**3GPP SA3#95-LI *s3i240707***

**29 October – 01 November 2024, Las Vegas (US)**

**Title: Request for IMS Data Channel related clarifications**

**Release: Release 18**

**Work Item:**

**Source:** **SA3-LI**

**To:** **SA2, SA4, CT1, CT4**

**Cc: SA3, CT3**

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**Attachments:**

**1. Overall Description:**

SA3 LI is working on the LI stage 3 specifications for IMS Data Channel related LI functions. In this regard, SA3 LI kindly requests SA2, CT1 and CT4 to provide the clarifications on whether or not DCSF is notified at the remote user end of an IMS Data Channel and a potential discrepancy among the 3GPP specifications.

The TS 24.186 seems to indicate clearly that a DCSF is notified in the terminating UE side of the IMS session.

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#### 9.3.3.2 Procedures at the serving IMS AS for the terminating UE

##### 9.3.3.2.1 IMS bootstrap data channel establishment in conjunction with MMTel session setup

Upon receipt of a SIP initial INVITE request with the SDP offer including IMS data channel media descriptions from the originating network, if the IMS AS determined that the terminating registered UE:

1) supports IMS data channel capabilities and is authorized to use IMS data channel, the IMS AS shall notify the DCSF about a session establishment request event and shall not send a INVITE request to the S-CSCF until receiving an acknowledgement from the DCSF. Based on the received Media instruction set from the DCSF, the IMS AS shall select the MF and request the MF to allocate required data channel media resources.

##### 9.3.3.2.2 MMTel session modification

##### 9.3.3.2.2.1 IMS bootstrap data channel establishment

If the IMS AS received from the originating network a re-INVITE request with the SDP offer containing data channel media description for the bootstrap data channel establishment, if the IMS AS determined that the terminating registered UE:

- supports IMS data channel capabilities and is authorized to use IMS data channel, the IMS AS shall notify the DCSF about the media change request, and modify the data channel media description in the SDP offer and send the re-INVITE request as per clause 9.3.3.2.1.

The above two referenced paragraphs infer that the DCSF at the terminating side is notified when the IMS Data Channel is setup during the initial call setup or later.

The TS 26.114, the clause 6.2.10 Data Channel has the following:



* Figure 6.2.10.1-1: Data Channel Workflow

The diagram infers as if step 5 is from Data Channel Server in US-A network to UE B. In other words, there is no Data Channel Server in UE-B’s network.

The following text is in one of the paragraphs following the above figure (TS 26.114, clause 6.2.10.1):

In Figure 6.2.10.1-1, assume that UE A is local to the operator hosting the data channel server. Further assume that UE B belongs to a different operator (remote). The user of UE A can create and use data channel applications (steps 1-4), which can also be sent to UE B (step 5). Similarly, some other authorized part associated with UE A’s operator can create data channel applications for use by UE A (steps 1-4), which can also be sent to UE B (step 5). For simplicity, there’s no data channel server and data channel application repository de picted for UE B in Figure 6.2.10.1-1, but those could be present in a more general case.

The paragraph does not clearly indicate whether, or not a Data Channel Server is present in the UE-B’s network.

The TS 23.228 has the following architecture diagram in Annex AC:



Figure AC.2.1-1: Architecture option of IMS supporting DC usage with MF

The above shows Remote IMS, but does not provide a clarification on whether DCSF is notified in Remote IMS.

SA3 LI kindly requests SA2, CT1, CT4 to clarify and confirm whether SA3-LI can progress the stage 3 LI work for IMS Data Channel with the following **understanding:**

1. The IMS-AS in the remote UE’s side of the IMS session always notifies the DCSF about the IMS Data Channel related event notifications, irrespective which side initiates the IMS Data Channel setup (originating party or the terminating party).
2. The statement 1 is true even if the local UE and the remote UE are in the same CSP domain.
3. In addition to notifying the DCSF, the Remote UE’s network would also have an MF on the IMS Data Channel media.

SA3 LI kindly requests SA2, CT1 and CT4 to provide the clarifications on the following points/questions:

1. In the SessionEvenNotifictions, how are the Calling Identity and Called Identity are populated by the IMS AS (i.e. which SIP headers from the initial INVITE, re-INVITE are used)?
2. If call forwarding occurs at the terminating side (clause 10.123, TS 24.186), the two users present on the established IMS session (i.e. after the successful redirection) are:
	* Original calling party.
	* Redirected-to party.

2-1: Assuming Calling Identity is the original calling party, what would the Called Identity that IMS AS sends in the ession Event Notification to the DCSF, i.e.redirecting party identity or the redirected-to party identity?

2-2: If it is the later, how does the IMS-AS in the originating network knowsabout the redirected-to party identity?

2-3: If it is the former, what would be purpose including the Called Identity in the Session Event Notification, specially, when that user is using the IMS Data Channel?

2-4: Do the MF in the local UE side and Remote UE side have same role – e.g., MF in the UDP Proxy or HTTP Proxy?

**2. Actions:**

**To SA2: To clarify whether the IMS Data Channel architecture requires the DCSF and MF to present in the Remote IMS.**

**To SA4: Does the figure 6.2.10.1-1 infer DCSF is not notified in the Remote UE’s side of the IMS network (meaning a conflict with the TS 24.186)?**

**To CT1, CT4: Confirm whether SA3-LI understanding as noted in 1, 2 and 3 are correct. Kindly clarify and provide answers to points/questions: 1, 2-1, 2-2, 2-3 and 2-4.**

**3. Date of Next TSG-SA WG2 Meetings:**

3GPP SA3#96-LI 28 - 31 January 2025 Sophia Antipolis, FR