**3GPP TSG-SA WG6 Meeting #38-e S6-201076**

**e-meeting, 20th – 31st July 2020 (revision of S6-xxxxxx)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.282** | **CR** | **230** | **rev** |  | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Functional alias handling for one-one standalone SDS requests | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eMCData3 | | | | |  | ***Date:*** | | | 2020-07-13 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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 can be 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | If the functional alias is used as a target for the standaloneSDS requests and if the end-end encryption to be used then originating client should know the MCData ID derived by resolving the functional alias. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Functional alias reaolution response is included between the MCData server and MCData client smiliar to what is introduced for MCPTT and MCVideo | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | End-end security cannot be established when functional alias is used as target. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.4.2.2.1, 7.4.2.2.2, 7.4.2.3.1, 7.4.2.3.2, 7.4.2.1.22(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

##### 7.4.2.1.22 MCData functional alias resolution response

Table 7.4.2.1.22-1 describes the information flow MCData functional alias resolution response from the MCData server to the MCData client.

Table 7.4.2.1.22-1: MCData functional alias resolution response information elements

|  |  |  |
| --- | --- | --- |
| Information Element | Status | Description |
| MCData ID | M | The identity of the MCData user sending the data |
| MCData ID | M | The corresponding MCData ID of the functional alias resolved by MCData server |

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

#### 7.4.2.2 One-to-one standalone short data service using signalling control plane

##### 7.4.2.2.1 General

A MCData user initiates a standalone SDS data transfer with another MCData user. For the SDS data transfer signalling plane is used. The target MCData user may be addressed using the functional alias that can be shared with other MCData users.

##### 7.4.2.2.2 Procedure

The procedure in figure 7.4.2.2.2-1 describes the case where an MCData user is initiating one-to-one MCData data communication for sending standalone SDS data to other MCData user, with or without disposition request. Standalone refers to sending unidirectional data in one transaction.

Pre-conditions:

1. The SDS payload data size is below the configured maximum payload data size for SDS over signalling control plane.

2. MCData users on MCData client 1 and MCData client 2 are already registered for receiving MCData service.

3. MCData client 1 and MCData client 2 belong to the same MCData system.

4. Optionally, the MCData client may have activated functional alias to be used.

5. The MCData server may have subscribed to the MCData functional alias controlling server within the MC system for functional alias activation/de-activation updates.



Figure 7.4.2.2.2-1: One-to-one standalone short data service using signalling control plane

1. The user at MCData client 1 initiates an SDS data transfer for the chosen MCData user.

2. MCData client 1 sends a MCData standalone data request towards the MCData server. The MCData standalone data request contains conversation identifier for message thread indication. The MCData standalone data request may contain disposition request if indicated by the user at MCData client 1. MCData user at MCData client 1 may include a functional alias within the SDS data transfer and addresses the target MCData client 2 using a functional alias.

a) If the MCData user at the MCData client 1 initiates an MCData emergency short data service communication or MCData emergency state is already set for the MCData client 1 (due to previously triggered MCData emergency alert):

i) The MCData standalone data request shall contain emergency indicator; and

ii) If MCData emergency state is not set already, MCData client 1 sets its MCData emergency state. The MCData emergency state is retained until explicitly cancelled.

3. MCData server checks whether the MCData user at MCData client 1 is authorized to send MCData standalone data request. MCData server verifies whether the provided functional alias of MCData client 1, if present, can be used and has been activated for the user. The MCData server also checks whether any policy is to be asserted to limit certain types of message or content to certain members due, for example, to location or user privilege or affiliation. If functional alias is used to address that target MCData user, the MCData server resolves the functional alias to the corresponding MCData ID(s) for which the functional alias is active and proceed with step 4 otherwise proceed with step 6. The MCData server allows only two participating MCData clients for a standalone short data service.

NOTE 1: The MCData server prioritizes the MCData emergency communication over the other MCData communication. How the MCData server prioritizes MCData emergency communication is not in the scope of the present document.

NOTE 2: If the MCData server detects that the functional alias used as the target of the SDS data transfer request is simultaneously active for multiple MCData users, then the MCData server can proceed by selecting an appropriate MCData ID based on some selection criteria. The selection of an appropriate MCData ID is left to implementation. These selection criteria can include rejection of the SDS data transfer request, if no suitable MCData ID is selected.4. The MCData server responds back to MCData client 1 with a functional alias resolution response message that contains the resolved MCData ID.

5. If the MCData server replies with a MCData functional alias resolution response message, the MCData client 1 sends a new MCData SDS transfer request towards the resolved MCData ID.

6. MCData server initiates the MCData standalone data request towards the MCData user that is determined based on step 3. The MCData standalone data request towards the MCData user contains the emergency indicator if it is present in the received MCData standalone data request from MCData client 1.

7. If the payload is for MCData user consumption (e.g. is not application data, is not command instructions, etc.) then the MCData user of MCData client 2 may be notified. Otherwise if the payload is not for MCData user consumption, then the MCData user of MCData client 2 shall not be notified. The action taken when the payload contains application data or command instructions are specific based on the contents of the payload. Payload content received by MCData client 2 which is addressed to a known local non-MCData application that is not yet running shall cause the MCData client 2 to start the local non-MCData application (i.e., remote start application) and shall pass the payload content to the just started application.

8. If the MCData data disposition for delivery was requested by the user at MCData client 1, then the receiving MCData client initiates a MCData data disposition notification for delivery report. The MCData data disposition notification from MCData client may be stored by the MCData server for disposition history interrogation from authorized MCData users.

