**3GPP TSG-CT WG1 Meeting #136-eC1-223813**

**E-Meeting, 12th – 20th May 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.281** | **CR** | **0177** | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  |
| *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:***  | FA as a target user for MCVideo private call |
|  |  |
| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | eMONASTERY2 |  | ***Date:*** | 05-05-2022 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | Stage 2 TS 23.281 specifies how an activated Functional Alias can be used as the target in a private call. The FA is resolved at the server side and the client receives a single MCVideo ID. If multiple users have activated the FA, based on implementation the server selects a single MCVideo ID to provide to the call initiating side.Stage-3 has to implement these requirements and it is proposed that the FA resolution is performed by the server as a separate procedure and provided to the originating client via a SIP 300 (Multiple Choices) response to the initial invite. The Multiple choices has been selected to allow certain implementations to provide alternatives to the client. |
|  |  |
| ***Summary of change:*** | **4.4.2:**New warning codes are defined**Client**In 10.2.2.2.1: included the functional alias as a target for the private call and call-to-functional-alias-ind for indicating the target used is functional alias.**Participating server**10.2.2.3.1.1, 10.2.2.3.1.2 and 10.2.2.3.2: Extend validation for private calls whether calling functional alias is allowed to call the called functional **Controlling server:**10.2.2.4.2: handling of the request for the private call using functional alias.**20.2.2.2.8:**Added new procedure for Functional alias resolution from MCVideo server owning the functional alias.**F.1.2 & F.1.3:**Schema and semantic is updated to include the call-to-functional-alias-ind  |
|  |  |
| ***Consequences if not approved:*** | The use of functional alias as a target will not be supported for the private call procedure. |
|  |  |
| ***Clauses affected:*** | 4.4.2, 10.2.2.2.1, 10.2.2.3.1.1, 10.2.2.3.1.2, 10.2.2.3.2, 10.2.2.4.2, 20.2.2.2.8 (new), F.1.2 & F.1.3 |
|  |  |
|  | **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 \* \* \* \*

### 4.4.2 Warning texts

The text string included in a Warning header field consists of an explanatory text preceded by a 3-digit text code, according to the following format in Table 4.4.2-1.

Table 4.4.2-1 ABNF for the Warning text

warn-text =/ DQUOTE mcvideo-warn-code SP mcvideo-warn-text DQUOTE

mcvideo-warn-code = DIGIT DIGIT DIGIT

mcvideo-warn-text = \*( qdtext | quoted-pair )

Table 4.4.2-2 defines the warning texts that are defined for the Warning header field when a Warning header field is included in a response to a SIP INVITE request as specified in clause 4.4.1.

Table 4.4.2-2: Warning texts defined for the Warning header field

|  |  |  |
| --- | --- | --- |
| Code | Explanatory text | Description |
| 100 | function not allowed due to <detailed reason> | The function is not allowed to this user.The <detailed reason> will be either "group definition", "access policy", "local policy", or "user authorisation", or can be a free text string. |
| 101 | service authorisation failed | The service authorisation of the MCVideo ID against the IMPU failed at the MCVideo server. |
| 102 | too many simultaneous affiliations | The MCVideo user already has N2 maximum number of simultaneous affiliations (see <MaxAffiliationsN2> element of user profile configuration document). |
| 103 | maximum simultaneous MCVideo group calls reached | The number of maximum simultaneous MCVideo group calls supported for the MCVideo user has been exceeded. |
| 104 | isfocus not assigned | A controlling MCVideo function has not been assigned to the MCVideo session. |
| 105 | subscription not allowed in a broadcast group call | Subscription to the conference event package rejected during a group call initiated as a broadcast group call. |
| 106 | user not authorised to join chat group | The MCVideo user is not authorised to join this chat group. |
| 107 | user not authorised to make private calls | The MCVideo user is not authorised to make private calls. |
| 108 | user not authorised to make chat group calls | The MCVideo user is not authorised to make chat group calls. |
| 109 | user not authorised to make prearranged group calls | The MCVideo user is not authorised to make group calls to a prearranged group. |
| 110 | user declined the call invitation | The MCVideo user declined to accept the call. |
| 111 | group call proceeded without all required group members | The required members of the group did not respond within the acknowledged call time, but the call still went ahead. |
| 112 | group call abandoned due to required group members not part of the group session | The group call was abandoned, as the required members of the group did not respond within the acknowledged call time. |
| 113 | group document does not exist | The group document requested from the group management server does not exist. |
| 114 | unable to retrieve group document | The group document exists on the group management server but the MCVideo server was unable to retrieve it. |
| 115 | group is disabled | The group has the <disabled> element set to "true" in the group management server. |
| 116 | user is not part of the MCVideo group | The group exists on the group management server but the requesting user is not part of this group. |
| 117 | the group identity indicated in the request is a prearranged group | The group id that is indicated in the request is for a prearranged group, but did not match the request from the MCVideo user. |
| 118 | the group identity indicated in the request is a chat group | The group id that is indicated in the request is for a chat group, but did not match the request from the MCVideo user, |
| 119 | user is not authorised to initiate the group call | The MCVideo user identified by the MCVideo ID is not authorised to initiate the group call. |
| 120 | user is not affiliated to this group | The MCVideo user is not affiliated to the group. |
| 121 | user is not authorised to join the group call | The MCVideo user identified by the MCVideo ID is not authorised to join the group call. |
| 122 | too many participants | The group call has reached its maximum number of participants. |
| 123 | MCVideo session already exists | Inform the MCVideo user that the group call is currently ongoing.  |
| 124 | maximum number of private calls reached | The maximum number of private calls allowed at the MCVideo server for the MCVideo user has been reached. |
| 125 | user not authorised to make private call with automatic commencement | The MCVideo user is not authorised to make a private call with automatic commencement. |
| 126 | user not authorised to make private call with manual commencement | The MCVideo user is not authorised to make a private call with manual commencement. |
| 127 | user not authorised to be called in private call | The called MCVideo user is not allowed to be part of a private call. |
| 128 | isfocus already assigned | The MCVideo server owning an MCVideo group received a SIP INVITE request destined to the MCVideo group from another MCVideo server already assigned as the controlling MCVideo function and the MCVideo server owning the MCVideo group does not support mutual aid or supports trusted mutual aid but does not authorise trusted mutual aid. |
| 137 | the indicated group call does not exist | The participating MCVideo function cannot find an ongoing group session associated with the received MCVideo session identity. |
| 138 | subscription of conference events not allowed | The controlling MCVideo function could not allow the MCVideo user to subscribe to the conference event package. |
| 139 | integrity protection check failed | The integrity protection of an XML MIME body failed. |
| 140 | unable to decrypt XML content | The XML content cannot be decrypted. |
| 141 | user unknown to the participating function | The participating function is unable to associate the public user identity with an MCVideo ID. |
| 142 | unable to determine the controlling function | The participating function is unable to determine the controlling function for the group call or private call. |
| 143 | not authorised to force auto answer | The calling user is not authorised to force auto answer on the called user. |
| 144 | user not authorised to call this particular user | The calling user is not authorised to call this particular called user. |
| 145 | unable to determine called party | The participating function was unable to determine the called party from the information received in the SIP request. |
| 146 | T-PF unable to determine the service settings for the called user | The service settings have not been uploaded by the terminating client to the terminating participating server. |
| 147 | user is authorized to initiate a temporary group call | The non-controlling MCVideo function has authorized a request from the controlling MCVideo function to authorize a user to initiate an temporary group session. |
| 148 | group is regrouped | The MCVideo group hosted by a non-controlling MCVideo function is part of a temporary group session as the result of the group regroup function. |
| 149 | SIP-INFO request pending | The MCVideo client needs to wait for a SIP-INFO request with specific content, before taking further action. |
| 150 | invalid combinations of data received in MIME body | The MCVideo client included invalid combinations of data in the SIP request. |
| 154 | user not authorised to make ambient viewing call | The MCVideo user is not authorised to make an ambient viewing call. |
| 159 | user not authorised to be called by this originating user | The called user is not authorised to receive a call by this originating user. |
| 160 | user not authorised to request creation of a regroup | The user is not authorised to request creation of a regroup. |
| 161 | user not authorised to request removal of a regroup | The user is not authorised to request removal of a regroup. |
| 162 | group call abandoned due to required group members not affiliated | The group call was abandoned as the required number of affiliated group members is not met or some required members are not affiliated. |
| 163 | the group identity indicated in the request does not exist | The server determines that the group identity indicates a user or group regroup based on a preconfigured group that does not exist. |
| 165 | group ID for regroup already in use | The group ID proposed by the client for the user/group regroup based on a preconfigured group is already in use. |
| 166 | maximum number of service authorizations reached | The number of maximum simultaneous service authorizations for the MCVideo user has been reached. |
| 167 | call is not allowed on the preconfigured group | Calls are not allowed on this group that is administratively designated for preconfigured group use only. |
| 168 | alert is not allowed on the preconfigured group | Alerts are not allowed on this group that is administratively designated for preconfigured group use only. |
| 171 | functional alias not allowed to call this particular functional alias | The calling user is not authorised to call this particular functional alias by using this activated functional alias |
| 172 | functional alias not allowed to be called from this functional alias | The called functional alias is not authorised to receive a call from the originating user using this particular Functional Alias |
| 176 | user not authorized to request for binding/unbinding of a functional alias with the MCVideo group(s) for the MCVideo user | The function is not allowed to this user. |
| 177 | unable to determine target functional alias or group for creating/removing a binding information for the MCVideo user | The MCVideo server is unable to determine the targeted functional alias or group for creating/removing an binding information for the MCVideo user |
| 178 | MCVideo group binding already exists with other functional alias for the MCVideo user | The requested functional alias binding with MCVideo group already exist with other functional alias for the MCVideo user |
| 179 | service not authorized with the interconnected system | The MCVideo service is not authorized between the local and the interconnected system and is rejected in the local system |
| 180 | service not authorized by the interconnected system | The MCVideo service is not authorized between the local and the interconnected system and is rejected by the interconnected system |

