**3GPP TSG-CT WG1 Meeting #146C1-240135**

**Online, 22– 26 January 2024**

**Source: Huawei, HiSilicon**

**Title: IMS Data Channel Interaction with CAT service**

**Spec: 3GPP** **TS** **24.186 v1.0.0**

**Agenda item: 18.3.8**

**Document for: Decision**

**1. Introduction**

This p-CR provides the contents IMS data channel interaction with the CAT (Customized Alerting Tones) service specified in 3GPP TS 24.182.

This document focuses on the interaction between the data channel media in the IMS basic call and the CAT service specified in 3GPP TS 24.183 Release 18, and does not involve usage of data channel media in the enhanced CAT service.

**2. Reason for Change**

The data channel media in the IMS basic call interaction with supplementary services needs to be defined for new 3GPP TS 24.186.

**3. Proposal**

It is proposed to agree the following changes to 3GPP TS 24.186 v1.0.0.

\* \* \* 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 22.261: "Service requirements for the 5G system; Stage 1".

[3] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".

[4] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[5] IETF RFC 5688: "A Session Initiation Protocol (SIP) Media Feature Tag for MIME Application Subtype".

[6] IETF RFC 6809: "Mechanism to Indicate Support of Features and Capabilities in the Session Initiation Protocol (SIP)".

[7] IETF RFC 3264: "An Offer/Answer Model with the Session Description Protocol (SDP) ".

[8] 3GPP TS 22.173: "IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services; Stage 1".

[9] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".

[10] 3GPP TS 24.173: "IMS Multimedia telephony communication service and supplementary services; Stage 3".

[11] 3GPP TS 24.275: "Management Object (MO) for Basic Communication Part (BCP) of IMS Multimedia Telephony (MMTEL) communication service".

[12] 3GPP TS 22.261: " Service requirements for the 5G System; Stage 1".

[13] 3GPP TR 22.873: "Study on evolution of the IP Multimedia Subsystem (IMS) multimedia telephony service".

[14] IETF RFC 8864: "Negotiation Data Channels Using the Session Description Protocol (SDP)".

[15] 3GPP TS 24.147: "Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem".

[16] 3GPP TS 24.604: "Communication Diversion (CDIV) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[17] 3GPP TS 24.615: "Communication Waiting (CW) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[18] 3GPP TS 29.175: "IP Multimedia Subsystem; IP Multimedia Subsystem (IMS) Application Server (AS) Services; Stage 3".

[19] 3GPP TS 29.176: "IP Multimedia Subsystems (IMS); Media Function (MF) Services; Stage 3".

[20] 3GPP TS 32.260: "Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging".

[21] 3GPP TS 32.255: "Telecommunication management; Charging management; 5G data connectivity domain charging; stage 2".

[22] 3GPP TS 24.647: "Advice Of Charge (AOC) using IP Multimedia (IM) Core Network (CN) subsystem".

[23] 3GPP TS 24.239: "Flexible Alerting (FA) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[24] 3GPP TR 24.174: "Support of multi-device and multi-identity in the IP Multimedia Subsystem (IMS); Stage3.

[25] 3GPP TS 24.642: " Completion of Communications to Busy Subscriber (CCBS) and Completion of Communications by No Reply (CCNR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[x] 3GPP TS 24.182: "IP Multimedia Subsystem (IMS) Customized Alerting Tones (CAT); Protocol specification".

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

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

AR Augmented Reality

AOC Advice Of Charge

AS Application Server

CAT Customized Alerting Tones

CCBS Completion of Communications to Busy Subscriber

CCNL Completion of Communications on Not Logged-in

CCNR Completion of Communications by No Reply

CD Communication Deflection

CDIV Communication DIVersion

CFB Communication Forwarding Busy

CFNL Communication Forwarding on Not Logged-in

CFNR Communication Forwarding No Reply

CFNRc Communication Forwarding on subscriber Not Reachable

CFU Communication Forwarding Unconditional

CN Core Network

CONF Conference

CW Communication Waiting

DC Data Channel

FA Flexible Alerting

IM IP Multimedia

IMS IP Multimedia Core Network Subsystem

MF Media Function

MiD Multi-iDentity

MRF Multimedia Resource Function

MuD Multi-Device

MWI Message Waiting Indication

OIP Originating Identification Presentation

OIR Originating Identification Restriction

TIP Terminating Identification Presentation

TIR Terminating Identification Restriction

UE User Equipment

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

## 10.x Customized Alerting Tones (CAT)

### 10.x.1 General

The CAT service is an operator specific service specified in 3GPP TS 24.182 [x], which describes three models of CAT service as follows:

- forking model: it has no impact to IMS data channel.

- gateway model: it has no impact to IMS data channel.

- early session model: it has no impact to IMS data channel.

As specified in 3GPP TS 24.182 [x], the CAT media can consist of favourable songs, multi-media clips or other customized alerting tones.

### 10.x.2 Actions at the originating UE

When the originating UE is configured with IMS\_DC\_configuration node specified in 3GPP TS 24.275 [11] and the DC\_Setup\_Option leaf indicates that the IMS data channel is to be setup simultaneously while establishing an IMS session, the data channel media can be negotiated in the initial INVITE request and its corresponding response.

In early session model, if the originating UE initiates data channel media negotiation of IMS basic call, it shall contain the data channel media description in the "session" body of SIP request.

### 10.x.3 Actions at the CAT AS

Upon receiving the SIP requests and responses containing data channel SDP media descriptions, the CAT AS shall ignore them and just transmit them transparently.

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