**3GPP TSG SA WG2 Meeting #160 *S2-2313469***

**November 13 – 17, 2023, Chicago, USA (Revision of S2-2312944)**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **23.228** | **CR** | **1371** | **rev** | **1** | **Current version:** | **18.3.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <http://www.3gpp.org/Change-Requests>.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Clarification on how to handle IMS DC capability indications |
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| ***Source to WG:*** | China Mobile |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | NG\_RTC |  | ***Date:*** | 2023-11-01 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | It is not complete in current specification on how to handle IMS DC capability indications in registration and session establishment procedures, both for UE and IMS network. 1. CT1 has defined Management Objective indicating whether to allow IMS data channel capability on the UE based on subscription, which should be aligned and considered when deciding whether the UE indicates its IMS data channel capability in registration and session establishment procedures. CT6 is also working on UICC based configuration.
2. It may not be enough to rely on MO or UICC, because in real deployment MO and UICC solutions rely on the update of the service provisioning system and UE, which can not cover all the legacy UEs. A network-controlled solution should also be considered.

It is proposed to clarify:1. If IMS DC is not subscribed, the S-CSCF does not include IMS DC capability in the 200 OK response to the registration.
2. If S-CSCF does not include IMS DC capability in the 200 OK to the registration, the UE understand that IMS network does not provide IMS DC during this registration period, thus does not include its IMS DC capability in future INVITE message.

According to 29.228, the S-CSCF can be aware of the subscription of IMS DC via CoreNetworkServicesAuthorization information in service profile.Moreover, the clause of AC.8 is overlapped with AC.7, thus AC.8.1 should be merged into AC.7. |
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| ***Summary of change:*** | This contribution has the following changes:1. align with CT1 that the UE is configured whether IMS DC capability is allowed and UE use it to handle IMS DC capability indication;
2. clarify that the S-CSCF include IMS DC capability in the 200 OK response to the registration when IMS DC is subscribed
3. move contents in AC.8 in to AC.7.
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| ***Consequences if not approved:*** | Incomplete specification |
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| ***Clauses affected:*** | AC.7.0 (new clause), AC.3, AC.8 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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

AC.7.0 IMS DC capability negotiation

The IMS network and the UE need to mutually negotiate the capability of supporting IMS data channel when a UE supporting IMS data channel registers to IMS network.

IMS data channel capability negotiation includes two aspects:

- The network discovers the data channel capability of the UE.

- The UE discovers the data channel capability of the network.

The UE may be configured by the HPLMN either via Device Management or in the UICC whether IMS data channel capability is allowed to be used when initiating an IMS session.

When the UE supporting IMS data channel registers on the IMS network and the UE is configured to be allowed to use IMS data channel capability, it includes the media feature tag as specified in TS 26.114 [76] in the Contact header field of the initial REGISTER request and any subsequent REGISTER request to allow the home IMS network discovers its IMS data channel capability.

If the IMS network supports IMS data channel and service profile of the subscriber has been extended to support IMS data channel, the S-CSCF includes a Feature-Caps header field indicating its data channel capability in the 200 OK response to the initial and any subsequent REGISTER request, which is used by the UE to discover the IMS data channel capability of its home IMS network.

NOTE 1: The UE can receive a Feature-Caps header field indicating its data channel capability in the 200 OK response to a subsequent REGISTER request when the network starts supporting IMS data channel after successful initial registration of the UE.

NOTE 2: To avoid unnecessary inclusion of data channel media description in SDP, IMS network does not indicate its data channel capability to the UE if the UE does not subscribe IMS data channel service.

When the UE supporting IMS data channel initiates an IMS session, if the UE is configured to be allowed to use IMS data channel capability, it includes the media feature tag as specified in TS 26.114 [76] in the Contact header field of the initial INVITE or a re-INVITE request to remote UE, regardless of data channel media being part of the SDP or not.

The UE shall not include the media feature tag as specified in TS 26.114 [76] in the Contact header field and data channel media description in the SDP offer of the initial INVITE request or any subsequent re-INVITE, if the S-CSCF has not included the data channel capability indication in the Feature-Caps header field in the 200 OK response either to the REGISTER or subsequent REGISTER request.

\*\*\*\* Second Change \*\*\*\*

# AC.3 IMS Data Channel Service Subscription

Service Subscription for IMS Data Channel shall be an extension to the MMTEL service profile in HSS. The Data Channel subscription information shall be used by the IMS AS and S-CSCF during IMS registration, session initiation or update to authorize subscribers to use the DC service.

IMS AS Service specific data is enhanced with DC specific service data, optionally stored in HSS (e.g. as repository data) and retrieved by IMS AS using N71/Sh interface.

DCSF service specific data used by DCSF for data channel management, may be stored (e.g. as repository data) and retrieved from HSS using the N72/Sc interface. DCSF service specific data are out of scope of 3GPP.

\*\*\*\* Third Change \*\*\*\*

# AC.8 Void

## AC.8.1 Void

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