**3GPP TSG-CT WG1 Meeting #128-eC1-21xxxx**

**Electronic meeting, 25 February – 5 March 2021 revision of C1-210599**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.380** | **CR** | **0298** | **rev** | **1** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | NIST, FirstNet | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MCProtoc17 | | | | |  | ***Date:*** | | | 2021-02-25 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The state transition diagram does not agree with the text. Editorials | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Figure 6.3.5.1-1:   * Insert R: in front of Floor Request and Floor Release in state U: not permitted and Floor Idle; and * Insert R: in front of Floor Request in state U: not permitted and Floor Taken;   6.3.5.1: step 2, insert “control” between floor and messages;  6.3.5.2.2: step 3. a. i. spelling correction;  6.3.5.3.5: correct message name;  6.3.5.4.4: step 8, insert maximum queue length/size condition;  6.3.5.4.4.: insert new step 9 covering the case when maximum queue length is reached;  6.3.5.4.14: correct end state from idle to taken; and remove plural “s” from messages, since only one message is received and then forwarded;  6.3.5.5.6: insert step 2 to remain in current state; (NOTE: clause appears to be incomplete)  6.3.5.5.13: remove plural “s” from messages, since only one message is received and then forwarded;  6.3.5.7.4: correct lettering  8.2.6.2: change curly quotes to straight quotes; and;  Editorials. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Inability to have a deterministic behavior implemented due to ambiguous text. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.3.5.1, 6.3.5.2.2, 6.3.5.3.5, 6.3.5.4.4, 6.3.5.4.14, 6.3.5.5.6, 6.3.5.5.13, 6.3.5.7.4, 8.2.6.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Cover sheet remove “V” and “bis”.  Correct formatting in 6.3.5.4.4, step b. | | | | | | | | |

\* \* \* \* \* \* FIRST CHANGE \* \* \* \* \* \* \*

#### 6.3.5.1 General

The floor control interface towards the MCPTT client in the floor control server shall behave according to the state diagram and state transitions specified in this subclause.

Figure 6.3.5.1-1 shows the states and state transitions for an associated floor participant in the floor control server.



Figure 6.3.5.1-1: Floor control server state transition diagram for basic floor control operation towards the floor participant

The floor control interface towards the MCPTT client in the floor control server shall create one instance of the 'basic floor control operations' state machine towards the MCPTT client for every floor participant served by the floor control server as follows:

1. For pre-arranged group call in case of an originating MCPTT call, the 'basic floor control operation towards the floor participant' state machine shall be created when the MCPTT server sends the SIP 200 (OK) response towards the originating MCPTT client.

2. For pre-arranged group call in case of a terminating MCPTT call, the 'basic floor control operation towards the floor participant' state machine shall be created when the floor control server receives the SIP 200 (OK) response.

3. For chat group call the 'basic floor control operation state machine towards the floor participant' shall be created when the MCPTT server sends the SIP 200 (OK) response to the received initial SIP INVITE request.

The floor participant associated to the 'basic floor control operation towards the floor participant' state machine is here referred to as the "associated floor participant".

The external inputs to the state machine are:

1. directives coming from the floor control arbitration logic;

2. floor control messages sent by the floor participants;

3. media; and

4. in certain cases, SIP messages used for call handling.

If floor control messages or RTP media packets arrives in a state where there is no procedure specified in the following subclauses, the floor control interface towards the MCPTT client in the floor control server:

1. shall discard the floor control message;

2. shall request the network media interface in the MCPTT server to discard any received RTP media packet; and

3. shall remain in the current state.

State details are explained in the following subclauses.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.2.2 SIP Session initiated

When a SIP Session is established and if:

1. the session is not a temporary group call session;

2. the session is a temporary group call session and the associated floor participant is an invited MCPTT client (i.e. not a constituent MCPTT group); or

3. the session is not an ambient listening call;

then:

NOTE 1: A MCPTT group call is a temporary group session when the <on-network-temporary> element is present in the <list-service> element as specified in 3GPP TS 24.481 [12].

