**3GPP TSG-CT WG1 Meeting #135-eC1-22xxxx**

**E-Meeting, 6th – 12th April 2022 (was C1-222832)**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **24.281** | **CR** | **0168** | **rev** | **-** | **Current version:** | **17.6.0** |  |
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| *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:***  | Interconnect - MCVideo Correction of pre-arranged group regroup call set up procedures |
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| ***Source to WG:*** | Airbus |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | MCSMI\_CT |  | ***Date:*** | 28/03/2022 |
|  |  |  |  |  |
| ***Category:*** | **C** |  | ***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)* |
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| ***Reason for change:*** | In MCVideo as in MCPTT, the procedures for initiating a regroup do not work between interconnected systems when topology hiding is used.Reasons for change are detailed in contribution [C1-220153](https://www.3gpp.org/ftp/tsg_ct/WG1_mm-cc-sm_ex-CN1/TSGC1_133e-bis/Docs/C1-220153.zip).from meeting #133e-bis. |
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| ***Summary of change:*** | Changes are equivalent to the ones done on MCPTT procedures in C1-220600In clause 6.3.1.1:* Adding missing distinction of the request received at the non-controlling function

In clause 6.3.2.1.8:* Change headings. SIP 302 is not used anymore, as SIP OPTION is not used anymore and 6.3.5.2 shall not try to redirect a call to a constituent group towards the TGI.
* Keep information from mcvideo-request-uri and associated-group-id

In clause 6.3.4.1.4:* Use information from mcvideo-request-uri and associated-group-id instead of determining the regroup ID in step 4b.
* Determination of the PSI of the controlling function is based on the identity of the regroup
* Keep the calling user id information in the outgoing INVITE
* Put the identity of the constituant group in the mcvideo-calling-group-id element of the outgoing INVITE

In clause 6.3.5.2* Determine the requested MCVideo group id from the appropiate element received in the SIP INVITE, depending on where this procedure is called from.
* Remove attemp to redirect a call to a regrouped group toward the TGI in which it has been regrouped, as a such call shall be rejected
* Remove attempt to check membership of the calling user in one of the constituent group of a TGI, this will be done by the non-controlling

In clause 6.3.5.4* Adapt controls to also regroup based on a preconfigured group to check the consistency of the regroup with the constituent group.
* Separate controls done at the non-controlling and at the controlling and clarify with NOTEs.

In clause 9.2.1.2.1.1:* Clarify that inclusion of the constituant group is mandatory when the targeted group is a regroup or a temporary group

In clause 9.2.1.3.1.1:* If the targeted group is a regroup or a temporary group, i.e. if the associated-group-id is present, route the request to the non-controlling.

In clause 9.2.1.4.2:* Step 5d was dealing with the case where the SIP INVITE was not going through the non-controlling, so it is not needed anymore
* In step 14 a), if it is a regroup, the affiliation check has been done at the non-controlling
* Step 14 f to be simplified (INVITE sent to all constituent groups) and corrected (INVITE shall not be sent to the calling constituent group)

In clause 9.2.1.5.5:* Use the information in mcvideo-request-uri and associated-group-id
* Control consistency of that information (in 6.3.5.4)
* Control that the calling user is affiliated to the constituent group
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| ***Consequences if not approved:*** | Setup of a group regroup or temporary group call will not be possible in case of interconnect.Known information (constituent group id and group regroup id) is ignored and determined again, leading potentially to race conditions and inconsistency |
|  |  |
| ***Clauses affected:*** | 6.3.1.1, 6.3.2.1.8, 6.3.4.1.4, 6.3.5.2, 6.3.5.4, 9.2.1.2.1.1, 9.2.1.3.1.1, 9.2.1.4.2, 9.2.1.5.5 |
|  |  |
|  | **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 \* \* \* \*

#### 6.3.1.1 SIP INVITE request

The MCVideo server needs to distinguish between the following initial SIP INVITE requests for originations and terminations:

- SIP INVITE requests routed to the participating MCVideo function and the Request-URI is set to a public service identity of the participating MCVideo function that does not identify the pre-established session set-up. Such requests are known as "SIP INVITE request for originating participating MCVideo function" in the procedures in the present document;

- SIP INVITE requests routed to the participating MCVideo function and the Request-URI contains a PSI of the terminating participating MCVideo function. Such requests are known as "SIP INVITE request for terminating participating MCVideo function" in the procedures in the present document;

- SIP INVITE requests routed to the controlling MCVideo function, the Request-URI is set to a public service identity for MCVideo private call and the Contact header field does not contain the isfocus media feature tag specified in IETF RFC 3840 [16]. Such requests are known as "SIP INVITE request for controlling MCVideo function of a private call" in the procedures in the present document;

- SIP INVITE requests routed to the controlling MCVideo function, the Request-URI is set to a public service identity serving an MCVideo group and the Contact header field does not contain the isfocus media feature tag specified in IETF RFC 3840 [16]. Such requests are known as "SIP INVITE request for controlling MCVideo function of an MCVideo group" in the procedures in the present document;

- SIP INVITE requests routed to the controlling MCVideo function, the Request-URI is set to a public service identity for MCVideo ambient viewing call and the Contact header field does not contain the isfocus media feature tag specified in IETF RFC 3840 [22]. Such requests are known as "SIP INVITE request for controlling MCVideo function of an ambient viewing call" in the procedures in the present document;

- SIP INVITE requests routed to the non-controlling MCVideo function of an MCVideo group, the Request-URI is set to a public service identity serving an MCVideo group and the Contact header field contains the isfocus media feature tag specified in IETF RFC 3840 [16]. Such requests are known as "SIP INVITE request for non-controlling MCVideo function of an MCVideo group" in the procedures in the present document; and

- SIP INVITE requests routed to the non-controlling MCVideo function of an MCVideo group, the Request-URI is set to a public service identity serving an MCVideo group and the Contact header field does not contain the isfocus media feature tag specified in IETF RFC 3840 [16]. Such requests are known as "SIP INVITE request from participating MCVideo function for non-controlling MCVideo function of an MCVideo group" in the procedures in the present document.

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

##### 6.3.2.1.8 Sending a SIP INVITE request on receipt of SIP 3xx response

This clause is referenced from other procedures.

The participating MCVideo function shall generate a SIP INVITE request according to rules and procedures of 3GPP TS 24.229 [4].

The participating MCVideo function:1) shall determine the public service identity of the non-controlling MCVideo function associated with the group identity of the constituent group contained in the <associated-group-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body in the received SIP INVITE request. If the participating MCVideo function is unable to identify the non-controlling MCVideo function for the on demand prearranged group call, 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;

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

NOTE 2: If the non-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 non-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 non-controlling MCVideo function associated with the group identity 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.

2) shall set the Request-URI of the generated SIP INVITE to the public service identity determines in step 1;

3) shall include in the SIP INVITE request all Accept-Contact header fields and all Reject-Contact header fields, with their feature tags and their corresponding values along with parameters according to rules and procedures of IETF RFC 3841 [20] if included in the original incoming SIP INVITE request from the MCVideo client;

4) should include the Session-Expires header field according to IETF RFC 4028 [23]. It is recommended that the "refresher" header field parameter is omitted. If included, the "refresher" header field parameter shall be set to "uac";

5) shall include the option tag "timer" in the Supported header field;

6) shall copy the contents of the P-Asserted-Identity header field of the incoming SIP INVITE request from the client to the P-Asserted-Identity header field of the outgoing SIP INVITE request;

7) shall include the g.3gpp.mcvideo media feature tag into the Contact header field of the outgoing SIP INVITE request;

8) shall include the g.3gpp.icsi-ref media feature tag containing the value of "urn:urn-7:3gpp-service.ims.icsi.mcvideo" in the Contact header field of the outgoing SIP INVITE request;

9) shall include the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcvideo" (coded as specified in 3GPP TS 24.229 [11]), into the P-Asserted-Service header field of the outgoing SIP INVITE request;

10) if a SIP INVITE request was received from the client containing an application/vnd.3gpp.mcvideo-info+xml MIME body, shall copy the contents of the application/vnd.3gpp.mcvideo-info+xml MIME body of the original incoming SIP INVITE request to the outgoing SIP INVITE request;

11) shall set the <mcvideo-calling-user-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request to the MCVideo ID of the calling user that was determined when the participating MCVideo function received the SIP INVITE request request from the client; and

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

##### 6.3.4.1.4 Sending an INVITE request towards the controlling MCVideo function

This clause is referenced from other procedures.

