message Gateway selected the device triggering delivery mechanism, it maps the service ID to MSISDN and Application port ID.

b) if the Legacy 3GPP Message Gateway selected the NIDD delivery mechanism, it maps the service ID to External Identifier or MSISDN.

c) if the Legacy 3GPP Message Gateway selected the SMS delivery mechanism, it maps the service ID to MSISDN.

5-7) The Legacy 3GPP Message Gateway sends the payload of the MSGin5G message to the terminating Legacy 3GPP UE using the determined delivery mechanism. For example:

a) For Device triggering delivery mechanism, the Legacy 3GPP Message Gateway interacts with the MTC-IWF/SCEF/NEF and maps the payload of the MSGin5G message to one or more Device Triggering requests. The MTC-IWF/SCEF/NEF interacts with SMS-SC for delivery to the UE and to receive the message delivery report (see TS 23.682 [8] clause 5.2, TS 29.122 [9] clause 4.4.6, TS 29.522 [10] clause 4.4.3)

b) For NIDD delivery mechanism, the Legacy 3GPP Message Gateway may interact with the SCEF/NEF and maps the payload of the MSGin5G message to one or more NIDD submit request messages. The Reliable Data Service Configuration, Maximum Latency, Priority, PDN Connection Establishment Option settings are based on pre-configurations (see TS 23.682 [8] clause 5.13, TS 29.122 [9] clause 4.4.5.3, TS 29.522 [10] clause 4.4.12.3). Alternatively, if tunnel parameters are provisioned in the Legacy 3GPP Message Gateway and UPF/P-GW the payload could be tunnelled via the UPF/P-GW (see TS 23.401 [11] (clause 4.3.17.8.3.3) , TS 23.501[12] clause 5.6.10.3, TS 23.502 [7] clause 4.24);

c) For SMS delivery mechanism, the Legacy 3GPP Message Gateway sends SMS to the Legacy 3GPP UE through the SMSC according to the procedure in TS 23.204 [13] or the procedure in clause 4.13.3 of TS 23.502 [7].

8-9) If Delivery status required is included in the MSGin5G message request, the Legacy 3GPP Message Gateway sends MSGin5G message delivery report to the MSGin5G Client in a point-to-point message as specified in clause 8.7.1 .

#### 8.7.1.3 From MSGin5G UE to Non-3GPP UE

Figure 8.7.1.3-1 shows the message delivery procedure from MSGin5G UE to Non-3GPP UE.

Pre-conditions:

1. MSGin5G Client in MSGin5G UE is registered with the MSGin5G server.

2. Non-3GPP Message Gateway is aware of the non-3GPP message client in non-3GPP UE and provides the mapping to MSGin5G Service ID.



Figure 8.7.1.3-1 Message Delivery from MSGin5G UE to Non-3GPP UE

1) The MSGin5G Client sends a MSGin5G message request to the MSGin5G Server as specified in 8.3.2 with following clarifications:

a) The MSGin5G message request includes Originating MSGin5G Service ID, Recipient MSGin5G Service ID and Message ID information elements in Table 8.3.2-1, and may include Delivery status required, Application ID, Payload, Priority type information elements from Table 8.3.2-1.

2) The MSGin5G Server determines the MSGin5G Client is authorized to send message.

3) The MSGin5G Server forwards the MSGin5G message request to the Non-3GPP Message Gateway as specified in clause 8.3.3.

4) The Non-3GPP Message Gateway translates the MSGin5G message to the Non-3GPP message and sends it to the Non-3GPP Message Client. This step is outside the scope of the present specification.

5. If delivery status report is required, the Non-3GPP Message Gateway sends the MSGin5G message delivery report in a point-to-point message to the MSGin5G Client as specified in clause 8.7.

#### 8.7.1.4 From Legacy 3GPP UE to MSGin5G UE

This procedure is used for message reply from Legacy 3GPP UE (e.g. SMS UE) to MSGin5G UE.

Figure 8.7.1.4-1 shows the message delivery procedure from Legacy 3GPP UE to MSGin5G UE.

Pre-conditions:

1) MSGin5G Client in MSGin5G UE and the Legacy 3GPP Gateway on behalf of the Legacy 3GPP UE have registered with the MSGin5G server.

