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

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

**Source: ZTE**

**Title: Registration for constrained devices via MSGin5G Relay 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.

**\*\*\*\*\*\*\***

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

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.554: "Application architecture for MSGin5G Service; Stage 2;".

[3] 3GPP TS 23.434: "Service Enabler Architecture Layer for Verticals".

[4] IETF RFC 7641: "Observing Resources in the Constrained Application Protocol (CoAP)".

[5] IETF RFC 7252: "The Constrained Application Protocol (CoAP)".

[6] 3GPP TS 24.546: "Configuration management - Service Enabler Architecture Layer for Verticals (SEAL); Protocol specification".

[7] 3GPP TS 29.538: "Enabling MSGin5G Service; Application Programming Interfaces (API) specification; Stage 3".

[8] JSON Schema: " JSON Schema Draft-07", <http://json-schema.org/specification.html>

[9] 3GPP TS 23.304: "Technical Specification Group Services and System Aspects; Proximity based Services (ProSe) in the 5G System (5GS)".

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

#### 6.3.X.1 General

The MSGin5G Relay UE acts as either 5G ProSe Layer-2 or Layer-3 UE-to-Network Relay entity as specified in 3GPP TS 23.304 [9] and relays the CoAP POST request/response as traffic between the MSGin5G Server and the constrained device.

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

##### 6.3.X.2.1 Constrained device with MSGin5G Client registration via MSGin5G Relay UE

When a CoAP POST request for registration from the MSGin5G Client of the constrained device, the MSGin5G Relay 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 MSGin5G Relay 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 with MSGin5G Client registration via MSGin5G Relay 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 MSGin5G Relay UE. The CoAP POST request is constructed as specified in clause 6.3.1.1.1.

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