The non-controlling MCVideo function shall generate a SIP INVITE request according to rules and procedures of 3GPP TS 24.229 [11].

The non-controlling MCVideo function:

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

2) 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-Id header field according to IETF RFC 6050 [14] in the SIP INVITE request;

3) shall set the Request-URI to the public service identity of the controlling MCVideo function based on the <mcvideo-request-uri> element received in the "SIP INVITE request from participating MCVideo function for non-controlling MCVideo function of an MCVideo group";

NOTE 1: The public service identity can identify the controling 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 non-controlling MCVideo function determines the public service identity of the controlling MCVideo function based on the <mcvideo-request-uri> element received in the "SIP INVITE request for controlling MCVideo function of an MCVideo group" 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.

4) shall include an application/vnd.3gpp.mcvideo-info+xml MIME body with:

a) the <session-type> element set to "prearranged";

NOTE 6: The <session-type> element is set to "prearranged" regardless of which type of group the constituent MCVideo group is.

b) the <mcvideo-request-uri> element set to the identity of the TGI or of the group regroup based on a preconfigured group received in the <mcvideo-request-uri> element of the received SIP INVITE;

c) the <mcvideo-calling-group-id> element set to the identity of the constituent group received in the <associated-group-id> element of the received SIP INVITE;

d) the <mcvideo-calling-user-id> element set to the identity of the calling user received in the <mcvideo-calling-user-id> element of the received SIP INVITE; and

e) the <required> element set to "true", if the group document retrieved from the group management server contains <on-network-required> group members as specified in 3GPP TS 24.481 [24];

5) shall include the public service identity of the non-controlling MCVideo function in the P-Asserted-Identity header field;

6) should include the Session-Expires header field according to rules and procedures of IETF RFC 4028 [23]. The refresher parameter shall be omitted; and

7) shall include the Supported header field set to "timer".

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

#### 6.3.5.2 Rules for retrieving Group Document(s)

NOTE 1: In this clause, "MCVideo server" can refer to either the controlling MCVideo function of an MCVideo group or the non-controlling MCVideo function of an MCVideo group.

When the group document is retrieved for the controlling MCVideo function procedures (clause 9.2.1.4) or for the non-controlling MCVideo function terminating procedures (clause 9.2.1.5.2), the requested group identity refers to the group identity in the <mcvideo-request-uri> element of the application/vnd.3gpp.mvideo-info+xml MIME body of the SIP INVITE request.

When the group document is retrieved for the non-controlling MCVideo function to initiate a temporary group session (clause 9.2.1.5.5), the requested group identity refers to the group identity of the constituent group contained in the <associated-group-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request.

Upon receipt of a SIP INVITE request:

1) if the MCVideo server is not yet subscribed to the group document for the requested group identity, the MCVideo server shall subscribe to the "xcap-diff" event-package for the group document of this group identity as specified in 3GPP TS 24.481 [24];

NOTE 2: The requested group identity is either an MCVideo group ID or a temporary MCVideo group identity (TGI).

NOTE 3: As a group document can potentially have a large content, the controlling MCVideo function of an MCVideo group can subscribe to the group document indicating support of content-indirection as defined in IETF RFC 4483 [29], by following the procedures in 3GPP TS 24.481 [24].

2) upon receipt of a SIP 404 (Not Found) response as a result of attempting to subscribe to the "xcap-diff" event-package for the group document of the requested group identity as specified in 3GPP TS 24.481 [24], the MCVideo server shall send the SIP 404 (Not Found) response with the warning text set to "113 group document does not exist" in a Warning header field as specified in clause 4.4. Otherwise, continue with the rest of the steps;

3) upon receipt of any other SIP 4xx, SIP 5xx or SIP 6xx response as a result of attempting to subscribe to the "xcap-diff" event-package for the group document of the requested group identity as specified in 3GPP TS 24.481 [24], the MCVideo server shall send the SIP final response with the warning text set to "114 unable to retrieve group document" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

4) upon receipt of a notification from the group management server containing the group document for the requested group identity, or if the group document is already cached:

a) if the MCVideo server is a non-controlling function of an MCVideo group, then the MCVideo server shall exit this clause; and

b) if the MCVideo server is a controlling function of an MCVideo group, then the MCVideo server shall determine if the group document is for a TGI or an MCVideo group ID as follows:

i) if the group document includes an <on-network-temporary> element, then the group document is associated with a TGI;

ii) if the group document does not include an <on-network-temporary> element or an <on-network-regrouped> element, then the group document is associated with an MCVideo ID that has not been regrouped; and

iii) if the group document does not include an <on-network-temporary> element but includes an <on-network-regrouped> element, then the group document is associated with an MCVideo ID that has been regrouped;

5) if the SIP INVITE request is a "SIP INVITE request for controlling function of an MCVideo group" and the requested group identity is an MCVideo group ID that has not been re-grouped, then:

a) if the <on-network-disabled> element is present in the group document, shall send a SIP 403 (Forbidden) response with the warning text set to "115 group is disabled" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

b) if the <list> element of the <list-service> element does not contain an entry matching the MCVideo ID of the user in the SIP INVITE request, shall send a SIP 403 (Forbidden) response with the warning text set to "116 user is not part of the MCVideo group" in a Warning header field as specified in clause 4.4 and shall not continue with the rest of the steps;

c) if the <on-network-invite-members> element is set to "true" and if the SIP INVITE request contains an application/vnd.3gpp.mcvideo-info+xml MIME body with the <session-type> element containing a value not set to "prearranged", shall return a SIP 404 (Not Found) response with the warning text set to "117 the group identity indicated in the request is a prearranged group" as specified in clause 4.4 "Warning header field" and shall not continue with the rest of the steps; and

d) if the <on-network-invite-members> element is set to "false" and if the SIP INVITE request contains an application/vnd.3gpp.mcvideo-info+xml MIME body with the <session-type> element containing a value not set to "chat" shall return a SIP 404 (Not Found) response with the warning text set to "118 the group identity indicated in the request is a chat group" as specified in clause 4.4 "Warning header field" and shall not continue with the rest of the steps; and

6) if the SIP INVITE request is a "SIP INVITE request for controlling function of an MCVideo group" and the group document for the requested group identity is an MCVideo group ID that has been regrouped, then the MCVideo server:

a) shall reject the SIP INVITE request with a SIP 403 (Forbidden) response with the warning text set to "148 group is regrouped" as specified in clause 4.4 "Warning header field".

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

#### 6.3.5.4 Rules for initiating a prearranged group session

The following conditions shall be met at the non-controlling MCVideo function of an MCVideo group to initiate a group session for the calling MCVideo user:

1) if

a) the <on-network-regrouped> element in the <list-service> element is present in the group document associated with the MCVideo group ID identified in the <associated-group-id> element of the incoming SIP INVITE and if the MCVideo ID indicated in the <mcvideo-request-uri> element of the incoming INVITE request is the same as the MCVideo group ID in the "temporary-MCVideo-group-ID" attribute of the <on-network-regrouped> element; or

b) according to the information stored per procedures of clause 21, the group identified in the <mvideo-request-uri> of the incoming SIP INVITE is a group regroup based on a preconfigured group and if the group identified in the <associated-group-id> of the incoming SIP INVITE is a constituent group of that group regroup based on a preconfigured group according;

NOTE 1: The non-controlling MCVideo function checks the consistency of the constituent group with the called group regroup.