2) The Legacy 3GPP UE received a message from the MSGin5G UE.

3) The Legacy 3GPP Message Gateway is aware of the Legacy 3GPP UE and provides the mapping to MSGin5G Service ID.

4) The Legacy 3GPP UE replies to the MSGin5G UE upon receiving the message from the MSGin5G UE.



Figure 8.7.1.4-1: Legacy 3GPP UE replies to MSGin5G UE

1) The Legacy 3GPP UE sends a message request to the Legacy 3GPP Message Gateway. If the request is to be delivered as an SMS, the request is sent to the Legacy 3GPP Message Gateway through SMSC according the procedure in 3GPP TS 23.204 [13] or the procedure in clause 4.13.3 of TS 23.502 [7].

NOTE1: Step 1 is out of scope of the present specification.

2) The Legacy 3GPP Message Gateway translates the message to MSGin5G message and sends a MSGin5G message request to the MSGin5G Server as specified in 8.3.2 with the following clarifications:

a) The MSGin5G message request includes Originating MSGin5G Service ID, Recipient MSGin5G Service ID and Message ID information elements in Table 8.3.2-1, and may include Delivery status required, Application ID, Payload, Priority type information elements from Table 8.3.2-1.

b) Upon receiving the MSGin5G message request, the MSGin5G Server determines the Legacy 3GPP UE is allowed to reply message to the MSGin5G UE.

3) The MSGin5G Server forwards the MSGin5G message request to the target MSGin5G Client as specified in 8.3.3.

4-6) If the delivery report is requested by the Legacy 3GPP UE, the MSGin5G Client in MSGin5G UE sends an MSGin5G message delivery report in a point-to-point message as specified in clause 8.7.1.2.

NOTE2: If the Legacy 3GPP UE supports receiving delivery reports is out of scope of the present specification.

#### 8.7.1.5 From Non-3GPP UE to MSGin5G UE

This procedure is used for message reply from Non-3GPP UE to MSGin5G UE after the Non-3GPP UE has received a message from a MSGin5G UE (or an Application Server).

Figure 8.7.1.5-1 shows the message delivery procedure from Non-3GPP UE to MSGin5G UE.

Pre-conditions:

1) MSGin5G Client in MSGin5G UE and the Non-3GPP Message Gateway on behalf of the Non-3GPP UE, have registered with the MSGin5G server.

2) The Non-3GPP UE received a message from the MSGin5G UE.

3) The Non-3GPP Message Gateway is aware of the Non-3GPP message client on the Non-3GPP UE and provides the mapping to MSGin5G Service ID.

4) The Non-3GPP UE replies to the MSGin5G UE upon receiving the message from the MSGin5G UE.



Figure 8.7.1.5-1: Non-3GPP UE replies to MSGin5G UE

1) The Non-3GPP UE sends a Non-3GPP message request to the Non-3GPP Message Gateway in response to an earlier received message.

NOTE1: Step 1 is out of scope of the present specification.

2) The Non-3GPP Message Gateway translates the Non-3GPP message to MSGin5G message, optionally with delivery report requested and sends a MSGin5G message request to the MSGin5G Server as specified in clause 8.3.2 with the following clarifications:

a) The MSGin5G message request includes Originating MSGin5G Service ID, Recipient MSGin5G Service ID and Message ID information elements in Table 8.3.2-1, and may include Delivery status required, Application ID, Payload, Priority type information elements from Table 8.3.2-1.

b) Upon receiving the MSGin5G message request, the MSGin5G Server determines the recipient is a MSGin5G UE and the Non-3GPP UE is allowed to reply message to the MSGin5G UE.

3) The MSGin5G Server forwards the MSGin5G message request to the target MSGin5G Client as specified in clause 8.3.3.

4) If the delivery status report is request by the Non-3GPP UE, the MSGin5G Client in MSGin5G UE sends an MSGin5G message delivery report in a point-to-point message as specified in clause 8.7.1.3 to the Non-3GPP UE.

NOTE2: If the Non-3GPP UE supports receiving delivery reports is out of scope of the present specification.

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