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

##### 10.2.2.2.1 Client originating procedures

Upon receiving a request from an MCVideo user to establish an MCVideo private call the MCVideo client shall generate an initial SIP INVITE request by following the UE originating session procedures specified in 3GPP TS 24.229 [11], with the clarifications given below.

The MCVideo client:

1) shall set the Request-URI of the SIP INVITE request to a public service identity of the participating MCVideo function serving the MCVideo user;

2) may include a P-Preferred-Identity header field in the SIP INVITE request containing a public user identity as specified in 3GPP TS 24.229 [11];

3) shall include the g.3gpp.mcvideo media feature tag and the g.3gpp.icsi-ref media feature tag with the value of "urn:urn-7:3gpp-service.ims.icsi.mcvideo" in the Contact header field of the SIP INVITE request according to IETF RFC 3840 [22];

4) shall include an Accept-Contact header field containing the g.3gpp.mcvideo media feature tag along with the "require" and "explicit" header field parameters according to IETF RFC 3841 [20];

5) shall include the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcvideo" (coded as specified in 3GPP TS 24.229 [11]), in a P-Preferred-Service header field according to IETF RFC 6050 [14] in the SIP INVITE request;

6) shall include an Accept-Contact header field with the media feature tag g.3gpp.icsi-ref contain with the value of "urn:urn-7:3gpp-service.ims.icsi.mcvideo" along with parameters "require" and "explicit" according to IETF RFC 3841 [20];

7) for the establishment of a private call shall insert in the SIP INVITE request a MIME resource-lists body with the MCVideo ID of the invited MCVideo user or the functional alias to be called, according to rules and procedures of IETF RFC 5366 [37];

NOTE 1: The MCVideo client indicates whether an MCVideo ID or a functional alias is to be called as specified in step 11) c).

8) if an end-to-end security context needs to be established and if the MCVideo user is initiating a private call then:

a) if necessary, shall instruct the key management client to request keying material from the key management server as described in 3GPP TS 33.180 [8];

b) shall use the keying material to generate a PCK as described in 3GPP TS 33.180 [8];

c) shall use the PCK to generate a PCK-ID with the four most significant bits set to "0001" to indicate that the purpose of the PCK is to protect private call communications and with the remaining twenty eight bits being randomly generated as described in 3GPP TS 33.180 [8];

d) shall encrypt the PCK to a UID associated to the MCVideo client using the MCVideo ID and KMS URI of the invited user as determined by the procedures of clause 6.2.8.3.9 and a time related parameter as described in 3GPP TS 33.180 [8];

e) shall generate a MIKEY-SAKKE I\_MESSAGE using the encapsulated PCK and PCK-ID as specified in 3GPP TS 33.180 [8]; and

g) shall add the MCVideo ID of the originating MCVideo to the initiator field (IDRi) of the I\_MESSAGE as described in 3GPP TS 33.180 [8]; and

f) shall sign the MIKEY-SAKKE I\_MESSAGE using the originating MCVideo user's signing key provided in the keying material together with a time related parameter, and add this to the MIKEY-SAKKE payload, as described in 3GPP TS 33.180 [8].

9) shall include an SDP offer according to 3GPP TS 24.229 [11] with the clarification given in clause 6.2.1 and with a media stream of the offered media-transmission control entity;

10) if implicit transmission control is required, shall comply with the conditions specified in clause 6.4;

11) if the MCVideo user is initiating a private call then:

a) if force of automatic commencement mode at the invited MCVideo client is requested by the MCVideo user, shall include in the SIP INVITE request a Priv-Answer-Mode header field with the value "Auto" according to the rules and procedures of IETF RFC 5373 [27];

b) if force of automatic commencement mode at the invited MCVideo client is not requested by the MCVideo user and:

i) if automatic commencement mode at the invited MCVideo client is requested by the MCVideo user, shall include in the SIP INVITE request an Answer-Mode header field with the value "Auto" according to the rules and procedures of IETF RFC 5373 [27]; and

ii) if manual commencement mode at the invited MCVideo client is requested by the MCVideo user, shall include in the SIP INVITE request an Answer-Mode header field with the value "Manual" according to the rules and procedures of IETF RFC 5373 [27]; and

c) shall contain an application/vnd.3gpp.mcvideo-info+xml MIME body with the <mcvideoinfo> element containing the <mcvideo-Params> element with:

i) the <session-type> element set to a value of "private";

ii) the <call-to-functional-alias-ind> set to "true" if the functional alias is used in the step 7) above; and

iii) if the MCVideo client needs to include an active functional alias in the initial SIP INVITE request, with the <functional-alias-URI> set to the URI of the used functional alias;

NOTE 2: The MCVideo client learns the functional aliases that are activated for an MCVideo ID from procedures specified in clause 20.2.1.3.

12) if the MCVideo emergency private call state is set to either "MVEPC 2: emergency-pc-requested" or "MVEPC 3: emergency-pc-granted" or the MCVideo emergency private priority state for this private call is set to "MVEPP 2: in-progress", the MCVideo client shall comply with the procedures in clause 6.2.8.3.3; and

13) shall send SIP INVITE request towards the MCVideo server according to 3GPP TS 24.229 [11].

Upon receiving a SIP 183(Session Progress) response to the SIP INVITE request the MCVideo client:

1) may indicate the progress of the session establishment to the inviting MCVideo user.

Upon receiving a SIP 200 (OK) response to the SIP INVITE request the MCVideo client:

1) shall interact with the media plane as specified in 3GPP TS 24.581 [5];

2) if the MCVideo emergency private call state is set to "MVEPC 2: emergency-pc-requested" or "MVEPC 3: emergency-pc-granted", shall perform the actions specified in clause 6.2.8.3.4; and

3) shall notify the user that the call has been successfully established.

Upon receiving a SIP 300 (Multiple Choices) response to the SIP INVITE request the MCVideo client shall use the MCVideo ID of the MCVideo user contained in the <mcvideo-request-uri> element of the received application/vnd.3gpp.mcvideo-info MIME body as the MCVideo ID of the invited MCVideo user and shall generate an initial SIP INVITE request by following the UE originating session procedures specified in 3GPP TS 24.229 [11], with the clarifications given in this clause and with the following additional clarifications:

1) shall insert in the newly generated SIP INVITE request a MIME resource-lists body with the MCVideo ID of the invited MCVideo user in the <mcvideo-request-uri> element of the application/vnd.3gpp.mcvideo-info MIME body in the received SIP 300 (Multiple Choices) response;

2) shall not include a <call-to-functional-alias-ind> element into the <mcvideo-Params> element of the <mcvideoinfo> element of the application/vnd.3gpp.mcvideo-info+xml MIME body; and

3) shall include a <called-functional-alias-URI> element into the <mcvideo-Params> element of the <mcvideoinfo> element of the application/vnd.3gpp.mcvideo-info+xml MIME body with the target functional alias URI used in the initial SIP INVITE request for establishing a private call.

