**3GPP TSG-CT WG1 Meeting #146C1-240063r1**

**Online, 22– 26 January 2024**

**Source: Kontron Transportation France, Ericsson**

**Title: Discussion on private calls using functional alias towards partner MC system**

**Agenda item: 18.3.1**

**Document for: DISCUSSION**

# 1 Introduction

The purpose of document is to discuss and a agree on a way forward on the following generic procedure in 3GPP TS 23.280:

* 10.16.3 Private call using functional alias towards a partner MC system

## 2 Procedure

## 2.1 Private call using functional alias towards a partner MC system

The following procedure is defined in stage-2:

Figure 10.16.3.3-1 represents a generic MC service private call setup procedure to allow using the functional alias as called party address, i.e., the MC service ID address is resolved by the partner MC system through the primary MC service server and primary MC service functional alias controlling server.

Additional new pre-condition:

1. A secured connection has been established between the MC service functional alias controlling servers in different MC systems.



Figure 10.16.3.3-1: Private call setup in automatic commencement mode, users in multiple MC systems

1-2. Same as in 3GPP TS 23.379 [16] clause 10.7.2.2.3.1, 3GPP TS 23.281 [12] clause 7.2.2.3.1 or corresponding procedures in 3GPP TS 23.282 [13], but MC service private call request contains a functional alias of invited user.

3. If the MC service private call request contains a functional alias instead of an MC service ID as called party, the MC service server checks whether MC service client 1 can use the functional alias to setup a private call. If authorized, the MC service server 1 resolves the functional alias to the corresponding MC service ID for which the functional alias is active by using subsequent steps 4-7.

4. The MC service server 1 sends an MC service functional alias resolution request message to the MC service functional alias controlling server 1 to resolve the functional alias of the called party.

5. The MC service functional alias controlling server 1 determines that the functional alias belongs to the partner MC system and forwards the MC service functional alias resolution request message to MC service functional alias controlling server 2.

6. The MC service functional alias controlling server 2 resolves the functional alias and determines the corresponding MC service ID to terminate the call and returns it to the MC service functional alias controlling server 1 in the MC service functional alias resolution response message.

NOTE: Depending on implementation the MC service server can apply additional call restrictions and decide whether the call is allowed to proceed with the resolved MC service ID(s) (e.g., whether the MC service ID is within the allowed area of the functional alias). If the MC service server detects that the functional alias used as the target of the private call request is simultaneously active for multiple MC service users, then the MC service server can proceed by selecting an appropriate MC service ID based on some selection criteria. The selection of an appropriate MC service ID is left to implementation. This selection criteria can include rejection of the call, if no suitable MC service ID is selected.

7. The MC service functional alias controlling server 1 returns the corresponding MC service ID to MC service server 1 in the MC service functional alias resolution response message. The MC service server 1 checks if MC service user at MC service client 1 is authorized to initiate the private call to the MC service user at MC service client 2. If not authorized stop the procedure, otherwise continue with step 8.

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

9. The MC service client 1 sends a new MC service private call request towards the resolved MC service ID according 3GPP TS 23.379 [16] clause 10.7.2.2.3.1, 3GPP TS 23.281 [12] clause 7.2.2.3.1 or corresponding procedures in 3GPP TS 23.282 [13].

10-14. Same as in 3GPP TS 23.379 [16] clause 10.7.2.2.3.1, 3GPP TS 23.281 [12] clause 7.2.2.3.1 or 3GPP TS 23.282 [13] clause 7.14.2.2.

15. The receiving MC service client 2 accepts the private call automatically, and an acknowledgement is sent to the MC service server 2.

16. The MC service server 2 forwards the MC service private call response message to MC service server 1.

17-18. Same as in 3GPP TS 23.379 [16] clause 10.7.2.2.3.1, 3GPP TS 23.281 [12] clause 7.2.2.3.1 or corresponding procedures in 3GPP TS 23.282 [13].

**Analysis:**

3GPP TS 24.379 contains in clause 11.1.1.4.2 the following step for resolution of the functional alias of a private call:

8a) if the <session-type> in the received SIP INVITE request is set to "private" and if the SIP INVITE request contained an application/vnd.3gpp.mcptt-info+xml MIME body with the <mcpttinfo> element containing the <mcptt-Params> element containing the <anyExt> element with the <call-to-functional-alias-ind> element set to a value of "true":

a) shall identify the MCPTT ID(s) of the MCPTT user(s) that have activated the received called functional alias in the application/resource-lists+xml MIME body of the SIP INVITE request by performing the actions specified in clause 9A.2.2.2.8;

=>Clause/procedure 9A.2.2.2.8 corresponds to MC service functional alias controlling server 1.

Clause 9A.2.2.2.8 contains the following statement:

In order to discover the MCPTT users that have successfully activated a handled functional alias in the MCPTT server owning the functional alias, the MCPTT server shall generate an initial SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 3856 [51], and IETF RFC 6665 [26].

In the SIP SUBSCRIBE request, the MCPTT server:

1) shall set the Request-URI to the public service identity of the controlling MCPTT function associated with the handled functional alias;

=>The above text of clause 9A.2.2.2.8 describes the communication between MC service functional alias controlling server 1 and MC service functional alias controlling server 2. This is done by generating and sending a initial SIP SUBSCRIBE request towards the MC service functional alias controlling server 2. The Request-URI used for addressing the MC service functional alias controlling server 2 is the public service identity of the controlling MCPTT function associated with the handled functional alias .

The procedure in clause 9A.2.2.2.8 is specified in a way that it can handle the resolution of a functional alias that is owned by the home MC service system or owned by a partner MC service. The only difference is to use the appropriate value for the public service identity of the controlling MCPTT function associated with the handled functional alias.

In MCVideo it is also covered in a similar way. For a private call to a functional alias the procedure in clause 10.2.2.4.2 invokes the procedure in clause 20.2.2.2.8. In there is very similar test as in clause 9A.2.2.2.8 of 3GPP TS 24.379.

In order to discover the MCVideo users that have successfully activated a handled functional alias in the MCVideo server owning the functional alias, the MCVideo server shall generate an initial SIP SUBSCRIBE request according to 3GPP TS 24.229 [11], IETF RFC 3856 [13], and IETF RFC 6665 [16].

In the SIP SUBSCRIBE request, the MCVideo server:

1) shall set the Request-URI to the public service identity of the controlling MCVideo function associated with the handled functional alias;

In MCData the situation is also very similar: The only difference is that functional alias resolution is performed in 6 procedures (standalone SDS using signaling control plane, standalone SDS using media plane, SDS session, FD using HTTP, FD using media plane ;IP connectivity). In each of these procedures

The procedure in clause 22.2.2.2.8 is invoked, which is again very similar to clause 9A.2.2.2.8 in 3GPP TS 24.379 and clause 20.2.2.2.8 in 3GPP TS 24.281.

In order to discover the MCData users that have successfully activated a handled functional alias in the MCData server owning the functional alias, the MCData server shall generate an initial SIP SUBSCRIBE request according to 3GPP TS 24.229 [5], IETF RFC 3856 [39], and IETF RFC 6665 [36].

In the SIP SUBSCRIBE request, the MCData server:

1) shall set the Request-URI to the public service identity of the controlling MCData function associated with the handled functional alias;

**Proposal:**

Since all functionality required for private call using a functional alias towards a partner MC system is already specified for MCPTT, MCVideo, and MCData, there is no need for normative changes in stage-3 related to this procedure in CT1.