2) if an <entry> element exists for the calling MCVideo user in the <list> element of the group document associated with the MCVideo group ID identified in the <associated-group-id> element of the incoming SIP INVITE;

NOTE 2: The non-controlling MCVideo function checks that the calling MCVideo user is a member of the constituent group.

3) if a <rule> exists in the group document with:

a) the <is-list-member> element of the <conditions> element present and with the <allow-initiate-conference> element of the corresponding <actions> element set to "true"; or

b) the <identity> element of the <conditions> element containing an entry matching the MCVideo ID of the calling MCVideo user identified in the <mcvideo-calling-user-id> element of the SIP INVITE request, with the <allow-initiate-conference> element of the <actions> element is set to "true"; and

4) if the <supported-services> element exists in the group document with:

a) a <service> element containing an "enabler" attribute which is set to the MCVideo ICSI; and

b) if a <group-media> element is present, an entry set to "MCVideo video media".

NOTE 3: The non-controlling MCVideo function checks that the calling MCVideo user is allowed to initiate the group call per the rules in the group document, and that the group is supporting MCVideo services.

then the calling MCVideo user shall be authorised by the non-controlling MCVicdeo function to initiate the group session. Otherwise the calling MCVideo user shall not be authorised to initiate the group session.

The following conditions shall be met at the controlling MCVideo function of an MCVideo group to initiate a group session for the calling MCVideo user:

NOTE 4: Control that the MCVideo group has not been regrouped (is not a constituent group) is done in the parent procedure and in clause 6.3.5.2.

1) if the MCVideo group ID identified in the <mcvideo-request-uri> element of the incoming SIP INVITE is a temporary group or a group regroup based on preconfigured group then the calling MCVideo user shall be authorised by the controlling MCVideo function to initiate the group session and the rest of the steps shall be skipped;

NOTE 5: Consistency of the constituent group with the called regroup has been checked at the non-controlling MCVideo function.

NOTE 6: Control that the requesting user is authorised to initiate the group call has been done at the non-controlling MCVideo function of the constituent group.

2) if

a) an <entry> element exists for the calling MCVideo user in the <list> element of the group document associated with the MCVideo group ID identified in the <mcvideo-request-uri > element of the incoming SIP INVITE; or

b) the group is a user regroup based on a preconfigured group and the MCVideo ID contained in the <mcvideo-calling-user-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body in the SIP INVITE request is included in the list of users that was stored during successful processing of the creation of the user regroup per clause 21;

NOTE 7: The controlling MCVideo function checks that the calling MCVideo user is a member of the normal group (i.e. not a constituent group nor a regroup) or a user regroup.

3) if a <rule> exists in the group document with:

a) the <is-list-member> element of the <conditions> element present and with the <allow-initiate-conference> element of the corresponding <actions> element set to "true"; or

b) the <identity> element of the <conditions> element containing an entry matching the MCVideo ID of the calling MCVideo user identified in the <mcvideo-calling-user-id> element of the SIP INVITE request, with the <allow-initiate-conference> element of the <actions> element is set to "true"; and

4) if the <supported-services> element exists in the group document with:

a) a <service> element containing an "enabler" attribute which is set to the MCVideo ICSI; and

b) if a <group-media> element is present, an entry set to " MCVideo video media".

NOTE 8: The controlling MCVideo function checks that the calling MCVideo user is allowed to initiate the group call per the rules in the group document, and that the group is supporting MCVideo services.

then the calling MCVideo user shall be authorised by the controlling MCVideo function to initiate the group session. Otherwise the calling MCVideo user shall not be authorised to initiate the group session.

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

###### 9.2.1.2.1.1 Client originating procedures

Upon receiving a request from an MCVideo user to establish an MCVideo prearranged group session the MCVideo client shall determine whether the group document contains a <list-service> element that contains a <preconfigured-group-use-only> element. If a <preconfigured-group-use-only> element exists and is set to the value "true", then the MCVideo client:

1) should indicate to the MCVideo user that calls are not allowed on the indicated group; and

2) shall skip the remainder of this procedure.

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) if the MCVideo user has requested the origination of an MCVideo emergency group call or is originating an MCVideo prearranged group call and the MCVideo emergency state is already set, the MCVideo client shall comply with the procedures in clause 6.2.8.1.1;

2) if the MCVideo user has requested the origination of an MCVideo imminent peril group call, the MCVideo client shall comply with the procedures in clause 6.2.8.1.9;

3) if the MCVideo user has requested the origination of a broadcast group call, the MCVideo client shall comply with the procedures in clause 6.2.8.2;

4) 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];

5) 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];

6) 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;

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

8) should include the "timer" option tag in the Supported header field;

9) should include the Session-Expires header field according to IETF RFC 4028 [23]. It is recommended that the "refresher" header field parameter is omitted. If included, the "refresher" header field parameter shall be set to "uac";

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

NOTE 1: The MCVideo client is configured with public service identity identifying the participating MCVideo function serving the MCVideo user.

11) 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];

12) if the MCVideo emergency state is already set or the MCVideo client emergency group state for this group is set to "MVEG 2: in-progress", the MCVideo client shall include the Resource-Priority header field and comply with the procedures in clause 6.2.8.1.2;

13) if the MCVideo client imminent peril group state for this group is set to "MVIG 2: in-progress" or "MVIG 4: confirm-pending" shall include the Resource-Priority header field and comply with the procedures in clause 6.2.8.1.12;

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

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

b) the <mcvideo-request-uri> element set to the group identity;

c) the <mcvideo-client-id> element set to the MCVideo client ID of the originating MCVideo client; and

NOTE 2: The MCVideo client does not include the MCVideo ID of the originating MCVideo user in the body, as this will be inserted into the body of the SIP INVITE request that is sent from the originating participating MCVideo function.

d) if the group identity identifies a temporary group or a group regroup based on a preconfigured group,, the <associated-group-id> element set to the MCVideo group ID of a constituent group the MCVideo client is member of; and

e) if the MCVideo client is aware of active functional aliases, and an active functional alias is to be included in the initial SIP INVITE request, the <functional-alias-URI> set to the URI of the used functional alias.

NOTE 3: The MCVideo client is informed about temporary groups regouping MCVideo groups that the user is a member of as specified in 3GPP TS 24.481 [24]. The MCVideo client is informed about regroups based on a preconfigured group of MCVideo groups that the user is member of and affiliated to as specified in clause 21.

NOTE 4: If the MCVideo user selected a TGI or the identity of a group regroup based on a preconfigured group where there are several constituent MCVideo groups where the MCVideo user is a member, the MCVideo client selects one of those MCVideo groups.

15) shall include an SDP offer according to 3GPP TS 24.229 [11] with the clarifications given in clause 6.2.1;

16) if an implicit transmission request is required, shall indicate this as specified in clause 6.4; and

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

On receiving a SIP 2xx response to the SIP INVITE request, the MCVideo client:

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

2) if the MCVideo emergency group call state is set to "MVEGC 2: emergency-call-requested" or "MVEGC 3: emergency-call-granted" or the MCVideo imminent peril group call state is set to "MVIGC 2: imminent-peril-call-requested" or "MVIGC 3: imminent-peril-call-granted", the MCVideo client shall perform the actions specified in clause 6.2.8.1.4; and

3) may subscribe to the conference event package as specified in clause 9.1.3.1.

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 group call state is set to "MVEGC 2: emergency-call-requested" or "MVEGC 3: emergency-call-granted"; or

2) if the MCVideo imminent peril group call state is set to "MVIGC 2: imminent-peril-call-requested" or "MVIGC 3: imminent-peril-call-granted";

the MCVideo client shall perform the actions specified in clause 6.2.8.1.5.