On receiving a SIP 4xx response, a SIP 5xx response or a SIP 6xx response to the SIP INVITE request:

1) if the MCVideo emergency private call state is set to "MVEPC 2: emergency-pc-requested"; or

2) if the MCVideo emergency private call state is set to "MVEPC 3: emergency-pc-granted";

the MCVideo client shall perform the actions specified in clause 6.2.8.3.5.

On receiving a SIP INFO request where the Request-URI contains an MCVideo session ID identifying an ongoing session, the MCVideo client shall follow the actions specified in clause 6.2.8.3.7.

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

###### 10.2.2.3.1.1 On-demand private call

Upon receipt of a "SIP INVITE request for originating participating MCVideo function" containing an application/vnd.3gpp.mcvideo-info+xml MIME body with the <session-type> element set to a value of "private", the participating MCVideo function:

1) may reject the SIP INVITE request depending on the value of the Resource-Priority header field if the Resource-Priority header field is included in the received SIP INVITE request according to rules and procedures specified in IETF RFC 4412 [33] and shall not continue with the rest of the steps;

2) if unable to process the request due to a lack of resources or a risk of congestion exists, may reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 500 (Server Internal Error) response. The participating MCVideo function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [15] and shall not continue with the rest of the steps;

NOTE 1: If the received SIP INVITE request contains an emergency indication set to a value of "true", the participating MCVideo function can choose to accept the request.

NOTE 2: If the received SIP INVITE request contains an emergency indication set to a value of "true", the participating MCVideo function can choose to allow an exception to the limit on the number of private calls and accept the request.

3) shall determine the MCVideo ID of the calling user from public user identity in the P-Asserted-Identity header field of the SIP INVITE request and shall authorise the user;

NOTE 3: The MCVideo ID of the calling user is bound to the public user identity at the time of service authorisation, as documented in clause 7.3.

4) if the participating MCVideo function cannot find a binding between the public user identity and an MCVideo ID or if the validity period of an existing binding has expired, then the participating MCVideo function shall reject the SIP INVITE request with a SIP 404 (Not Found) response with the warning text set to "141 user unknown to the participating function" in a Warning header field as specified in clause 4.4, and shall not continue with any of the remaining steps;

5) shall:

a) if the <session-type> is set to "private", determine that the call is a private call;

6) if the call is a:

a) private call, determine the public service identity of the controlling MCVideo function for the private call service associated with the originating user's MCVideo ID identity;

NOTE 4: The public service identity can identify the controlling MCVideo function in the local MCVideo system or in an interconnected MCVideo system.

NOTE 5: If the controlling MCVideo function is in an interconnected MCVideo system in a different trust domain, then the public service identity can identify the MCVideo gateway server that acts as an entry point in the interconnected MCVideo system from the local MCVideo system.

NOTE 6: If the controlling MCVideo function is in an interconnected MCVideo system in a different trust domain, then the local MCVideo system can route the SIP request through an MCVideo gateway server that acts as an exit point from the local MCVideo system to the interconnected MCVideo system.

NOTE 7: How the participating MCVideo function determines the public service identity of the controlling MCVideo function for the private call service or first-to-answer call service associated with the originating user or of the MCVideo gateway server in the interconnected MCVideo system is out of the scope of the present document.

NOTE 8: How the local MCVideo system routes the SIP request through an exit MCVideo gateway server is out of the scope of the present document.

7) if the participating MCVideo function is unable to identify the controlling MCVideo function for the private call service, it shall reject the SIP INVITE request with a SIP 404 (Not Found) response with the warning text "142 unable to determine the controlling function" in a Warning header field as specified in clause 4.4, and shall not continue with any of the remaining steps;

8) if the incoming SIP INVITE request does not contain an application/resource-lists MIME body, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

9) if the call is a private call and the incoming SIP INVITE request contains an application/resource-lists MIME body with more than one <entry> element, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

10) if the <allow-private-call> element of the <ruleset> element is not present in the MCVideo user profile document on the participating MCVideo function or is present with the value "false" (see the MCVideo user profile document in 3GPP TS 24.484 [25]), indicating that the user identified by the MCVideo ID is not authorised to initiate private calls, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response, with warning text set to "107 user not authorised to make private calls" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

11) if the call is a private call and:

a) if the received SIP INVITE request includes an Answer-Mode header field as specified in IETF RFC 5373 [27] with the value "Auto" and the <allow-automatic-commencement> element of the <ruleset> element is not present in the MCVideo user profile document on the participating MCVideo function or is present with the value "false" (see the MCVideo user profile document in 3GPP TS 24.484 [25]) indicating that the user identified by the MCVideo ID is not authorised to initiate private call with automatic commencement, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "125 user not authorised to make private call with automatic commencement" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

b) if the received SIP INVITE request includes an Answer-Mode header field as specified in IETF RFC 5373 [27] with the value "Manual" and the <allow-manual-commencement> element of the <ruleset> element is not present in the MCVideo user profile document on the participating MCVideo function or is present with the value "false" (see the MCVideo user profile document in 3GPP TS 24.484 [25]), indicating that the user identified by the MCVideo ID is not authorised to initiate private call with manual commencement, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "126 user not authorised to make private call with manual commencement" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

c) if the <PrivateCall> element exists in the MCVideo user profile document with one more <entry> elements (see the MCVideo user profile document in 3GPP TS 24.484 [25]) and:

i) if the "uri" attribute of the <entry> element of the application/resource-lists MIME body does not match with one of the <entry> elements of the <PrivateCall> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]); and

ii) if configuration is not set in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) that allows the MCVideo user to make a private call to users not contained within the <entry> elements of the <PrivateCall> element;

then:

i) shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "144 user not authorised to call this particular user" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

11A) if the call is a first-to-answer call or a private call, the received SIP INVITE request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body and with the <mcvideoinfo> element containing the <mcvideo-Params> element with the <call-to-functional-alias-ind> element set to "true", and the <ListOfAllowedFAsToCall> element exists with one or more <entry> elements within the entry of the FunctionalAliasList element corresponding to the calling <functional-alias-URI> in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) and:

a) if the "uri" attribute of the <entry> element of the application/resource-lists MIME body does not match with any of the <entry> elements of the <ListOfAllowedFAsToCall> element of the entry within the FunctionalAliasList element corresponding to the calling <functional-alias-URI> of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]);

then:

a) shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "171 functional alias not allowed to call this particular functional alias" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

12) shall validate the media parameters and if the MCVideo video media codec is not offered in the "SIP INVITE request for originating participating MCVideo function" shall reject the request with a SIP 488 (Not Acceptable Here) response. Otherwise, continue with the rest of the steps;

13) shall generate a SIP INVITE request as specified in clause 6.3.2.1.3 with the following clarifications:

a) if the conditions in step 12) above were executed and the participating MCVideo function determined that the "uri" attribute of only one of the <entry> elements of the application/resource-lists MIME body matched with an <entry> element of the <PrivateCall> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) then the <session-type> in the application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request generated in clause 6.3.2.1.3 is set to "private"; and

b) if the conditions in step 12) above were executed, then only the <entry> element(s) of the application/resource-lists MIME body that have a "uri" attribute that matched with an <entry> elements of the <PrivateCall> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) are included in the application/resource-lists MIME body in the SIP INVITE request generated in clause 6.3.2.1.3;

14) shall set the Request-URI to the public service identity of the controlling MCVideo function hosting the private call service as determined by step 6);

15) shall set the <mcvideo-calling-user-id> element in an application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request to the MCVideo ID of the calling user;

16) if the call is a private call and:

a) if a Priv-Answer-Mode header field specified in IETF RFC 5373 [27] was received in the incoming SIP INVITE request with a value of "Manual", shall not include a Priv-Answer-Mode header field in the outgoing SIP INVITE request;

b) if the <allow-force-auto-answer> element of the <ruleset> element is not present in the MCVideo user profile document on the participating MCVideo function or is present with the value "false" (see the MCVideo user profile document in 3GPP TS 24.484 [25]), and the Priv-Answer-Mode header field specified in IETF RFC 5373 [27] was received in the incoming SIP INVITE request with a value of "Auto", shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "143 not authorised to force auto answer" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

c) if the <allow-force-auto-answer> element of the <ruleset> element is present in the MCVideo user profile document with the value "true" (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the participating MCVideo function, and the Priv-Answer-Mode header field specified in IETF RFC 5373 [27] was received in the incoming SIP INVITE request with a value of "Auto", shall include the Priv-Answer-Mode header field set to a value of "Auto" in the outgoing SIP INVITE request;

d) if a Priv-Answer-Mode header field containing the value of "Auto" has not been included in the outgoing SIP INVITE request as specified in step 17) above and the incoming "SIP INVITE request for originating participating MCVideo function" contained an Answer-Mode header field as specified in IETF RFC 5373 [27], then shall populate the Answer-Mode header field of the outgoing SIP INVITE request with the contents of the Answer-Mode header field from the incoming "SIP INVITE request for originating participating MCVideo function";

17) shall include in the SIP INVITE request an SDP offer based on the SDP offer in the received "SIP INVITE request for originating participating MCVideo function", as specified in clause 6.3.2.1.1.1;

17a) if the received SIP INVITE request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body, then shall check if the status of the functional alias is activated for the MCVideo ID. If the functional alias status is activated, then the participating MCVideo function shall set the <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body in the outgoing SIP INVITE request to the received value, otherwise shall not include a <functional-alias-URI> element;

NOTE 9: The participating MCVideo server learns the functional alias state for an MCVideo ID from procedures specified in clause 20.2.2.2.7.

