**3GPP TSG-CT WG1 Meeting #146C1-240125**

**Online, 22– 26 January 2024**

**Source: Huawei, Hisilicon**

**Title: Pseudo-CR on Update the procedure of IMS AS of terminating side**

**Spec: 3GPP TS 24.186**

**Agenda item: 18.3.8**

**Document for: Decision**

**1. Introduction**

<Introduction part (optional)>

**2. Reason for Change**

a. SA2 has agreed, when the IMS AS receives the SDP answer, the IMS AS needs to update the media information of MF and MRF, while, the procedure is not included in the procedure of IMS AS.

b. The session release procedure needs to be added in the terminating IMS AS.

c. How the IMS AS handle the SDP based on the instruction from DCSF needs to be specified.

The figure below shows the media model of MF/MRF of the originating side and the terminating side. Tx means the termination, the Mx means the data channel media description.



**When the terminating IMS AS receives the SDP offer:**

The bootstrap data channels:

* M2 is negotiated between orig UE and term NW, so the IMS AS shall delete the M2 in SDP before sent to the terminating UE.
* M3 is negotiated between orig NW and term UE, so the IMS AS shall modify the M3. The DC endpoint information shall be changed to the DC endpoint information on T2.
* M4 shall be added to the SDP to negotiated the bootstrap data channel between terminating UE and terminating network.

The application data channels:

* M6 is negotiated between orig UE and term NW, and the IMS session will not be established with the terminating UE. So the IMS AS shall delete M6 when sending to the terminating UE.
* M7 is negotiated between orig UE and term UE, so the M7 shall be modified.

**When the terminating IMS AS receives the SDP answer from UE:**

The bootstrap data channels:

* Generate M2 and add to the SDP answer.
* M3 in SDP answer shall be modified. The DC endpoint information of the terminating UE shall be changed to the DC endpoint information on T1.
* Delete M4 in the SDP answer.

The application data channels:

* Generate M6 and add to the SDP answer.
* M7 is negotiated between orig UE and term UE, so the M7 shall be modified.

**3. Conclusions**

<Conclusion part (optional)>

**4. Proposal**

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

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

##### 9.3.3.2.1 IMS data channel session setup

Upon receipt of a SIP INVITE or re-INVITE message with the SDP offer including data channel media descriptions from the originating network, the IMS AS:

1) will notify the DCSF about a session establishment request event. Based on the received Media instruction set from the DCSF, the IMS AS shall select the MRF (or MF) and request the MRF (or MF) to allocate required data channel media resources.

a) If the MF is selected, based on the response of the reserved media resource from MF, the IMS AS shall

1. delete the remote bootstrap data channel media description for the originating UE (the media line with the "dcmap" attribute containing a subprotocol parameter set to "http" and "stream-id" parameter set to values 100 and110 and "a=3gpp-bdc-used-by" attribute with "bdc-used-by" parameter set to value "sender"), i.e. the remote bootstrap data channel between originating UE and terminating network in the SDP offer;
2. modify the remote bootstrap data channel media description for the terminating UE (the media line with the "dcmap" attribute containing a subprotocol parameter set to "http" and "stream-id" parameter set to values 100 and110 and "a=3gpp-bdc-used-by" attribute with "bdc-used-by" parameter set to value "receiver"), i.e. the remote bootstrap data channel between terminating UE and originating network

* to replace the DC endpoint information with the media resource information on the termination offered to the terminating UE if the media in anchored on the MF;

1. generate and add the local bootstrap data channel media description for the terminating UE (the media line with the "dcmap" attribute containing a subprotocol parameter set to "http" and "stream-id" parameter set to values 0 and10), i.e. the local bootstrap data channel between the terminating network and terminating UE to the SDP offer;

The IMS AS shall send the INVITE or re-INVITE message with the modified SDP offer via the S-CSCF towards the terminating registered UE of the served user, which support the IMS data channel capabilities; or

2) shall not trigger the DC media resource reservation and may delete the received data channel media information from the SIP INVITE or re-INVITE message, e.g., "m=application" line with webrtc-datachannel, based on operator policy and shall send the SIP INVITE or re-INVITE message to the S-CSCF towards the terminating registered UE of the served user;

* for which the IMS AS determines that the terminating registered UE does not support IMS data channel capabilities; or
* which is not authorized to use IMS data channel.

Upon receipt the 18x or 2xx response on the INVITE or re-INVITE message including the SDP answer which includes the data channel media description, the IMS AS will notify to DCSF about corresponding session event (session establishment progress (183), session establishment alerting (180) or session establishment success (200) event) and shall request the MRF (or MF) to update the media resources.

1. If MF is used, based on the response of the MF, the IMS AS shall
2. generate and add the remote bootstrap data channel media description for the originating UE (the media line with the "dcmap" attribute containing a subprotocol parameter set to "http" and "stream-id" parameter set to values 100 and110 and "a=3gpp-bdc-used-by" attribute with "bdc-used-by" parameter set to value "sender") in the SDP answer, i.e. the remote bootstrap data channel between originating UE and terminating network;
3. modify the remote bootstrap data channel media description for the terminating UE (the media line with the "dcmap" attribute containing a subprotocol parameter set to "http" and "stream-id" parameter set to values 100 and110 and "a=3gpp-bdc-used-by" attribute with "bdc-used-by" parameter set to value "receiver"), i.e. the remote data channel between terminating UE and originating network.

* replace the DC endpoint information in the bootstrap data channel media description with the DC endpoint information on the termination towards to the originating network.

1. delete the bootstrap data channel media description (the media line with the "dcmap" attribute containing a subprotocol parameter set to "http" and "stream-id" parameter set to values 0 and10) in the SDP answer, i.e. the bootstrap data channel between terminating UE and terminating network;

The IMS AS shall include the modified SDP answer for data channel to originating network and send the 18x or 2xx response to S-CSCF.

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