**3GPP TSG-CT WG1 Meeting #136-eC1-223852**

**E-Meeting, 12th – 20th May 2022**

**Source: ZTE**

**Title: Remove ENs of authentication in registration and de-registration procedures**

**Spec: 3GPP TS 24.538 v1.1.0**

**Agenda item: 17.2.30**

**Document for: Agreement**

**1. Introduction**

Security aspects of the MSGin5G service has been defined in Annex Y of TS 33.501. Thus it is proposed to add description of authentication in registration and de-registration procedures based on the conclusion in SA3.

**2. Reason for Change**

SA3 has defined the authentication and authorization for MSGin5G Client and MSGin5G Server.

The authorization of MSGin5G UE by the MSGin5G server is performed by validating the association between the UE service ID and UE ID (SUPI/GPSI). During the registration procedure, the MSGin5G server verifies the UE service ID based on the association information retrieved Configuration Management server or MSGin5G Configuration Function using the UE ID received from the AAnF.

Thus it is proposed to add description and reference of authorization for MSGin5G-1 interface specified in CT1.

The authorization of MSGin5G UE by the MSGin5G server is performed by validating the association between the UE service ID and UE ID (SUPI/GPSI). During the registration procedure, the MSGin5G server verifies the UE service ID based on the association information retrieved Configuration Management server or MSGin5G Configuration Function using the UE ID received from the AAnF.

Thus the description of “verifying the security credentials” should be aligned with conclusion of SA3.

**3. Conclusions**

1. Remove the ENs of CoAP request for registration and de-registration.

2. Correct the authorization for MSGin5G Client on MSGin5G Server.

3. Clarify that MSGin5G Server shall return a DTLS secured response with the same security session and epoch if it receives a DTLS secured request.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 24.538 v1.1.0.

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

## 6.3 Registration

### 6.3.1 MSGin5G UE Registration

This clause covers the procedures in MSGin5G-1.

#### 6.3.1.1 Procedure at MSGin5G Client

##### 6.3.1.1.1 MSGin5G UE registration

After the MSGin5G UE receives the UE Service ID, in order to register MSGin5G UE to the MSGin5G Server, the MSGin5G Client shall send a CoAP POST request to the MSGin5G Server to according to procedures specified in IETF RFC 7252 [5]. In the CoAP POST request, the MSGin5G Client:

a) shall set the "T" field in the CoAP header to 0 to indicate acknowledge message required;

b) shall include the MSGin5G Server address in the Option header of the CoAP POST request and set the Option header to a corresponding value, e.g. if the MSGin5G Server address is a URI, the Uri-Path Option is set to the value of such URI;

c) shall set the "Content-Format" element to "50" to indicate the format of the CoAP payload is "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 to indicate that the CoAP POST request is used for registration;

3) the "UE Service ID" element to indicate the MSGin5G UE initiating registration procedure; and

4) optionally, the "MSGin5G Client Profile" element to include a set of parameters describing the MSGin5G Client. This element may include the "MSGin5G Client Triggering Information" element and the "MSGin5G Client Communication Availability" element. The "MSGin5G Client Triggering Information" element shall include the "MSGin5G UE ID" element to indicate the MSGin5G UE hosting the MSGin5G Client and the "MSGin5G Client Ports" element to indicate that the MSGin5G Client listens on for device triggers from the MSGin5G Server. The "MSGin5G Client Communication Availability" element informs the MSGin5G Server whether the client has a specific application-level schedule/periodicity to its MSGin5G communications, which may be used in conjunction with UE reachability monitoring to determine whether and when MSGin5G communications are attempted. This element:

i) shall include the "Scheduled communication time" element to indicate the time when the UE becomes available for communication;

ii) shall include the "Communication duration time" element to indicate the duration time of periodic communication;

iii) may include the "Periodic communication indicator" element to identify whether the client communicates periodically or not;

iv) shall include the "Periodic communication interval" element to indicate the interval Time of periodic communication if "Periodic communication indicator" element is included;

v) may include the "Data size indication" element to indicate the expected data size to be exchanged during the communication duration; and

vi) may include the "Store and forward option" element to indicate the UE does not request store and forward services for incoming MSGin5G requests.

##### 6.3.1.1.2 MSGin5G UE de-registration

The MSGin5G Client initiates a CoAP POST request to de-register from the MSGin5G Server. In the CoAP POST request, the MSGin5G Client:

a) shall set the "T" field in the CoAP header to 0 to indicate acknowledge message required;

b) shall include the MSGin5G Server address in the Option header of the CoAP POST request and set the Option header to a corresponding value, e.g. if the MSGin5G Server address is a URI, the Uri-Path Option is set to the value of such URI;

c) shall set the "Content Format" element to "50" to indicate the format of the CoAP payload is "application/json"; and

d) shall include the following information elements 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 that the CoAP POST request is used for de-registration; and

3) the "UE Service ID" element to indicate the MSGin5G UE initiating de-registration procedure.

#### 6.3.1.2 Procedure at MSGin5G Server

##### 6.3.1.2.1 MSGin5G UE registration

Upon reception of the CoAP POST request containing MSGin5G service identifier indicating that the received request is for MSGin5G service and Message Type indicating that the received request is for registration, the MSGin5G Server shall verifies the UE service ID. After a successful verification, the MSGin5G Server:

a) shall store the UE Service ID and the MSGin5G Client Profile information included in the received CoAP POST request; and

b) shall generate a CoAP 2.01 (Created) response or CoAP 2.04 (Change) response including the following parameters:

1) the CoAP "Message ID" element and the "Token" element with the same values with those in the CoAP POST request for registration;

2) the "Content-Format" element with "50" to indicate the format of the CoAP payload is "application/json" and the CoAP payload including:

i) the "UE Service ID" element to indicate the MSGin5G UE initiating registration procedure; and

ii) the "Registration result" element to indicate whether the registration is success or failure.

##### 6.3.1.2.2 MSGin5G UE de-registration

Upon reception of the CoAP POST request containing MSGin5G service identifier indicating that the received request is for MSGin5G service and Message Type indicating that the received request is for deregistration from an MSGin5G UE, the MSGin5G Server shall verifies the UE service ID. After a successful verification, the MSGin5G Server:

a) shall delete the registration information of the MSGin5G UE and any applicable MSGin5G Client Profile information that it has stored; and

b) shall generate a CoAP 2.04 (Change) response including the following parameters:

1) the CoAP "Message ID" element and the "Token" element with the same values with those in the CoAP POST request for deregistration;

2) optionally, the MSGin5G Client address in the Option header of the CoAP response and set the Option header to a corresponding value, if it is provided in the payload of CoAP POST request; and

3) the "Content-Format" element with "50" to indicate the format of the CoAP payload is "application/json" and the CoAP payload including:

i) the "UE Service ID" element to indicate the MSGin5G UE initiating de-registration procedure; and

ii) the "De-registration result" element to indicate whether the registration is success or failure.

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

##### 6.3.2.2.1 Constrained device registration to use MSGin5G Gateway UE

In order to register constrained device to the MSGin5G Gateway UE, the Application Client sends a registration request to the MSGin5G Client of the MSGin5G Gateway UE. The registration request shall include:

a) the "Layer-2 ID" to indicate the Layer-2 identity of the constrained device; and

b) the "Application ID" to indicate the Application Client of the constrained device initiating registration.

NOTE: If a specified MAC address or UDP port is configured for exchange information between the MSGin5G Gateway UE and the constrained device, the constrained device shall send the registration request to the specified MAC address or UDP port.

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