18) shall include a Resource-Priority header field according to rules and procedures of 3GPP TS 24.229 [11] set to the value indicated in the Resource-Priority header field if included in the SIP INVITE request from the MCVideo client; and

19) shall forward the SIP INVITE request, according to 3GPP TS 24.229 [11].

Upon receiving a SIP 180 (Ringing) response, the participating MCVideo function:

1) shall generate a SIP 180 (Ringing) response to the SIP INVITE request as specified in the clause 6.3.2.1.5.1;

2) shall include the P-Asserted-Identity header field as received in the incoming SIP 180 (Ringing) response;

3) shall include Warning header field(s) received in the incoming SIP 180 (Ringing) response; and

4) shall forward the SIP 180 (Ringing) response to the MCVideo client according to 3GPP TS 24.229 [11].

Upon receiving a SIP 200 (OK) response, the participating MCVideo function:

1) shall generate a SIP 200 (OK) response as specified in the clause 6.3.2.1.5.2;

2) shall include in the SIP 200 (OK) response an SDP answer as specified in the clause 6.3.2.1.2.1;

3) shall include Warning header field(s) received in the incoming SIP 200 (OK) response;

4) shall include the P-Asserted-Identity header field received in the incoming SIP 200 (OK) response into the outgoing SIP 200 (OK) response;

5) shall include an MCVideo session identity mapped to the MCVideo session identity provided in the Contact header field of the received SIP 200 (OK) response;

6) shall send the SIP 200 (OK) response to the MCVideo client according to 3GPP TS 24.229 [11];

7) shall interact with the media plane as specified in 3GPP TS 24.581 [5]; and

8) shall start the SIP session timer according to rules and procedures of IETF RFC 4028 [23].

The participating MCVideo function shall forward any other SIP response that does not contain SDP, including any MIME bodies contained therein, along the signalling path to the originating network according to 3GPP TS 24.229 [11].

###### 10.2.2.3.1.2 Private call initiation using pre-established session

Upon receipt of a "SIP REFER request for a pre-established session", with:

1) the Refer-To header field containing a Content-ID ("cid") Uniform Resource Locator (URL) as specified in IETF RFC 2392 [49] that points to an application/resource-lists MIME body as specified in IETF RFC 5366 [37] containing one or more <entry> element(s) with a "uri" attribute containing a SIP URI set to the MCVideo ID of the called user(s);

2) an hname "body" parameter in the headers portion of the SIP URI specified above containing an application/vnd.3gpp.mcvideo-info MIME body with the <session-type> element set to "private" ; and

3) a Content-ID header field set to the "cid" URL;

the participating function:

1) if unable to process the request due to a lack of resources or a risk of congestion exists, may reject the SIP INVITE request with a SIP 500 (Server Internal Error) response. The participating MCVideo function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [15] and shall not continue with the rest of the steps;

2) shall determine the MCVideo ID of the calling user from public user identity in the P-Asserted-Identity header field of the SIP REFER request;

3) if the participating MCVideo function cannot find a binding between the public user identity and an MCVideo ID or if the validity period of an existing binding has expired, then the participating MCVideo function shall reject the SIP REFER request with a SIP 404 (Not Found) response with the warning text set to "141 user unknown to the participating function" in a Warning header field as specified in clause 4.4, and shall not continue with any of the remaining steps;

4) if the received SIP REFER request does not contain an application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

5) if the received SIP REFER request contains an application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field with more than one <entry> element each with an application/vnd.3gpp.mcvideo-info MIME body with the <session-type> element:

a) set to "private", shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with any of the remaining steps;

6) if the received SIP REFER request contains an application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field with only one <entry> element with an application/vnd.3gpp.mcvideo-info MIME body with the <session-type> element:

a) not set to "private", shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with any of the remaining steps; or

b) set to "private", determine that the call is a private call;

7) if the call is a:

a) private call, shall determine the public service identity of the controlling MCVideo function for the private call service associated with the originating user's MCVideo ID; or

NOTE 1: The public service identity can identify the controlling MCVideo function in the local MCVideo system or in an interconnected MCVideo system.

NOTE 2: If the controlling MCVideo function is in an interconnected MCVideo system in a different trust domain, then the public service identity can identify the MCVideo gateway server that acts as an entry point in the interconnected MCVideo system from the local MCVideo system.

NOTE 3: If the controlling MCVideo function is in an interconnected MCVideo system in a different trust domain, then the local MCVideo system can route the SIP request through an MCVideo gateway server that acts as an exit point from the local MCVideo system to the interconnected MCVideo system.

NOTE 4: How the participating MCVideo function determines the public service identity of the controlling MCVideo function for the private call service or first-to-answer call service associated with the originating user or of the MCVideo gateway server in the interconnected MCVideo system is out of the scope of the present document.

NOTE 5: How the local MCVideo system routes the SIP request through an exit MCVideo gateway server is out of the scope of the present document.

8) if the participating MCVideo function is unable to identify the controlling MCVideo function for the private call service associated with the originating user's MCVideo ID, it shall reject the REFER request with a SIP 404 (Not Found) response with the warning text "142 unable to determine the controlling function" in a Warning header field as specified in clause 4.4, and shall not continue with any of the remaining steps;

9) if the <allow-private-call> element of the <ruleset> element is not present in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the participating MCVideo function or is present with the value "false", indicating that the user identified by the MCVideo ID is not authorised to initiate private calls, shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response to the SIP INVITE request, with warning text set to "107 user not authorised to make private calls" in a Warning header field as specified in clause 4.4;

10) if the call is a private call:

a) if the received SIP REFER request includes an Answer-Mode header field as specified in IETF RFC 5373 [27] set to "Auto" contained in the header portion of the SIP URI present in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, and the <allow-automatic-commencement> element of the <ruleset> element is not present in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the participating MCVideo function or is present with the value "false" (indicating that the user identified by the MCVideo ID is not authorised to initiate private call with automatic commencement), shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "125 user not authorised to make private call with automatic commencement" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

b) if the received SIP REFER request includes an Answer-Mode header field as specified in IETF RFC 5373 [27] set to "Manual" contained in the header portion of the SIP URI present in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, and the <allow-manual-commencement> element of the <ruleset> element is not present in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the participating MCVideo function or is present with the value "false" (indicating that the user identified by the MCVideo ID is not authorised to initiate private call with manual commencement), shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "126 user not authorised to make private call with manual commencement" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

c) if the <allow-force-auto-answer> element of the <ruleset> element is not present in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the participating MCVideo function or is present with the value "false", and the SIP REFER request contained a Priv-Answer-Mode header field as specified in IETF RFC 5373 [27] set to "Auto" in the header portion of the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "143 not authorised to force auto answer" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

d) if the <PrivateCall> element exists in the MCVideo user profile document with one more <entry> elements (see the MCVideo user profile document in 3GPP TS 24.484 [25]) and:

i) if the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field not match with one of the <entry> elements of the <PrivateCall> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]); and

ii) if configuration is not set in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) that allows the MCVideo user to make a private call to users not contained within the <entry> elements of the <PrivateCall> element;

then:

i) shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "144 user not authorised to call this particular user" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

10A) if the call is a first-to-answer call or a private call, the received SIP REFER request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body and the <mcvideoinfo> element containing the <mcvideo-Params> element with the <call-to-functional-alias-ind> element set to "true", the <ListOfAllowedFAsToCall> element exists with one or more <entry> elements within the entry of the FunctionalAliasList element corresponding to the calling <functional-alias-URI> in the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) and:

a) if the "uri" attribute of the <entry> element of the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field does not match with any of the <entry> elements of the <ListOfAllowedFAsToCall> element of the entry within the FunctionalAliasList element corresponding to the calling <functional-alias-URI> of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]);

then:

a) shall reject the "SIP REFER request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "171 functional alias not allowed to call this particular functional alias" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

11) if the "SIP REFER request for a pre-established session" contained a Refer-Sub header field containing "false" value and a Supported header field containing "norefersub" value, shall handle the SIP REFER request as specified in 3GPP TS 24.229 [11], IETF RFC 3515 [64] as updated by IETF RFC 6665 [16], and IETF RFC 4488 [31] without establishing an implicit subscription;

12) shall generate a final SIP 200 (OK) response to the "SIP REFER request for a pre-established session" according to 3GPP TS 24.229 [11];

NOTE 6: In accordance with IETF RFC 4488 [31], the participating MCVideo function inserts the Refer-Sub header field containing the value "false" in the SIP 200 (OK) response to the SIP REFER request to indicate that it has not created an implicit subscription.