On receiving a SIP INFO request where the Request-URI contains an MCVideo session ID identifying an ongoing group session, the MCVideo client shall follow the actions specified in clause 6.2.8.1.13.

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

###### 9.2.1.3.1.1 On demand prearranged group call

In the procedures in this clause:

1) group identity in an incoming SIP INVITE request refers to the group identity from the <mcvideo-request-uri> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the incoming SIP INVITE request;

2) emergency indication in an incoming SIP INVITE request refers to the <emergency-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body; and

3) imminent peril indication in an incoming SIP INVITE request refers to the <imminentperil-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body.

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 "prearranged", 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 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]. Otherwise, continue with the rest of the steps;

NOTE 1: if the SIP INVITE request contains an emergency indication or an imminent peril indication set to a value of "true" and this is an authorised request for originating a priority call as determined by clause 6.3.2.1.8.1, the participating MCVideo function can according to local policy choose to accept the request.

2) 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 calling user;

NOTE 2: 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.

3) if through local policy in the participating MCVideo function, the user identified by the MCVideo ID is not authorised to initiate prearranged group calls, shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 403 (Forbidden) response to the SIP INVITE request, with warning text set to "109 user not authorised to make prearranged group calls" in a Warning header field as specified in clause 4.4;

4) shall validate the media parameters and if the MCVideo codecs are not offered in the SIP INVITE request shall reject the request with a SIP 488 (Not Acceptable Here) response. Otherwise, continue with the rest of the steps;

5) shall check if the number of maximum simultaneous MCVideo group calls supported for the MCVideo user as specified in the <MaxSimultaneousCallsN6> element of the <MCVideo-group-call> element of the MCVideo user profile document (see the MCVideo user profile document in 3GPP TS 24.484 [25]) has been exceeded. If exceeded, the participating MCVideo function shall respond with a SIP 486 (Busy Here) response with the warning text set to "103 maximum simultaneous MCVideo group calls reached" in a Warning header field as specified in clause 4.4. Otherwise, continue with the rest of the steps;

NOTE 3: If the SIP INVITE request contains an emergency indication or an imminent peril indication, the participating MCVideo function can by means beyond the scope of this specification choose to allow for an exception to the limit for the maximum simultaneous MCVideo sessions supported for the MCVideo user. Alternatively, a lower priority session of the MCVideo user could be terminated to allow for the new session.

6) if the user identified by the MCVideo ID is not affiliated to the group identified in the the <mcvideo-request-uri> or in <associated-group-id> element of "SIP INVITE request for originating participating MCVideo function" as determined by clause 8.2.2.2.11 and this is an authorised request for originating a priority call as determined by clause 6.3.2.1.8.1, shall perform the actions specified in clause 8.2.2.2.12 for implicit affiliation;

7) if the actions for implicit affiliation specified in step 6) above were performed but not successful in affiliating the MCVideo user due to the MCVideo user already having N2 simultaneous affiliations (specified in the <MaxAffiliationsN2> element of the <Common> element of the corresponding MCVideo user profile), shall reject the "SIP INVITE request for originating participating MCVideo function" with a SIP 486 (Busy Here) response with the warning text set to "102 too many simultaneous affiliations" in a Warning header field as specified in clause 4.4. and skip the rest of the steps.

NOTE 4: N2 is the total number of MCVideo groups that an MCVideo user can be affiliated to simultaneously as specified in 3GPP TS 23.281 [26].

NOTE 5: if the SIP INVITE request contains an emergency indication set to a value of "true" or an imminent peril indication set to a value of "true" and this is an authorised request for originating a priority call as determined by clause 6.3.2.1.8.1, the participating MCVideo function can according to local policy choose to allow an exception to the N2 limit specified in the <MaxAffiliationsN2> element of the <Common> element of the MCVideo user profile of the served MCVideo ID. Alternatively, a lower priority affiliation of the MCVideo user could be cancelled to allow for the new affiliation.

If the incoming SIP INVITE request does not contain an <associated-group-id> element, then the group identity contained in the <mcvideo-request-uri> element is determined not to be a TGI or the identity of a group regroup based on a preconfigured group and the participating MCVideo function:

1) shall determine the public service identity of the controlling MCVideo function associated with the group identity in the SIP INVITE request;

NOTE 6: The public service identity can identify the controlling MCVideo function in the local MCVideo system or in an interconnected MCVideo system.

NOTE 7: 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 8: 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 9: How the participating MCVideo function determines the public service identity of the controlling MCVideo function associated with the group identity or of the MCVideo gateway server in the interconnected MCVideo system is out of the scope of the present document.

NOTE 10: How the local MCVideo system routes the SIP request through an exit MCVideo gateway server is out of the scope of the present document.

2) shall generate a SIP INVITE request as specified in clause 6.3.2.1.3;

3) shall set the Request-URI to the public service identity of the controlling MCVideo function determined in step 8);

4) shall not copy the following header fields from the incoming SIP INVITE request to the outgoing SIP INVITE request, if they were present in the incoming SIP INVITE request:

a) Answer-Mode header field as specified in IETF RFC 5373 [27]; and

b) Priv-Answer-Mode header field as specified in IETF RFC 5373 [27];

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

6) shall include in the SIP INVITE request an SDP offer based on the SDP offer in the received SIP INVITE request from the MCVideo client as specified in clause 6.3.2.1.1.1;

6a) if the received SIP request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcvideo-info+xml MIME body, then check if the status of the functional alias is activated for the MCVideo ID. If the functional alias status is activated, then 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, if the status is unequal activated then do not include a <functional-alias-URI> element;

7) if the received SIP INVITE request contains an application/vnd.3gpp.location-info+xml MIME body and if not already copied, shall copy the contents of the application/vnd.3gpp.location-info+xml MIME body received in the SIP INVITE request into an application/vnd.3gpp.location-info+xml MIME body included in the outgoing SIP request;

8) if a Resource-Priority header field was included in the received SIP INVITE request, 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 of the SIP INVITE request from the MCVideo client; and

NOTE 11: The participating MCVideo function will leave verification of the Resource-Priority header field to the controlling MCVideo function.

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

If incoming SIP INVITE request contains an <associated-group-id> element, then the group identity contained in the <mcvideo-request-uri> element is determined to be a TGI or the identity of a group regroup based on a preconfigured group and the participating MCVideo function:

1) shall generate a SIP INVITE request as specified in clause 6.3.2.1.8;

2) shall include an SDP offer based upon the SDP offer in the received SIP INVITE request from the MCVideo client as specified in clause 6.3.2.1.1.1; and

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

Upon receipt of a SIP 2xx response in response to the above SIP INVITE request, the participating MCVideo function:

1) if the received SIP 2xx response contains an application/vnd.3gpp.mcvideo-info+xml MIME body with an <MKFC-GKTPs> element, shall perform the procedures in clause 6.3.2.3.2;

2) shall generate a SIP 200 (OK) response as in clause 6.3.2.1.5.2;

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

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

5) shall include the public service identity received in the P-Asserted-Identity header field of the incoming SIP 200 (OK) response into the P-Asserted-Identity header field of the outgoing SIP 200 (OK) response;

6) 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;

7) if the procedures of clause 8.2.2.2.12 for implicit affiliation were performed in the present clause, shall complete the implicit affiliation by performing the procedures of clause 8.2.2.2.13;

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

9) shall interact with Media Plane as specified in 3GPP TS 24.581 [5]; and

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

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

1) shall generate a SIP response according to 3GPP TS 24.229 [11];

2) shall include Warning header field(s) that were received in the incoming SIP response;

3) shall forward the SIP response to the MCVideo client according to 3GPP TS 24.229 [11]; and

4) if the implicit affiliation procedures of clause 8.2.2.2.12 were invoked in this procedure, shall perform the procedures of clause 8.2.2.2.14;

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

##### 9.2.1.4.2 Terminating Procedures

In the procedures in this clause:

1) MCVideo ID in an incoming SIP INVITE request refers to the MCVideo ID of the originating user from the <mcvideo-calling-user-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the incoming SIP INVITE request;

2) group identity in an incoming SIP INVITE request refers to the group identity from the <mcvideo-request-uri> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the incoming SIP INVITE request;

3) MCVideo ID in an outgoing SIP INVITE request refers to the MCVideo ID of the called user in the <mcvideo-request-uri> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the outgoing SIP INVITE request;

4) indication of required group members in a SIP 183 (Session Progress) response refers to the <required> element of the application/vnd.3gpp.mcvideo-info+xml MIME body set to "true" in a SIP 183 (Session Progress) sent by the non-controlling MCVideo function of an MCVideo group;

5) emergency indication in an incoming SIP INVITE request refers to the <emergency-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body; and

6) imminent peril indication in an incoming SIP INVITE request refers to the <imminentperil-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body.