9. MCData data disposition notification is sent to the disposition requesting user at MCData client 1.

10. If the MCData data disposition for read was requested by the user at MCData client 1, then once the receiving user reads the data, the receiving MCData client 2 initiates a MCData data disposition notification for read report. The MCData data disposition notification from MCData client 2 may be stored by the MCData server for disposition history interrogation from authorized MCData users.

11. MCData data disposition notification is sent to the disposition requesting user at MCData client 1.

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

#### 7.4.2.3 One-to-one standalone short data service using media plane

##### 7.4.2.3.1 General

A MCData user initiates a standalone SDS data transfer with another MCData user. For the SDS data transfer media plane is used. The target MCData user may be addressed using the functional alias that can be shared with other MCData users.

##### 7.4.2.3.2 Procedure

The procedure in figure 7.4.2.3.2-1 describes the case where an MCData user is initiating one-to-one MCData data communication for sending standalone SDS data to other MCData user, with or without disposition request. Standalone refers to sending unidirectional data in one transaction. The SDS payload data size is assumed to be above the configured maximum payload data size for SDS over signalling control plane.

Pre-conditions:

1. MCData users on MCData client 1 and MCData client 2 are already registered for receiving MCData service.

2. MCData client 1 and MCData client 2 belong to the same MCData system.

3. Optionally, the MCData client may have an activated functional alias to be used.

4. The MCData server may have subscribed to the MCData functional alias controlling server within the MC system for functional alias activation/de-activation updates.



Figure 7.4.2.3.2-1: One-to-one standalone short data service using media plane

1. User at MCData client 1 would like to initiate an SDS data transfer request for the chosen MCData user.

2. MCData client 1 sends a MCData standalone session data request towards the MCData server. The MCData standalone session data request contains one MCData user for one-to-one data communication as selected by the user at MCData client 1. The MCData standalone session data request contains conversation identifier for message thread indication. The MCData data request may contain disposition request if indicated by the user at MCData client 1. MCData user at MCData client 1 may include a functional alias within the SDS data transfer and addresses the target MCData client 2 using a functional alias.

a) If the MCData user at the MCData client 1 initiates an MCData emergency short data service communication or MCData emergency state is already set for the MCData client 1 (due to previously triggered MCData emergency alert):

i) The MCData standalone session data request shall contain emergency indicator; and

ii) If MCData emergency state is not set already, MCData client 1 sets its MCData emergency state. The MCData emergency state is retained until explicitly cancelled.

3. MCData server checks whether the MCData user at MCData client 1 is authorized to send MCData standalone session data request. MCData server verifies whether the provided functional alias of MCData client 1, if present, can be used and has been activated for the user. The MCData server also checks whether any policy is to be asserted to limit certain types of message or content to certain members due, for example, to location or user privilege. MCData server determines the eligible MCData user(s) after policy assertion for sending the MCData standalone session data request. If functional alias is used to address that target MCData user, the MCData server resolves the functional alias to the corresponding MCData ID(s) for which the functional alias is active and proceed with step 4 otherwise proceed with step 6. The resulting list contains all associated MCData IDs/MCData users that share this functional alias. The MCData server allows only two participating MCData clients for a standalone short data service.

NOTE 1: The MCData server prioritizes the MCData emergency communication over the other MCData communication. How the MCData server prioritizes MCData emergency communication is not in the scope of the present document.

4. The MCData server responds back to MCData client 1 with a functional alias resolution response message that contains the resolved MCData ID.

NOTE 2: If the MCData server detects that the functional alias used as the target of the MCData standalone session data request is simultaneously active for multiple MCData users, then the MCData server can proceed by selecting an appropriate MCData ID based on some selection criteria. The selection of an appropriate MCData ID is left to implementation. These selection criteria can include rejection of the MCData standalone session data request, if no suitable MCData ID is selected.

5. If the MCData server replies with a MCData functional alias resolution response message, the MCData client 1 sends a new MCData standalone session data request towards the resolved MCData ID.

6. MCData server initiates the MCData standalone session data request towards the MCData users determined. The MCData standalone session data request towards the MCData user contains an emergency indicator if it is present in the received MCData standalone session data request from MCData client 1.

NOTE 3: MCData client 2 corresponds to the MCData user(s) after resolution of the functional alias.

7. The receiving MCData client 2 automatically accepts the MCData standalone session data request and responds with MCData standalone session data response towards MCData server.

8. MCData server forwards the MCData client 2 accepted response to the MCData Client 1 initiating the MCData standalone session data request.

9. MCData client 1 and MCData client 2 have successfully established media plane for data communication and the MCData client 1 transmits the SDS data.

10. If the payload is for MCData user consumption (e.g. is not application data, is not command instructions, etc.) then the MCData user of MCData client 2 may be notified. Otherwise if the payload is not for MCData user consumption, then the MCData user of MCData client 2 shall not be notified. The action taken when the payload contains application data or command instructions are specific based on the contents of the payload. Payload content received by MCData client 2 which is addressed to a known local non-MCData application that is not yet running shall cause the MCData client 2 to start the local non-MCData application (i.e., remote start application) and shall pass the payload content to the just started application.

11. If the MCData data disposition for delivery was requested by the user at MCData client 1, then the receiving MCData client initiates a MCData data disposition notification for delivery report. The MCData data disposition notification from MCData client 2 may be stored by the MCData server for disposition history interrogation from authorized MCData users.

12. MCData data disposition notification is sent to the disposition requesting user at MCData client 1.

13. If the MCData disposition for read was requested by the user at MCData client 1, then once the receiving user reads the data, the receiving MCData client 2 initiates a MCData disposition notification for read report. The MCData data disposition notification from MCData client 2 may be stored by the MCData server for disposition history interrogation from authorized MCData users.

14. MCData data disposition notification is sent to the disposition requesting user at MCData client 1.