13) shall send the response to the "SIP REFER request for a pre-established session" towards the MCVideo client according to 3GPP TS 24.229 [11];

14) shall generate a SIP INVITE request as specified in clause 6.3.2.1.4 with the following clarifications:

a) if the conditions in step 11) above were executed and the participating MCVideo function determined that the "uri" attribute of only one of the <entry> elements of the application/resource-lists MIME body matched with an <entry> element of the <PrivateCall> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) then the <session-type> in the application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request generated in clause 6.3.2.1.4 is set to "private"; and

b) if the conditions in step 11) above were executed, then only the <entry> element(s) of the application/resource-lists MIME body that have a "uri" attribute that matched with an <entry> elements of the <PrivateCall> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) are included in the application/resource-lists MIME body in the SIP INVITE request generated in clause 6.3.2.1.3;

15) shall set the Request-URI of the SIP INVITE request to the public service identity of the controlling MCVideo function hosting the private call service for the calling MCVideo user as determined above in step 7);

16) if the call is a private call:

a) if the SIP REFER request contained a Priv-Answer-Mode header field as specified in IETF RFC 5373 [27] set to "Manual" in the header portion of the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, shall copy the Priv-Answer-Mode header field from the incoming SIP REFER request to the outgoing SIP INVITE request;

b) if the <allow-force-auto-answer> element of the <ruleset> element is present in the MCVideo user profile document with the value "true" (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the participating MCVideo function, and the Priv-Answer-Mode header field specified in IETF RFC 5373 [27] was received in the header portion of the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, with a value set to "Auto", shall copy the Priv-Answer-Mode header field to the outgoing SIP INVITE request; and

c) if a Priv-Answer-Mode header field containing the value of "Auto" has not been copied to the outgoing SIP INVITE request as specified in step 16) above, and the incoming SIP REFER request contained an Answer-Mode header field in the headers portion of the SIP URI in the application/resource-lists referenced by a "cid" URL in the Refer-To header field, then copy the Answer-Mode header field to the outgoing SIP INVITE request;

17) if the received SIP REFER request contained a Resource-Priority header field, shall include in the outgoing SIP INVITE request a Resource-Priority header field according to rules and procedures of 3GPP TS 24.229 [11] set to the value indicated in the Resource-Priority header field of the received SIP REFER request; and

17a) if the call is a private call and if the received SIP REFER request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body, then shall check if the status of the functional alias is activated for the MCVideo ID. If the functional alias status is activated, then the participating MCVideo function shall set the <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body in the outgoing SIP INVITE request to the received value, otherwise shall not include a <functional-alias-URI> element;

NOTE 7: The participating MCVideo function will leave verification of the Resource-Priority header field to the controlling MCVideo function.

18) shall forward the SIP INVITE request according to 3GPP TS 24.229 [11].

Upon receiving SIP provisional responses for the SIP INVITE request the participating MCVideo function:

1) shall discard the received SIP responses without forwarding them.

Upon receiving a SIP 200 (OK) response for the SIP INVITE request the participating MCVideo function:

1) shall interact with the media plane as specified in 3GPP TS 24.581 [5].

Upon receipt of a SIP 4xx, 5xx or 6xx response to the above SIP INVITE request the participating MCVideo function:

1) shall interact with the media plane as specified in 3GPP TS 24.581 [5].

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

##### 10.2.2.3.2 Terminating procedures

This clause covers both on demand session and pre-established session.

Upon receipt of a "SIP INVITE request for terminating participating MCVideo function", the participating MCVideo function:

1) if unable to process the request due to a lack of resources or a risk of congestion exists, may reject the "SIP INVITE request for terminating participating MCVideo function" with a SIP 500 (Server Internal Error) response. The participating MCVideo function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [15], and shall not continue with the rest of the steps;

2) shall check the presence of the isfocus media feature tag in the URI of the Contact header field and if it is not present then the participating MCVideo function shall reject the request with a SIP 403 (Forbidden) response with the warning text set to "104 isfocus not assigned" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

3) if the <session-type> element of the application/vnd.3gpp.mcvideo-info+xml MIME body is set to "private" and the Answer-Mode Indication in the application/poc-settings+xml MIME body has not yet been received from the invited MCVideo client as defined in clause 7.3.3 or clause 7.3.4, shall reject the request with a SIP 480 (Temporarily Unavailable) response with the warning text set to "146 T-PF unable to determine the service settings for the called user" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

4) shall use the MCVideo ID present in the <mcvideo-request-uri> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the incoming SIP INVITE request to retrieve the binding between the MCVideo ID and public user identity;

5) if the binding between the MCVideo ID and public user identity does not exist, then the participating MCVideo function shall reject the SIP INVITE request with a SIP 404 (Not Found) response. Otherwise, continue with the rest of the steps;

6) when the called user identified by the MCVideo ID is unable to participate in private calls as identified in the called user's MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) on the terminating participating MCVideo function, shall reject the "SIP INVITE request for terminating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "127 user not authorised to be called in private call" in a Warning header field as specified in clause 4.4;

6A) if the <session-type> element of the application/vnd.3gpp.mcvideo-info+xml MIME body is set to "private" and if the <IncomingPrivateCallList> element exists in the MCVideo user profile document with one or more <entry> elements (see the MCVideo user profile document in 3GPP TS 24.484 [25]) and:

i) if the <mcvideo-calling-user-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the incoming SIP INVITE request does not match with one of the <entry> elements of the <IncomingPrivateCallList> element of the MCVideo user profile document; and

ii) if configuration is not set in the MCVideo user profile document that allows the MCVideo user to receive a private call by users not contained within the <entry> elements of the <IncomingPrivateCallList> element (see <allow-to-receive-private-call-from-any-user> element in MCVideo user profile document in 3GPP TS 24.484 [25]);

 then:

i) shall reject the "SIP INVITE request for terminating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "159 user not authorised to be called by this originating user" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

6B) if the call is a first-to-answer call or a private call, the received SIP INVITE request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body and the <mcvideoinfo> element containing the <mcvideo-Params> element with the <call-to-functional-alias-ind> element set to "true", the <ListOfAllowedFAsToBeCalledFrom> element exists in the MCVideo user profile document with one or more <entry> elements (see the MCVideo user profile document in 3GPP TS 24.484 [25]) and:

a) if the <called-functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the incoming SIP INVITE request does not match with any of the <entry> elements of the <ListOfAllowedFAsToBeCalledFrom> element of the entry within the FunctionalAliasList element corresponding to the called functional alias of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]); and

then:

a) shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "172 functional alias not allowed to be called from this functional alias" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

7) shall perform the automatic commencement procedures specified in clause 6.3.2.2.5.1 and according to IETF RFC 5373 [27] if one of the following conditions are met:

a) "SIP INVITE request for terminating participating MCVideo function" contains an Answer-Mode header field with the value "Auto";

b) "SIP INVITE request for terminating participating MCVideo function" does not contain an Answer-Mode header field and the Answer-Mode Indication received in the application/poc-settings+xml MIME body received from the invited MCVideo client as per clause 7.3.3 or clause 7.3.4 is set to "auto-answer"; or

c) "SIP INVITE request for terminating participating MCVideo function" contains a Priv-Answer-Mode header field with the value "Auto"; and

8) shall perform the manual commencement procedures specified in clause 6.3.2.2.6.1 and according to IETF RFC 5373 [27] if either of the following conditions are met:

a) "SIP INVITE request for terminating participating MCVideo function" contains an Answer-Mode header field with the value "Manual";

b) "SIP INVITE request for terminating participating MCVideo function" does not contain an Answer-Mode header field and Answer-Mode Indication received in the application/poc-settings+xml MIME body received from the invited MCVideo client as per clause 7.3.3 or clause 7.3.4 is set to "manual-answer"; or

c) "SIP INVITE request for terminating participating MCVideo function" contains a Priv-Answer-Mode header field with the value "Manual".