Upon receipt of a "SIP INVITE request for controlling MCVideo function of an MCVideo group", the controlling 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 with a SIP 500 (Server Internal Error) response. The controlling 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 skip the rest of the steps;

NOTE 1: if the SIP INVITE request contains an emergency indication or an imminent peril indication set to a value of "true" and this is an authorised request for originating an MCVideo emergency group call as determined by clause 6.3.3.1.13.2, or for originating an MCVideo imminent peril group call as determined by clause 6.3.3.1.13.5, the controlling MCVideo function can according to local policy choose to accept the request.

2) shall determine if the media parameters are acceptable and the MCVideo codecs are offered in the SDP offer and if not reject the request with a SIP 488 (Not Acceptable Here) response and skip the rest of the steps;

3) shall reject the SIP request with a SIP 403 (Forbidden) response and not process the remaining steps if:

a) an Accept-Contact header field does not include the g.3gpp.mcvideo media feature tag; or

b) an Accept-Contact header field does not include the g.3gpp.icsi-ref media feature tag containing the value of "urn:urn-7:3gpp-service.ims.icsi.mcvideo";

4) if received SIP INVITE request includes an application/vnd.3gpp.mcvideo-info+xml MIME body with an <emergency-ind> element included or an <imminentperil-ind> element included, shall validate the request as described in clause 6.3.3.1.17;

5) if the group identity is associated with a group document maintained by the GMS:

NOTE 1A: How the MCVideo server determines that a group identity represents a group for which a group document is stored in the GMS is an implementation detail.

a) shall retrieve the necessary group document(s) from the group management server for the group identity contained in the SIP INVITE request and carry out initial processing as specified in clause 6.3.5.2;

b) if the group document contains a <list-service> element that contains a <preconfigured-group-use-only> element that is set to the value "true", shall reject the SIP INVITE request with a SIP 403 (Forbidden) response with the warning text set to "167 call is not allowed on the preconfigured group" as specified in clause 4.4 "Warning header field" and skip the rest of the steps;

c) if the group referred to by the group identity has been regrouped, shall:

i) stop processing the SIP INVITE request;

ii) shall reject the SIP INVITE request with a SIP 403 (Forbidden) response with the warning text set to "148 group is regrouped" as specified in clause 4.4 "Warning header field"; and

iii) if the group referred to by the group identity has been regrouped based on a preconfigured group, shall send a copy of the notifying SIP MESSAGE that was generated and sent per clause 21.2.4.1 to the participating function for the MCVideo ID of the incoming SIP INVITE request and skip the rest of the steps; and

d) if the result of the initial processing in clause 6.3.5.2 was that a SIP 4xx, 5xx or 6xx response to the "SIP INVITE request for controlling MCVideo function of an MCVideo group" has been sent, do not continue with the rest of the steps in this clause;

6) if the group identity is associated with a user or group regroup based on a preconfigured group:

a) shall retrieve the stored information for the group identity; and

b) if there is no stored information for the group identity, the controlling MCVideo function shall return a SIP 404 (Not Found) response with the warning text set to "163 the group identity indicated in the request does not exist" as specified in clause 4.4 "Warning header field" and shall not continue with the rest of the steps;

NOTE 1B: The user or group regroup can have been removed very recently and the client has sent the group call request prior to receiving the removal notification.

6a) if the group identity is a TGI or the identity of a group regroup based a preconfigured group and the received SIP INVITE request does not include an <mcvideo-calling-group-id> element in the application/vnd.3gpp.mcvideo-info+xml MIME body, shall return a SIP 403 (Forbidden) response to "SIP INVITE request for controlling MCVideo function of an MCVideo group".

NOTE 1C: This is the case where the MCVideo client has requested the setup of a regroup without including the identity of the constituent group, leading to the participating MCVideo function forwarding the SIP INVITE directly to the controlling MCVideo function. This is not allowed, since the originating client is required to include the identity of the constituent group.

7) shall perform the actions as described in clause 6.3.3.2.2;

8) shall maintain a local counter of the number of SIP 200 (OK) responses received from invited members and shall initialise this local counter to zero;

9) shall determine if an MCVideo group call for the group identity is already ongoing by determining if an MCVideo session identity has already been allocated for the group call and the MCVideo session is active;

10) if the SIP INVITE request contains an unauthorised request for an MCVideo emergency group 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 [11] and skip the rest of the steps;

11) if the SIP INVITE request contains an unauthorised request for an MCVideo imminent peril group call as determined by clause 6.3.3.1.13.5, shall reject the SIP INVITE request with a SIP 403 (Forbidden) response with the following clarifications:

a) shall include in the SIP 403 (Forbidden) response an application/vnd.3gpp.mcvideo-info+xml MIME body as specified in clause F.1 with the <mcvideoinfo> element containing the <mcvideo-Params> element with the <imminentperil-ind> element set to a value of "false"; and

b) shall send the SIP 403 (Forbidden) response as specified in 3GPP TS 24.229 [11] and skip the rest of the steps;

12) if a Resource-Priority header field is included in the SIP INVITE request:

a) if the Resource-Priority header field is set to the value indicated for emergency calls and the SIP INVITE request does not contain an emergency indication and the in-progress emergency state of the group is set to a value of "false", shall reject the SIP INVITE request with a SIP 403 (Forbidden) response and skip the rest of the steps; or

b) if the Resource-Priority header field is set to the value indicated for imminent peril calls and the SIP INVITE request does not contain an imminent peril indication and the in-progress imminent peril state of the group is set to a value of "false", shall reject the SIP INVITE request with a SIP 403 (Forbidden) response and skip the rest of the steps;

13) if the MCVideo group call is not ongoing then:

a) if:

i) the user identified by the MCVideo ID is not affiliated to the group identity contained in the <mcvideo-request-uri> element of the SIP INVITE request as specified in clause 6.3.6;

ii) the group identity contained in an <mcvideo-calling-group-id> element of the SIP INVITE request is not a constituent MCVideo group ID;

NOTE 1D: If the SIP INVITE is for a temporary group or a group regroup based on preconfigured group, the affiliation of the calling user to the constituent group has been assured by the non-controlling MCVideo function of the constituent group before forwarding this SIP INVITE to the controlling function of the regroup.

