**3GPP TSG SA WG5 Meeting #157 S5-245903**

**Hyderabad, India 14 - 18 October 2024**

**Source: Huawei**

**Title: New charging solution for DC application download**

**Document for: Approval**

**Agenda Item: 7.5.3**

# 1 Decision/action requested

***The group is asked to discuss and agree on the proposal.***

# 2 References

[1] 3GPP TR 28.851: "Study on charging aspects of next generation real time communication services phase 2".

# 3 Rationale

This pCR proposes a new solution on IMS DC download charging in TR 28.851 [1].

# 4 Detailed proposal

The following changes are proposed to be incorporated into TR 28.851.

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| **First change** |

### 5.2.4 Possible solutions

#### 5.2.4.1 Solution #1: DCSF based charging solution for DC application download

##### 5.2.4.1.1 General

This solution #1 resolves the key issues #1a and #1b. The solution is based on the data channel signalling control function (DCSF), as specified in TS 23.228 [5], to collect and report the charging information for DC application downloading.

##### 5.2.4.1.2 Description

In an IMS DC session, the originating UE and terminating UE may request to download or update a dedicated DC application for following up interations via a bootstrap DC. TS 23.228 [5] Figure AC.7.1-1 depicts the bootstrap DC setup signalling procedure, which includes four scenarios of DC application downloading:

- In step 21, the originating UE downloads DC application from the originating DCSF via the bootstrap DC with stream ID 0, 10. According to TS 26.114 [8] Table 6.2.10.1-2, the stream ID 0 and 10 refers to local network provider and local user.

- In step 22, the terminating UE downloads DC application from the originating DCSF via the boostratp DC with stream ID 100, 110. According to TS 26.114 [8] Table 6.2.10.1-2, the stream ID 100 and 110 refers to remote network provider and remote user.

- In step 23, the originating UE downloads DC application from the terminating DCSF via the bootstrap DC with stream ID 100, 110 (i.e. remote network provider and remote user).

- In step 24, the terminating UE downloads DC application from the terminating DCSF via the bootstrap DC with stream ID 0, 10 (i.e. local network provider and local user).

Depends on the SDP offers and answers demonstrated in TS 26.114 [8] A.17, each UE decides the source for DC application download. Either one of the above scenarios may be a chargeable event, i.e. download DC application.

Since DC application is downloaded by DCSF for all scenarios, this NF can support the collection and reporting of relevant charging information. The charging information can be based on the information sent to DCSF from IMS AS in the Nimsas\_SessionEventControl\_Notify request, for instance,

- Session ID and Event ID;

- Calling ID and Called ID;

- DC Stream ID and DC application binding information, which are specified in TS 26.114 [8] clause 6.2.10.1 and A.17, e.g. a=dcmap:0 subprotocol="http".

Figure 5.2.4.1.2-1 depicts the charging procedure for DC application download based on DCSF.



Figure 5.2.4.1.2-1 Event Charging Procedure for DC application download (PEC as example)

1-20. Originating UE initiate the bootstrap DC set up procedure, as specified in step 1-20 of Figure AC.7.1-1 TS 23.228 [5].

21-24. Boostrap DC has been established between originating/terminating MF and originating/terminating UE, as specified in step 21-24 of Figure AC.7.1-1 TS 23.228 [5]. The UE send application request message to MF to request a data channel application(s) via the established bootstrap DC. The MF prepare the URL for DCSF to download the requested DC application(s) from DCAR. The DCSF provide the application(s) to UE.

2xch-a. The DCSF sends Charging Data Request [Event] to CHF for the UE successful DC application download.

2xch-b. The CHF creates the CDR for this DC application download.

2xch-c. The CHF acknowledges by sending Charging Data Response [Event] to the DCSF.

Note: Step 21 to 24 described four different sources of DC application download. Once UE decided the source for download, one of the steps will be performed to download the applications. In this case, the charging step 2xch-a may be triggered after either one of the steps 21-24.

Editor’s Note: The trigger step is FFS.

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| **End of changes** |