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

##### 10.2.2.4.2 Terminating procedures

In the procedures in this clause:

1) <emergency–ind> refers to the <emergency-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body;

2) <alert–ind> refers to the <alert-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body; and

3) <session-type> refers to the <session-type> element of an application/vnd.3gpp.mcvideo-info+xml MIME body.

Upon receipt of:

- a "SIP INVITE request for controlling MCVideo function of a private call"; or

the controlling MCVideo function:

1) if the <session-type> in the SIP INVITE request is set to "private":

a) shall check whether the public service identity contained in the Request-URI is allocated for private call and perform the actions specified in clause 6.3.7.1 if it is not allocated and skip the rest of the steps; and

b) shall perform actions to verify the MCVideo ID of the inviting MCVideo user in the <mcvideo-calling-user-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request, and authorise the request according to local policy, and if it is not authorised the controlling MCVideo function shall return a SIP 403 (Forbidden) response with the warning text as specified in "Warning header field" and skip the rest of the steps;

2) if the incoming SIP INVITE request does not contain an application/resource-lists MIME body shall reject the SIP INVITE request with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

3) if the <session-type> is set to "private" and the application/resource-lists MIME body contains more than one <entry> element, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

4) shall validate that the received SDP offer includes at least one media stream for which the media parameters and at least one codec or media format is acceptable by the controlling MCVideo function and if not, reject the request with a SIP 488 (Not Acceptable Here) response and skip the rest of the steps;

5) if received SIP INVITE request includes an <emergency-ind>, shall validate the request as described in clause 6.3.3.1.17;

6) if the received SIP INVITE request contains an unauthorised request for an MCVideo emergency private call as determined by clause 6.3.3.1.13.2:

a) shall reject the SIP INVITE request with a SIP 403 (Forbidden) response as specified in clause 6.3.3.1.14; and

b) shall send the SIP 403 (Forbidden) response as specified in 3GPP TS 24.229 [4] and skip the rest of the steps;

7) if a Resource-Priority header field is included in the received SIP INVITE request and if the Resource-Priority header field is set to the value indicated for emergency calls, shall reject the SIP INVITE request with a SIP 403 (Forbidden) response and skip the remaining steps if neither one of the following conditions are true:

a) the SIP INVITE request does not contain an authorised request for an MCVideo emergency call as determined in step 4 above; or

b) the originating MCVideo user is not in an in-progress emergency private call state with the targeted MCVideo user;

7a) 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.mcvideo-info+xml MIME body with the <mcvideoinfo> element containing the <mcvideo-Params> element with the <call-to-functional-alias-ind> element set to a value of "true":

a) shall identify the MCVideo ID(s) of the MCVideo user(s) that have activated the received called functional alias in the MIME resource-lists body of the SIP INVITE request by performing the actions specified in clause 20.2.2.2.8;

b) if unable to determine any MCVideo ID that has activated the received called functional alias in the MIME resource-lists body of the SIP INVITE request, shall reject the "SIP INVITE request for controlling MCVideo function of a private call" with a SIP 403 (Forbidden) response including a warning text set to "145 unable to determine called party" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps; and

c) selects one of the identified MCVideo IDs, and shall send a SIP 300 (Multiple Choices) response to the "SIP INVITE request for controlling MCVideo function of a private call" populated according to 3GPP TS 24.229 [4], IETF RFC 3261 [15] with:

A) a Contact header field containing a SIP URI for the MCVideo session identity; and

B) an application/vnd.3gpp.mcvideo-info MIME body with an <mcvideo-request-uri> element set to the selected MCVideo ID and shall not continue with the rest of the steps in this clause;

NOTE 1: How the controlling MCVideo function selects the appropriate MCVideo ID is implementation-specific.

8) if:

a) the received SIP INVITE request contains an emergency indication set to a value of "true";

b) the originating MCVideo user is not in an in-progress emergency private call state with the targeted MCVideo user; and

c) if the <session-type> in the SIP INVITE request is set to "private";

then:

a) shall cache the information that the MCVideo user has initiated an MCVideo emergency private call to the targeted user; and

b) shall cache the information that the MCVideo user is in an in-progress emergency private call state with the targeted MCVideo user;

9) shall perform actions as described in clause 6.3.3.2.2;

10) shall allocate an MCVideo session identity for the MCVideo session; and

11) shall invite the MCVideo user(s) listed in the MIME resource-lists body of received SIP INVITE request as specified in clause 10.2.2.4.1.

Upon receiving a SIP 180 (Ringing) response and if the SIP 180 (Ringing) response or the SIP final response has not yet been sent to the inviting MCVideo client, the controlling MCVideo function:

1) if the SIP 180 (Ringing) response is associated with a SIP INVITE that contained a <session-type> set to "private", shall generate a SIP 180 (Ringing) response to the SIP INVITE request and send the SIP 180 (Ringing) response towards the inviting MCVideo client according to 3GPP TS 24.229 [11]; and

Upon receiving a SIP 200 (OK) response for the SIP INVITE request, the SIP dialog was established as a result of receiving a SIP INVITE request with a <session-type> element set to the value of "private" and the SIP final response has not yet been sent to the inviting MCVideo client, the controlling MCVideo function:

1) shall generate a SIP 200 (OK) response to the SIP INVITE request as specified in the clause 6.3.3.2.3.2 before continuing with the rest of the steps;

2) shall include in the SIP 200 (OK) response an SDP answer to the SDP offer in the incoming SIP INVITE request as specified in the clause 6.3.3.2.2;

3) if the received SIP INVITE request contains an alert indication set to a value of "true" and this is an unauthorised request for an MCVideo emergency alert as specified in clause 6.3.3.1.13.1, shall include in the SIP 200 (OK) response the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in clause 4.4;

NOTE 2: This is the case when the MCVideo user's request for an MCVideo emergency private call was granted but the request for the MCVideo emergency alert was denied.

4) shall interact with the media plane as specified in 3GPP TS 24.581 [5]; and

NOTE 3: Resulting media plane processing is completed before the next step is performed.

5) shall send a SIP 200 (OK) response towards the inviting MCVideo client according to 3GPP TS 24.229 [11].

Upon receiving a SIP 200 (OK) response for the SIP INVITE request, the SIP dialog was established as a result of receiving a SIP INVITE request with a <session-type> element set to the value of "first-to-answer" and the SIP final response has not yet been sent to the inviting MCVideo client the controlling MCVideo function:

1) shall generate a SIP 200 (OK) response to the SIP INVITE request as specified in the clause 6.3.3.2.3.2 before continuing with the rest of the steps;

2) shall include in the SIP 200 (OK) response an SDP answer to the SDP offer in the incoming SIP INVITE request as specified in the clause 6.3.3.2.1;

3) the received SIP INVITE request contains an emergency indication set to a value of "true":

a) shall cache the information that the MCVideo user has initiated an MCVideo emergency private call to the targeted user; and

b) shall cache the information that the MCVideo user is in an in-progress emergency private call state with the targeted MCVideo user;

4) if the received SIP INVITE request contains an alert indication set to a value of "true" and this is an unauthorised request for an MCVideo emergency alert as specified in clause 6.3.3.1.13.1, shall include in the SIP 200 (OK) response the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in clause 4.4;

NOTE 4: This is the case when the MCVideo user's request for an MCVideo emergency private call was granted but the request for the MCVideo emergency alert was denied.

5) shall interact with the media plane as specified in 3GPP TS 24.380 [5];

NOTE 4: Resulting media plane processing is completed before the next step is performed.

6) shall send a SIP 200 (OK) response towards the inviting MCVideo client according to 3GPP TS 24.229 [4]; and

7) if not successful in cancelling or terminating SIP dialogs in step 6) above, may repeat the SIP CANCEL and SIP BYE requests.

Upon receiving a SIP ACK to the SIP 200 (OK) response sent towards the inviting MCVideo client, where the SIP 200 (OK) response was sent with a Warning header field as specified in clause 4.4 with the warning text containing the mcvideo-warn-code set to "149", the controlling MCVideo function shall follow the procedures in clause 6.3.3.1.18.