iii) the received SIP INVITE request does not contain an emergency indication or imminent peril indication; or

iv) the received SIP INVITE request is an authorised request for an MCVideo emergency group call as determined by clause 6.3.3.1.13.2 or MCVideo imminent peril group call as determined by clause 6.3.3.1.13.5 and the MCVideo user identified in the <mcvideo-calling-user-id> of the SIP INVITE is determined to not be eligible for implicit affiliation as specified in clause 8.2.2.3.6;

 then shall return a SIP 403 (Forbidden) response with the warning text set to "120 user is not affiliated to this group" in a Warning header field as specified in clause 4.4, and skip the rest of the steps below;

b) if the user identified by the MCVideo ID is not authorised to initiate the prearranged group session as specified in clause 6.3.5.4, shall send a SIP 403 (Forbidden) response with the warning text set to: "119 user is not authorised to initiate the group call" in a Warning header field as specified in clause 4.4 and skip the rest of the steps below;

c) if the received SIP INVITE request contains an an authorised request for an MCVideo emergency group call as determined by clause 6.3.3.1.13.2 or MCVideo imminent peril group call as determined by clause 6.3.3.1.13.5 and the MCVideo user is eligible to be implicitly affiliated with the MCVideo group as determined as determined in step 13) a) iv) above, shall perform the implicit affiliation as specified in clause 8.2.2.3.7;

d) shall check if a Resource-Priority header field is included in the incoming SIP INVITE request and may apply any preferential treatment to the SIP request as specified in 3GPP TS 24.229 [11];

e) shall create a prearranged group session and allocate an MCVideo session identity for the prearranged group call, and shall handle timer TNG3 (group call timer) as specified in clause 6.3.3.5;

f) if the group identity in the "SIP INVITE request for controlling MCVideo function of an MCVideo group" is a TGI or the identity of a group regroup based on a preconfigured group:

i) shall, for each of the constituent MCVideo groups except for the calling MCVideo group identified in the <mcvideo-calling-group-id> element of the incoming SIP INVITE, generate a SIP INVITE request towards the MCVideo server that owns the constituent MCVideo group identity by following the procedures in clause 9.2.1.4.1.2; and

NOTE 2: The MCVideo server that the SIP INVITE request is sent to acts as a non-controlling MCVideo function;

g) if the group identity in the SIP INVITE request for controlling MCVideo function of an MCVideo group is an MCVideo group ID:

i) shall determine the members to invite to the prearranged MCVideo group call as specified in clause 6.3.5.5;

ii) if necessary, shall start timer TNG1 (acknowledged call setup timer) according to the conditions stated in clause 6.3.3.3;

iii) if the received SIP INVITE request includes an application/vnd.3gpp.mcvideo-info+xml MIME body with an <emergency-ind> element set to a value of "true":

A) shall cache the information that this MCVideo user has initiated an MCVideo emergency call;

B) if the received SIP INVITE contains an alert indication set to a value of "true" and this is an authorised request for an MCVideo emergency alert meeting the conditions specified in clause 6.3.3.1.13.1, shall cache the information that this MCVideo user has initiated an MCVideo emergency alert; and

C) if the in-progress emergency state of the group is set to a value of "false":

I) shall set the value of the in-progress emergency state of the group to "true"; and

II) shall start timer TNG2 (in-progress emergency group call timer) and handle its expiry as specified in clause 6.3.3.1.16;

iv) if the in-progress emergency state of the group is set to a value of "false" and if the received SIP INVITE request contains an imminent peril indication set to a value of "true", the controlling MCVideo function shall:

A) shall cache the information that this MCVideo user has initiated an MCVideo imminent peril call; and

B) if the in-progress imminent peril state of the group is set to a value of "false", shall set the in-progress imminent peril state of the group to a value of "true";

v) shall invite each group member determined in step 13)g)i) above, to the group session, as specified in clause 9.2.1.4.1.1; and

vi) shall interact with the media plane as specified in 3GPP TS 24.581 [5] clause 6.3; and

14) if the MCVideo group call is ongoing then:

a) if:

i) the user identified by the MCVideo ID in the SIP INVITE request is not affiliated to the group identity contained in the <mcvideo-request-uri> element of the SIP INVITE request as specified in clause 6.3.6;

ii) the group identity contained in an <mcvideo-calling-group-id> element of the SIP INVITE request is not a constituent MCVideo group ID;

iii) the received SIP INVITE request does not contain an emergency indication or imminent peril indication; or

iv) the received SIP INVITE request is an authorised request for an MCVideo emergency group call as determined by clause 6.3.3.1.13.2 or MCVideo imminent peril group call as determined clause 6.3.3.1.13.5 and is determined to not be eligible for implicit affiliation as specified in clause 8.2.2.3.6;

 then shall return a SIP 403 (Forbidden) response with the warning text set to "120 user is not affiliated to this group" in a Warning header field as specified in clause 4.4, and skip the rest of the steps below;

b) if the user identified by the MCVideo ID in the SIP INVITE request is not authorised to join the prearranged group session as specified in clause 6.3.5.3, shall send a SIP 403 (Forbidden) response with the warning text set to "121 user is not allowed to join the group call" in a Warning header field as specified in clause 4.4 and skip the rest of the steps below;

c) shall check if a Resource-Priority header field is included in the incoming SIP INVITE request and may apply any preferential treatment to the SIP request as specified in 3GPP TS 24.229 [11];

d) if <on-network-max-participant-count> as specified in 3GPP TS 24.481 [24] is already reached:

i) if, according to local policy, the user identified by the MCVideo ID in the SIP INVITE request is deemed to have a higher priority than an existing user in the group session, may remove a participant from the session by following clause 9.2.1.4.4.3, and skip the next step; and

NOTE 3: The local policy for deciding whether to admit a user to a call that has reached its maximum amount of participants can include the <user-priority> and the <participant-type> of the user as well as other information of the user from the group document as specified in 3GPP TS 24.481 [24]. The local policy decisions can also include taking into account whether the imminent-peril indicator or emergency indicator was received in the SIP INVITE request.

ii) shall return a SIP 486 (Busy Here) response with the warning text set to "122 too many participants" to the originating network as specified in clause 4.4 and skip the rest of the steps;

e) if the received SIP INVITE request contains an an authorised request for an MCVideo emergency group call as determined by clause 6.3.3.1.13.2 or MCVideo imminent peril group call as determined by clause 6.3.3.1.13.5 and the MCVideo user is eligible to be implicitly affiliated with the MCVideo group as determined in step 14) a) iv) above, shall perform the implicit affiliation as specified in clause 8.2.2.3.7;

f) if the received SIP INVITE request includes an application/vnd.3gpp.mcvideo-info+xml MIME body with an <emergency-ind> element set to a value of "true":

i) shall cache the information that this MCVideo user has initiated an MCVideo emergency call;

ii) if the received SIP INVITE contains an alert indication set to a value of "true" and this is an authorised request for an MCVideo emergency alert meeting the conditions specified in clause 6.3.3.1.13.1, shall cache the information that this MCVideo user has initiated an MCVideo emergency alert;

iii) if the in-progress emergency state of the group is set to a value of "false":

A) shall set the value of the in-progress emergency state of the group to "true";

B) shall start timer TNG2 (in-progress emergency group call timer) and handle its expiry as specified in clause 6.3.3.1.16; and

C) shall generate SIP re-INVITE requests for the MCVideo emergency group call to the other call participants of the MCVideo group as specified in clause 6.3.3.1.6;

iv) if the in-progress imminent peril state of the group is set to a value of "true":

A) for each of the other affiliated member of the group generate a SIP MESSAGE request notification of the MCVideo user's imminent peril indication as specified in clause 6.3.3.1.11, setting the <imminentperil-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body to a value of "true"; and

B) send the SIP MESSAGE request as specified in 3GPP TS 24.229 [11]; and

v) upon receiving a SIP 200 (OK) response to the SIP re-INVITE request the controlling MCVideo function shall interact with the media plane as specified in 3GPP TS 24.581 [5];

g) if the in-progress emergency state of the group is set to a value of "false" and if the SIP INVITE request contains an imminent peril indication set to a value of "true", the controlling MCVideo function:

i) shall cache the information that this MCVideo user has initiated an MCVideo imminent peril call; and

ii) if the in-progress imminent peril state of the group is set to a value of "false":

A) shall set the in-progress imminent peril state of the group to a value of "true";

