**3GPP TSG-CT WG1 Meeting #134-eC1-22xxxx**

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

**Source: ZTE**

**Title: Registration for constrained devices via MSGin5G Gateway UE**

**Spec: 3GPP TS 24.538 v0.3.0**

**Agenda item: 17.2.30**

**Document for: Agreement**

**1. Introduction**

Registration procedure for MSGin5G UE in MSGin5G-1 has been introduced in TS 24.538. The registration procedure for the constrained devices which do not have enough capability to communicate with MSGin5G Server has not been covered.

**2. Reason for Change**

The constrained devices may not have enough capability to communicate with the MSGin5G Server. If allowed by configuration, the constrained devices communicates with the MSGin5G Server via an unconstrained MSGin5G UE:

a) over the MSGin5G-5 interface between the Application Client of the constrained device and the MSGin5G Client of the unconstrained MSGin5G UE; or

b) over the MSGin5G-6 interface between the MSGin5G Client of the constrained device and the MSGin5G Client of the unconstrained MSGin5G UE.

This paper focuses on the case a. In case a, the unconstrained UE acts as a Gateway UE. This contribution defines the registration procedure between the constrained device and the MSGin5G Gateway UE.

**3. Conclusions**

Complete registration procedure for constrained devices.

**4. Proposal**

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

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

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

Upon reception of registration request from the constrained device, the MSGin5G Gateway UE decides whether to accept the registration request based on local condition.

If the registration is accepted by the MSGin5G Gateway UE, the MSGin5G Client of the MSGin5G Gateway UE:

a) stores Layer-2 ID and Application ID included in the registration request from the constrained device;

NOTE: Based on the connection mode, e.g. L2 connection or L3 connection, the MSGin5G Gateway UE may allocated a specified MAC address or UDP port for exchange information between the MSGin5G Gateway UE and the constrained device. The transport mechanism is based on the legacy transport protocol.

b) allocates a Registration ID for the constrained device; and

c) constructs the registration response and send it to the constrained device. The registration response shall include:

1) the Registration Result indicates the registration is accepted by the MSGin5G Gateway UE;

2) the Registration ID allocated by the MSGin5G Gateway UE.

If the registration is not accepted by the MSGin5G Gateway UE, the MSGin5G Client of the MSGin5G Gateway UE constructs the registration response and send it to the constrained device. The registration response shall include:

a) the Registration Result indicating the registration is not accepted by the MSGin5G Gateway UE; and

b) the Failure Reason indicating an appropriate reason why the registration request is rejected by the MSGin5G Gateway UE.

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

#### 6.3.2.2 Procedure at Constrained device

##### 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;

b) the "Application ID" to indicate the Application ID of the Application Client of the constrained device; and

c) the "Credential information" to indicate the credential information of the constrained device.

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 \* \* \* \*