The controlling MCVideo function shall forward any other SIP response that does not contain SDP, including any MIME bodies contained therein, along the signalling path to the originating network according to 3GPP TS 24.229 [11].

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

##### 20.2.2.2.8 Functional alias resolution from MCVideo server owning the functional alias procedure

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;

2) shall include an application/vnd.3gpp.mcvideo-info+xml MIME body. In the application/vnd.3gpp.mcvideo-info+xml MIME body, the MCVideo server shall include the <mcvideo-request-uri> element set to the handled functional alias ID;

3) shall include the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcvideo" (coded as specified in 3GPP TS 24.229 [11]), in a P-Asserted-Service header field according to IETF RFC 6050 [14];

4) shall set the Expires header field according to IETF RFC 6665 [16] to zero;

NOTE: If the MCVideo server wants to receive the current status and later notification, can set the Expires header field according to IETF RFC 6665 [16], to 4294967295, which is the highest value defined for Expires header field in IETF RFC 3261 [15].

5) shall include an Accept header field containing the application/pidf+xml MIME type;

6) shall include an Events header field set to "presence"; and

7) shall include an application/simple-filter+xml MIME body indicating per-functional alias restrictions of presence event package notification information indicating the served functional alias.

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

## F.1.2 XML schema

<?xml version="1.0" encoding="UTF-8"?>

<xs:schema

 xmlns:xs="http://www.w3.org/2001/XMLSchema"

 targetNamespace="urn:3gpp:ns:mcvideoInfo:1.0"

 xmlns:mcvideoinfo="urn:3gpp:ns:mcvideoInfo:1.0"

 elementFormDefault="qualified"

 attributeFormDefault="unqualified"

 xmlns:xenc="[http://www.w3.org/2001/04/xmlenc#](http://www.w3.org/2001/04/xmlenc)"

 xmlns:mvgktp="urn:3gpp:ns:mcvideoGKTP:1.0">

 <xs:import namespace="http://www.w3.org/2001/04/xmlenc#"/>

 <xs:import namespace="urn:3gpp:ns:mcvideoGKTP:1.0"/>

 <!-- root XML element -->

 <xs:element name="mcvideoinfo" type="mcvideoinfo:mcvideoinfo-Type" id="info"/>

 <xs:complexType name="mcvideoinfo-Type">

 <xs:sequence>

 <xs:element name="mcvideo-Params" type="mcvideoinfo:mcvideo-ParamsType"/>

 <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>

 <xs:element name="anyExt" type="mcvideoinfo:anyExtType" minOccurs="0"/>

 </xs:sequence>

 <xs:anyAttribute namespace="##any" processContents="lax"/>

 </xs:complexType>

 <xs:complexType name="mcvideo-ParamsType">

 <xs:sequence>

 <xs:element name="mcvideo-access-token" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="session-type" type="xs:string" minOccurs="0"/>

 <xs:element name="mcvideo-request-uri" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="mcvideo-calling-user-id" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="mcvideo-called-party-id" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="mcvideo-calling-group-id" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="required" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="emergency-ind" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="alert-ind" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="imminentperil-ind" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="broadcast-ind" type="xs:boolean" minOccurs="0"/>

 <xs:element name="mc-org" type="xs:string" minOccurs="0"/>

 <xs:element name="associated-group-id" type="xs:string" minOccurs="0"/>

 <xs:element name="originated-by" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="MKFC-GKTPs" type="mvgktp:singleTypeGKTPsType" minOccurs="0"/>

 <xs:element name="mcvideo-client-id" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="alert-ind-rcvd" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="multiple-devices-ind" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:element name="video-pull-url" type="mcvideoinfo:contentType" minOccurs="0"/>

 <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>

 <xs:element name="anyExt" type="mcvideoinfo:anyExtType" minOccurs="0"/>

 </xs:sequence>

 <xs:anyAttribute namespace="##any" processContents="lax"/>

 </xs:complexType>

 <!-- anyExt elements for MCVideo-Params-->

 <xs:element name="release-reason" type="mcvideoinfo:releaseReasonType"/>

 <xs:simpleType name="releaseReasonType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="private-call-expiry"/>

 <xs:enumeration value="administrator-action"/>

 <xs:enumeration value="not selected for call"/>

 <xs:enumeration value="call-request-for-viewed-to-client"/>

 <xs:enumeration value="call-request-initiated-by-viewed-to-client"/>

 <xs:enumeration value="authentication of the MIKEY-SAKE I\_MESSAGE failed"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="request-type" type="mcvideoinfo:requestTypeType"/>

 <xs:simpleType name="requestTypeType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="group-selection-change-request"/>

 <xs:enumeration value="fa-group- binding-req"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="response-type" type="mcvideoinfo:responseTypeType"/>

 <xs:simpleType name="responseTypeType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="group-selection-change-response"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="selected-group-change-outcome" type="mcvideoinfo:selectedGroupChangeOutcomeType"/>

 <xs:simpleType name="selectedGroupChangeOutcomeType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="success"/>

 <xs:enumeration value="fail"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="affiliation-required" type="xs:boolean"/>

 <xs:element name="ambient-viewing-type" type="mcvideoinfo:ambientViewingType"/>

 <xs:simpleType name="ambientViewingType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="remote-init"/>

 <xs:enumeration value="local-init"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="video-push-url" type="xs:anyURI"/>

 <xs:element name="functional-alias-URI" type="mcvideoinfo:contentType"/>

 <xs:element name="emergency-alert-area-ind" type="xs:boolean"/>

 <xs:element name="call-to-functional-alias-ind" type="xs:boolean"/>

 <xs:element name="group-geo-area-ind" type="xs:boolean"/>

 <xs:element name="binding-ind" type="xs:boolean"/>

 <xs:element name="binding-fa-uri" type="xs:anyURI"/>

 <xs:element name="unbinding-fa-uri" type="xs:anyURI"/>

<xs:simpleType name="protectionType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="Normal"/>

 <xs:enumeration value="Encrypted"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="contentType">

 <xs:choice>

 <xs:element name="mcvideoURI" type="xs:anyURI"/>

 <xs:element name="mcvideoString" type="xs:string"/>

 <xs:element name="mcvideoBoolean" type="xs:boolean"/>

 <xs:any namespace="##other" processContents="lax"/>

 <xs:element name="anyExt" type="mcvideoinfo:anyExtType" minOccurs="0"/>

 </xs:choice>

 <xs:attribute name="type" type="mcvideoinfo:protectionType"/>

 <xs:anyAttribute namespace="##any" processContents="lax"/>

 </xs:complexType>

 <xs:complexType name="anyExtType">

 <xs:sequence>

 <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>

 </xs:sequence>

 </xs:complexType>

</xs:schema>

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

## F.1.3 Semantic

The <mcvideoinfo> element is the root element of the XML document. The <mcvideoinfo> element can contain subelements.

NOTE 1: The subelements of the <mcvideo-info> are validated by the <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/> particle of the <mcvideo-info> element

If the <mcvideoinfo> contains the <mcvideo-Params> element then:

1) the <mcvideo-access-token>, <mcvideo-request-uri>, <mcvideo-calling-user-id>, <mcvideo-called-party-id>, <mcvideo-calling-group-id>, <emergency-ind>, <alert-ind>, <imminentperil-ind>, <originated-by> and <mcvideo-client-id>, <functional-alias-URI> and <multiple-devices-ind> elements can be included with encrypted content;

2) for each element in 1) that is included with content that is not encrypted:

a) the element has the "type" attribute set to "Normal";

b) if the element is the <mcvideo-request-uri>, <mcvideo-calling-user-id>, <mcvideo-called-party-id> or <mcvideo-calling-group-id>, <originated-by> or <functional-alias-URI> then the <mcvideoURI> element is included;

c) if the element is <mcvideo-access-token> or <mcvideo-client-id>, then the <mcvideoString> element is included; and

d) if the element is <emergency-ind>, <alert-ind>, <imminentperil-ind> or <multiple-devices-ind> then the <mcvideoBoolean> element is included;

3) for each element in 1) that is included with content that is encrypted:

a) the element has the "type" attribute set to "Encrypted";

b) the <xenc:EncryptedData> element from the "[http://www.w3.org/2001/04/xmlenc#](http://www.w3.org/2001/04/xmlenc)" namespace is included and:

i) can have a "Type" attribute can be included with a value of "<http://www.w3.org/2001/04/xmlenc#Content>";

ii) can include an <EncryptionMethod> element with the "Algorithm" attribute set to value of "http://www.w3.org/2009/xmlenc11#aes128-gcm";

iii) can include a <KeyInfo> element with a <KeyName> element containing the base 64 encoded XPK-ID; and

iv) includes a <CipherData> element with a <CipherValue> element containing the encrypted data.