B) shall generate SIP re-INVITE requests for the MCVideo imminent peril group call to the other call participants of the MCVideo group as specified in clause 6.3.3.1.15; and

C) upon receiving a SIP 200 (OK) response to the SIP re-INVITE request the controlling MCVideo function shall interact with the media plane as specified in 3GPP TS 24.581 [5]; and

iii) if the in-progress imminent peril state of the group is set to a value of "true":

A) for each of the other affiliated member of the group generate a SIP MESSAGE request notification of the MCVideo user's imminent peril indication as specified in clause 6.3.3.1.11, setting the <imminentperil-ind> element of the application/vnd.3gpp.mcvideo-info+xml MIME body to a value of "true"; and

B) send the SIP MESSAGE request as specified in 3GPP TS 24.229 [11];

h) shall generate a SIP 200 (OK) response as specified in the clause 6.3.3.2.4.2;

i) 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;

j) shall include in the SIP 200 (OK) response with the warning text set to "123 MCVideo session already exists" as specified in clause 4.4;

k) if the received SIP re-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;

l) if the received SIP re-INVITE request contains an application/vnd.3gpp.mcvideo-info+xml MIME body with the <imminentperil-ind> element set to a value of "true" and if the in-progress emergency state of the group is set to a value of "true", 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: In this case, the request was for an imminent peril call but a higher priority MCVideo emergency call was already in progress on the group. Hence, the imminent peril call request aspect of the request is denied but the request is granted with emergency level priority.

m) shall interact with media plane as specified in 3GPP TS 24.581 [5] clause 6.3;

NOTE 5: Resulting media plane processing is completed before the next step is performed.

n) shall send the SIP 200 (OK) response towards the inviting MCVideo client or inviting non-controlling MCVideo function according to 3GPP TS 24.229 [11];

o) shall generate a notification to the MCVideo clients, which have subscribed to the conference state event package that the inviting MCVideo User has joined in the MCVideo group session, as specified in clause 6.3.3.4;

NOTE 6: As a group document can potentially have a large content, the controlling MCVideo function can notify using content-indirection as defined in IETF RFC 4483 [29].

p) shall send a SIP NOTIFY request to each MCVideo client according to 3GPP TS 24.229 [11];

q) Upon receiving a SIP ACK to the above SIP 200 (OK) response and the SIP 200 (OK) response contained a Warning header field as specified in clause 4.4 with the warning text containing the mcvideo-warn-code set to "149", shall follow the procedures in clause 6.3.3.1.18; and

r) shall not continue with the rest of the clause.

Upon receiving a SIP 183 (Session Progress) response to the SIP INVITE request specified in clause 9.2.1.4.1 containing a P-Answer-State header field with the value "Unconfirmed" as specified in IETF RFC 4964 [30], the timer TNG1 (acknowledged call setup timer) is not running, the controlling MCVideo function supports media buffering and the SIP final response is not yet sent to the inviting MCVideo client:

1) shall generate a SIP 200 (OK) response to SIP INVITE request as specified in the clause 6.3.3.2.3.2;

2) shall include the warning text set to "122 too many participants" as specified in clause 4.4 in the SIP 200 (OK) response, if the prearranged MCVideo group has more than <on-network-max-participant-count> members as specified in 3GPP TS 24.481 [24];

3) 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;

4) shall include a P-Answer-State header field with the value "Unconfirmed";

5) if the 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;

6) if the received SIP INVITE request contains an application/vnd.3gpp.mcvideo-info+xml MIME body with the <imminentperil-ind> element set to a value of "true" and if the in-progress emergency state of the group is set to a value of "true", 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;

7) shall interact with the media plane as specified in 3GPP TS 24.581 [5] clause 6.3;

NOTE 7: Resulting user plane processing is completed before the next step is performed.

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

9) shall generate a notification to the MCVideo clients, which have subscribed to the conference state event package that the inviting MCVideo User has joined in the MCVideo group session, as specified in clause 6.3.3.4; and

NOTE 8: As a group document can potentially have a large content, the controlling MCVideo function can notify using content-indirection as defined in IETF RFC 4483 [29].

10) shall send a SIP NOTIFY request to each MCVideo client according to 3GPP TS 24.229 [11].

Upon receiving a SIP 183 (Session Progress) response for a SIP INVITE request as specified in clause 9.2.1.4.1.2 containing an indication of required group members, the timer TNG1 (acknowledged call setup timer) is running and all SIP 200 (OK) responses have been received to all SIP INVITE requests sent to MCVideo clients specified in clause 9.2.1.4.1.1, then the controlling MCVideo function shall wait until the SIP 200 (OK) response has been received to the SIP INVITE request specified in clause 9.2.1.4.1.2 before generating a SIP 200 (OK) response to the "SIP INVITE request for controlling MCVideo function of an MCVideo group".

Upon receiving a SIP 200 (OK) response for a SIP INVITE request as specified in clause 9.2.1.4.1 that was sent to an affiliated and <on-network-required> group member as specified in 3GPP TS 24.481 [24]; and

1) if the MCVideo ID in the SIP 200 (OK) response matches to the MCVideo ID in the corresponding SIP INVITE request;

2) there are no outstanding SIP 200 (OK) responses to SIP INVITE requests which were sent to affiliated and <on-network-required> group members as specified in 3GPP TS 24.481 [24]; and

3) there is no outstanding SIP 200 (OK) response to a SIP INVITE request sent in clause 9.2.1.4.1.2 where the SIP 183 (Session Progress) response contained an indication of required group members;

the controlling MCVideo function:

1) shall stop timer TNG1 (acknowledged call setup timer) as described in clause 6.3.3.3;

2) shall generate 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;

3) shall include the warning text set to "122 too many participants" as specified in clause 4.4 in the SIP 200 (OK) response, if all members were not invited because the prearranged MCVideo group has been exceeded the <on-network-max-participant-count> members as specified in 3GPP TS 24.481 [24];

4) 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;

5) shall interact with the media plane as specified in 3GPP TS 24.581 [5] clause 6.3;

NOTE 9: Resulting media plane processing is completed before the next step is performed.

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

7) shall generate a notification to the MCVideo clients, which have subscribed to the conference state event package that the inviting MCVideo user has joined in the MCVideo group session, as specified in clause 6.3.3.4; and

NOTE 10: As a group document can potentially have a large content, the controlling MCVideo function can notify using content-indirection as defined in IETF RFC 4483 [29].

8) shall send the SIP NOTIFY request to the MCVideo clients according to 3GPP TS 24.229 [11].

Upon:

1) receiving a SIP 200 (OK) response for a SIP INVITE request as specified in clause 9.2.1.4.1;

2) the timer TNG1 (acknowledged call setup timer) is not running;

3) the local counter of the number of SIP 200 (OK) responses received from invited members is equal to the value of the <on-network-minimum-number-to-start> element of the group document;

4) the controlling MCVideo function supports media buffering; and

5) the SIP final response has not yet been sent to the inviting MCVideo client;

the controlling MCVideo function according to local policy:

1) shall generate SIP 200 (OK) response to the SIP INVITE request as specified in the clause 6.3.3.2.2;

2) shall include the warning text set to "122 too many participants" as specified in clause 4.4 in the SIP 200 (OK) response, if all members were not invited because the prearranged MCVideo group has exceeded the <max-participant-count> members as specified in 3GPP TS 24.481 [24];

3) 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;

4) if the 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;

5) if the received SIP INVITE request contains an application/vnd.3gpp.mcvideo-info+xml MIME body with the <imminentperil-ind> element set to a value of "true" and if the in-progress emergency state of the group is set to a value of "true", 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;

6) shall interact with the media plane as specified in 3GPP TS 24.581 [5] clause 6.3;

NOTE 11: Resulting media plane processing is completed before the next step is performed.

