**3GPP TSG-CT WG1 Meeting #134-eC1-221364**

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

**Source: ZTE**

**Title: Registration for constrained devices via Relay MSGin5G 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 b. As discussed in C1-221361, UE-to-Network Relay communication mode is used over MSGin5G-6 reference point. It can avoid change the CoAP POST request/CoAP response exchanged between the MSGin5G server and the MSGin5G Client-2 of the constrained device.

**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.X Constrained device registration to use Relay MSGin5G UE

#### 6.3.X.1 General

The Relay MSGin5G UE acts as either 5G ProSe Layer-2 and Layer-3 UE-to-Network Relay entity as specified in 3GPP TS 23.304 [X] and relays the CoAP POST request/response as traffic between the MSGin5G Server and the constrained device.

#### 6.3.X.2 Procedure at Relay MSGin5G UE

##### 6.3.X.2.1 Constrained device registration to use Relay MSGin5G UE

When a CoAP POST request for registration from the MSGin5G Client of the constrained device, the Relay MSGin5G UE relays the CoAP POST request as an uplink traffic to the MSGin5G Server.

When the CoAP 2.01 (Created) response or CoAP 2.04 (Change) response returned from the MSGin5G Server, the Relay MSGin5G UE relays the CoAP 2.01 (Created) response or CoAP 2.04 (Change) response as a downlink traffic to constrained device.

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

#### 6.3.X.3 Procedure at Constrained device

##### 6.3.X.3.1 Constrained device registration to use Relay MSGin5G UE

In order to register constrained device to the MSGin5G Server, the MSGin5G Client of constrained device sends a CoAP POST request to the MSGin5G Server via the Relay MSGin5G UE. The CoAP POST request is constructed as specified in subclause 6.3.1.1.1.

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