NOTE 2: When the optional attributes and elements are not included within the <xenc:EncryptedData> element, the information they contain is known to sender and the receiver by other means.

If the <mcvideoinfo> contains the <mcvideo-Params> element then:

1) the <mcvideo-access-token> element can be included with the access token received during authentication procedure as described in 3GPP TS 24.482 [52];

2) the <session-type> element can be included and set to:

a) "chat" to indicate that the MCVideo client wants to join a chat group call

b) "prearranged" to indicate the MCVideo client wants to make a prearranged group call;

c) "private" to indicate the MCVideo client wants to make a private call;

d) "ambient-viewing" to indicate the MCVideo client wants to make an ambient viewing call;

e) "pull-from-server" to indicate the MCVideo client wants to pull video file from MCVideo server;

f) "pull-from-user" to indicate the MCVideo client wants to to pull video media from another MCVideo client;

g) "push-to-server" to indicate the MCVideo client wants to push video media to MCVideo server, save as a file;

h) "one-to-one video push" to indicate the MCVideo client wants to push video media to another MCVideo client; or

i) "one-to-server video push" to indicate the MCVideo client wants to push video media to a MCVideogroup;

3) the <mcvideo-request-uri> element can be included with:

a) the value set to an MCVideo group ID or temporary MCVideo group ID when the <session-type> element is set to a value of "prearranged" or "chat"; and

b) the value set to the MCVideo ID of the called MCVideo user when the <session-type> element is set to a value of "private";

4) the <mcvideo-calling-user-id> element can be included, set to the MCVideo ID of the originating user;

5) the <mcvideo-called-party-id> element can be included, set to the MCVideo ID of the terminating user;

6) the <mcvideo-calling-group-id> element can be included to indicate the MCVideo group identity to the terminating user;

7) the <required> element can be included in a SIP 183 (Session Progress) from a non-controlling MCVideo function of an MCVideo group to inform the controlling MCVideo function that the group on the non-controlling MCVideo function has group members in the group document which are marked as <on-network-required>, as specified in 3GPP TS 24.481 [24];

8) the <emergency-ind> element can be set to:

a) "true" to indicate that the call that the MCVideo client is initiating is an emergency MCVideo call; or

b) "false" to indicate that the MCVideo client is cancelling an emergency MCVideo call (i.e. converting it back to a non-emergency call)

9) the <alert-ind> element can be set to:

a) "true" in an emergency call initiation to indicate that an alert to be sent; or

b) "false" when cancelling an emergency call which requires an alert to be cancelled also

10) if the <session-type> element is set to "chat" or "prearranged":

a) the <imminentperil-ind> element can be set to "true" to indicate that the call that the MCVideo client is initiating is an imminent peril group MCVideo call;

11) the <broadcast-ind> element can be set to:

a) "true" indicates that the MCVideo client is initiating a broadcast group call; or

b) "false" indicates that the MCVideo client is initiating a non-broadcast group call;

12) the <mc-org> element can be:

a) set to the MCVideo user's Mission Critical Organization in an emergency alert sent by the MCVideo server to terminating MCVideo clients;

13) Void;

14) the <associated-group-id> element:

a) if the <mcvideo-request-uri> element contains a group identity then this element can include an MCVideo group ID associated with the group identity in the <mcvideo-request-uri> element. E.g. if the <mcvideo-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain the constituent MCVideo group ID;

15) the <originated-by> element:

a) can be included, set to the MCVideo ID of the originating user of an MCVideo emergency alert when being cancelled by another authorised MCVideo user;

16) the <MKFC-GKTPs> element:

a) contains a group key transport payload carrying one or more MKFC(s) and MKFC-ID(s) as described in3GPP TS 24.481 [24] clause 7.4, to be used for protection of multicast transmission control signalling when the UE operates on the network;

NOTE 3: A GMS (Group Management Server) compliant to Release 14 of the present document does not send a group key transport payload carrying MKFC and MKFC-ID. A GMC (Group Management Client) can receive MKFC and MKFC-ID from a GMS compliant only to Release 13 of the present document.

17) the <mcvideo-client-id> element:

a) can be included, set to the MCVideo client ID of the MCVideo client that originated a SIP INVITE request, SIP REFER request, SIP REGISTER request, SIP PUBLISH request or SIP MESSAGE request.

18) the <alert-ind-rcvd> element:

a) can be set to true and included in a SIP MESSAGE to indicate that the emergency alert or cancellation was received successfully;

18a) the <multiple-devices-ind> element set to:

a) "true" to indicate to the client that multiple clients are registered for the MCVideo user; or

b) "false" to indicate to the client that no other clients are registered for the MCVideo user;

18b) the <video-pull-url> element:

a) can be set to the URL of the video file located in the MCVideo server; and

19) the <anyExt> can be included with the following elements:

a) a <release-reason> element set to:

i) "authentication of the MIKEY-SAKE I\_MESSAGE failed" by a MCVideo client when the signature cannot be verified;

ii) "private-call-expiry" when the ambient viewing call is release due to the expiry of the private call timer;

iii) "administrator-action" when the ambient viewing call is released by an MCVideo administrator;

iv) "call-request-for-viewed-to-client" when there is a call request targeted to the viewed-to client; or

v) "call-request-initiated-by-viewed-to-client" when there is a call request initiated by the viewed-to client;

b) a <request-type> element set to:

i) "group-selection-change-request" when a client initiates a group selection change request; or

ii) "functional-alias-status-determination" when a client initiates a subscription to FA status request;

iii) "fa-group-binding-req" when a client initiates a request for binding of a functional alias with the MCVideo group(s) for the MCVideo user;

c) a <response-type> element set to:

i) "group-selection-change-response" when a client responds to a group selection change request;

d) a <selected-group-change-outcome> element set to:

i) "success" when a client reports that it has successfully changed its selected group as requested by a received group selection change request; or

ii) "fail" when a client reports that it has failed to change its selected group as requested by a received group selection change request;

e) an<affiliation-required> element set to:

i) "true" when received by a client in a group-selection-change-request indicates that the client needs to affiliate to the specified group;

f) an <ambient-viewing-type> element set to:

i) "remote-init" when the viewing MCVideo user of an ambient viewing call initiates the call; or

ii) "local-init" when the viewed-to MCVideo user of an ambient viewing call initiates the call;

g) an <video-push-url> element:

i) set to the URL of the video file located in the MCVideo server; and

h) a <functional-alias-URI> element set to the value of the functional alias that is used together with the "mcvideo-calling-user-id";

i) an <emergency-alert-area-ind> element set to:

i) "true" when the MCVideo client has entered an emergency alert area; or

ii) "false" when the MCVideo client has exited an emergency alert area;

j) a <group-geo-area-ind> element set to:

i) "true" when the MCVideo client has entered a group geographic area; or

ii) "false" when the MCVideo client has exited a group geographic area:

k) a <binding-ind> element set to:

i) "true" when the user wants to create a binding of a particular functional alias with the specified list of MCVideo groups for the MCVideo client; or

ii) "false" when the user wants to remove a binding of a particular functional alias from the specified list of MCVideo groups for the MCVideo client;

l) a <binding-fa-uri> element set to:

i) a URI of a functional alias that shall be bound with the specified list of MCVideo groups for the MCVideo client; and

m) a <unbinding-fa-uri> element set to:

i) a URI of a functional alias that shall be unbound from the specified list of MCVideo groups for the MCVideo client.

n) a <call-to-functional-alias-ind> element set to:

i) "true" when the MCVideo client is using a functional alias to identify the MCVideo IDs of the potential target MCVideo users; or

ii) "false" when the MCVideo client is using MCVideo IDs to identify the potential target MCVideo users;

Absence of the <emergency-ind>, <alert-ind> and <imminentperil-ind> elements in a SIP INVITE request indicates that the MCVideo client is initiating a non-emergency private call or non-emergency group call.

Absence of the <broadcast-ind> element in a SIP INVITE request indicates that the MCVideo client is initiating a non-broadcast group call.

Absence of the <call-to-functional-alias-ind> in a SIP INVITE or a SIP REFER request for a first-to-answer call indicates the use of the MCVideo IDs of the potential target MCVideo users.

The recipient of the XML ignores any unknown element and any unknown attribute.

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