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

8) shall generate a notification to the MCVideo clients, which have subscribed to the conference state event package that the inviting MCVideo user has joined in the MCVideo group session, as specified in clause 6.3.3.4; and

NOTE 12: As a group document can potentially have a large content, the controlling MCVideo function can notify using content-indirection as defined in IETF RFC 4483 [29].

9) shall send the SIP NOTIFY request to the MCVideo clients according to 3GPP TS 24.229 [11].

Upon expiry of timer TNG1 (acknowledged call setup timer), if there are outstanding SIP 200 (OK) responses to SIP INVITE requests sent to affiliated and <on-network-required> group members as specified in 3GPP TS 24.481 [24], the controlling MCVideo function shall follow the procedures specified in clause 6.3.3.3*.*

If timer TNG1 (acknowledged call setup timer) is running and a final SIP 4xx, 5xx or 6xx response is received from an affiliated and <on-network-required> group member as specified in 3GPP TS 24.481 [24], the controlling MCVideo function shall follow the relevant procedures specified in clause 6.3.3.3*.*

If:

1) timer TNG1 (acknowledged call setup timer) is not running;

2) the local counter of the number of SIP 200 (OK) responses received from invited members is equal to the value of the <on-network-minimum-number-to-start> element of the group document; and

3) a final SIP 4xx, 5xx or 6xx response is received from an invited MCVideo client;

then the controlling MCVideo function shall perform one of the following based on policy:

1) send the SIP final response towards the inviting MCVideo client, according to 3GPP TS 24.229 [11], if a SIP final response was received from all the other invited MCVideo clients and the SIP 200 (OK) response is not yet sent; or

2) remove the invited MCVideo client from the MCVideo Session as specified in clause 6.3.3.1.5, if a SIP final response other than 2xx or 3xx was received from all the invited MCVideo clients and the SIP 200 (OK) response is already sent. The controlling MCVideo function may invite an additional member of the prearranged MCVideo group as specified in clause 9.2.1.4.1 that has not already been invited, if the prearranged MCVideo group has more than <on-network-max-participant-count> members as specified in 3GPP TS 24.481 [24], and all members have not yet been invited.

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

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

##### 9.2.1.5.5 Initiating a temporary group session

Upon receiving a "SIP INVITE request "SIP INVITE request from participating MCVideo function for controlling MCVideo function of an MCVideo group" when a prearranged group session is not ongoing, the non-controlling MCVideo-function shall:

NOTE 1: The difference between a "SIP INVITE request from participating MCVideo function for controlling MCVideo function of an MCVideo group" and a "SIP INVITE request for non-controlling MCVideo function of an MCVideo group" (from the controlling MCVideo function) is that the latter SIP INVITE request contains the isfocus media feature tag in the Contact header field.

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 non-controlling MCVideo function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [15]. Otherwise, continue with the rest of the steps;

2) shall determine if the media parameters are acceptable and the MCVideo codecs are offered in the SDP offer and if not reject the request with a SIP 488 (Not Acceptable Here) response. Otherwise, continue with the rest of the steps;

3) shall reject the SIP request with a SIP 403 (Forbidden) response and not process the remaining steps if:

a) an Accept-Contact header field does not include the g.3gpp.mcvideo media feature tag; or

b) an Accept-Contact header field does not include the g.3gpp.icsi-ref media feature tag containing the value of "urn:urn-7:3gpp-service.ims.icsi.mcvideo";

4) shall retrieve the group document from the group management server for the MCVideo group ID contained in the <associated-group-id> element of the application/vnd.3gpp.mcvideo-info+xml MIME body of the SIP INVITE request and carry out initial processing as specified in clause 6.3.5.2 and continue with the rest of the steps if the checks in clause 6.3.5.2 succeed;

NOTE 2: If the checks are not succesful, the SIP response to the "SIP INVITE request from participating MCVideo function for non-controlling MCVideo function of an MCVideo group" is already sent in the clause 6.3.5.2.

5) shall cache the content of the SIP INVITE request;

6) shall check if a Resource-Priority header field is included in the incoming SIP INVITE request and may apply any preferential treatment to the SIP request as specified in 3GPP TS 24.229 [11];

7) shall authorize the MCVideo user in the <mcvideo-calling-user-identity> element in the application/vnd.3gpp.mcvideo-info+xml MIME body of the "SIP INVITE request from participating MCVideo function for non-controlling MCVideo function of an MCVideo group" as specified in clause 6.3.5.4, if the MCVideo user is unauthorized to initiated a pre-arranged group session the non-controlling MCVideo function shall send a SIP 403 (Forbidden) response with the warning text set to "119 user is not authorised to initiate the group call" in a Warning header field as specified in clause 4.4.

8) if:

a) the MCVideo user identified in the <mcvideo-calling-user-id> of the incoming SIP INVITE is not affiliated to the group identity contained in the <associated-group-id> element of the incoming SIP INVITE request as specified in clause 6.3.6;

b) the incoming SIP INVITE request does not contain an emergency indication or an imminent peril indication; or

c) the incoming SIP INVITE request is an authorised request for an MCVideo emergency group call as determined by clause 6.3.3.1.13.2 or for an MCVideo imminent peril group call as determined by clause 6.3.3.1.13.5 and the MCVideo user identified in the <mcvideo-calling-user-id> of the incoming SIP INVITE is determined to not be eligible for implicit affiliation as specified in clause 8.2.2.3.6;

 then shall return a SIP 403 (Forbidden) response with the warning text set to "120 user is not affiliated to this group" in a Warning header field as specified in clause 4.4, and skip the rest of the steps below;

9) shall generate a SIP INVITE request towards the controlling MCVideo function as specified in clause 6.3.4.1.4; and

10) shall send the SIP INVITE request to the controlling MCVideo function as specified in 3GPP TS 24.229 [11].

Upon receipt of a SIP 2xx response to the SIP INVITE request sent to the controlling MCVideo function as specified above, the non-controlling MCVideo function:

1) shall send the SIP ACK request to the controlling MCVideo function as specified in 3GPP TS 24.229 [11];

2) shall generate a SIP 200 (OK) to the "SIP INVITE request for controlling MCVideo function of an MCVideo group" as specified in 3GPP TS 24.229 [11] populated as follows:

a) shall include an SDP answer as specified in clause 6.3.4.2.1 based on the SDP answer in the SIP 200 (OK) response;

b) shall include the public service identifier of the non-controlling MCVideo function in the P-Asserted-Identity header field; and

c) shall include the warning text set to "148 MCVideo group is regrouped" in a Warning header field as specified in clause 4.4;

3) shall start acting as a non-controlling MCVideo function and interact with the media plane as specified in 3GPP TS 24.581 [5] clause 6.5;

4) shall determine the members to invite to the prearranged MCVideo group call as specified in clause 6.3.5.2; and

5) shall invite each group member determined in step 2) above, to the group session, as specified in clause 9.2.1.5.1.

Upon receipt of other final SIP responses with the exception of the SIP 2xx response to the INVITE request sent to the controlling MCVideo function as specified above, the non-controlling MCVideo function:

1) shall send the SIP ACK response to the controlling MCVideo function as specified in 3GPP TS 24.229 [11]; and

2) shall start acting as a controlling MCVideo function as specified in clause 9.2.1.4 and invite members as specified in clause 6.3.4.1.2.

NOTE 4: Regardless if the controlling MCVideo function accepts or rejects the SIP INVITE request sent above the prearranged group session continues to be initiated with only the members of the group homed on the non-controlling MCVideo function of the group being invited to the group call.

The non-controlling MCVideo function shall handle SIP responses (other than the SIP 2xx response) to the SIP INVITE requests sent to invited members as specified in 3GPP TS 24.229 [11].

Upon receipt of a SIP 2xx response to SIP INVITE requests sent to invited members, the non-controlling MCVideo function:

1) shall send the SIP ACK request as specified in 3GPP TS 24.229 [11]; and

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

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