1. if an MCPTT client initiates an MCPTT call with an implicit floor request, and the MCPTT call does not exist yet, the floor control interface towards the MCPTT client in the floor control server:

a. shall initialize a general state machine as specified in subclause 6.3.4.2.2; and

NOTE 2: In the subclause 6.3.4.2.2 the 'general floor control operation' state machine will continue with the initialization of the 'general floor control operation' state machine.

b. shall enter the state 'U: permitted' as specified in the subclause 6.3.5.5.2;

2. if the associated MCPTT client rejoins an ongoing MCPTT call without an implicit floor request or initiates or joins a chat group call without an implicit floor request or attempts to initiate an already existing MCPTT call without an implicit floor request, and

a. if an MCPTT call already exists but no MCPTT client has the permission to send a media, the floor control interface towards the MCPTT client in the floor control server:

i. should send a Floor Idle message to the MCPTT client. The Floor Idle message:

A. shall include a Message Sequence Number field with a Message Sequence Number value increased with 1; and

B. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

ii. shall enter the state 'U: not permitted and Floor Idle' as specified in the subclause 6.3.5.5.2;

b. if an MCPTT call is initiated, the floor control interface towards the MCPTT client in the floor control server:

i. shall enter the state 'U: not permitted and Floor Idle' as specified in the subclause 6.3.5.5.2; and

ii. shall initialize a general state machine as specified in subclause 6.3.4.2.2; and

NOTE 3: In the subclause 6.3.4.2.2 the general state machine will continue with the initialization of the general state machine.

c. if another MCPTT client has the permission to send a media, the floor control interface towards the MCPTT client in the floor control server:

i. should send a Floor Taken message to the MCPTT client. The Floor Taken message:

A. shall include the granted MCPTT user's MCPTT ID in the Granted Party's Identity field and may include the functional alias of the granted MCPTT user in the Functional Alias field, if privacy is not requested;

B. shall include a Message Sequence Number field with a <Message Sequence Number> value increased with 1;

C. if the session is a broadcast group call, shall include the Permission to Request the floor field set to '0';

D. if the session is not a broadcast group call, may include the Permission to Request the floor field set to '1'; and

E. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications

ii. shall enter the 'U: not permitted and Floor Taken' state as specified in the subclause 6.3.5.4.2;

3. if the associated floor participant attempts to initiate an already existing MCPTT call with an implicit floor request, and

a. if no MCPTT client has the permission to send media, the floor control interface towards the MCPTT client in the floor control server:

i. shall process the implicit floor request as if a Floor Request message was receive as specified in subclause 6.3.4.3.3; and

ii. shall enter the state 'U: permitted' as specified in the subclause 6.3.5.5.2;

b. if the MCPTT client negotiated support of queueing floor requests as specified in clause 14 and if another MCPTT client has the permission to send media, the floor control interface towards the MCPTT client in the floor control server:

i. shall set the priority level to the negotiated maximum priority level that the MCPTT client is permitted to request, except for pre-emptive priority, when high priority is used;

NOTE 4: The maximum floor priority the floor participant is permitted to request is negotiated in the "mc\_priority" fmtp attribute as specified in clause 14.

NOTE 5: The initial implicit floor request will not result in pre-emption when an MCPTT client is joining an ongoing MCPTT call. If the MCPTT client wants to pre-empt the current MCPTT client that is sending media, an explicit floor request with pre-emptive floor priority is required.

ii. shall insert the MCPTT client into the active floor request queue to the position immediately following all queued floor requests with the same floor priority;

iii. shall send a Floor Queue Position Info message to the MCPTT client. The Floor Queue Position Info message:

A shall include the queue position and floor priority in the Queue Info field; and

B. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications;

iv. should send a Floor Queue Position Info message with the updated status to the MCPTT clients in the active floor request queue which negotiated queueing of floor requests as specified in clause 14, which have requested the queue status, whose queue position has been changed since the previous Floor Queue Position Info message and which is not the joining MCPTT client. The Floor Queue Position Info message:

A shall include the queue position and floor priority in the Queue Info field; and

B. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

v. shall enter the 'U: not permitted and Floor Taken' state as specified in the subclause 6.3.5.4.2; and

c. if the MCPTT client did not negotiate queueing of floor requests and if another MCPTT client has the permission to send a media, the floor control interface towards the MCPTT client in the floor control server:

i. shall send a Floor Taken message to the MCPTT client. The Floor Taken message:

A. shall include the granted MCPTT user's MCPTT ID in the Granted Party's Identity field and may include the functional alias of the granted MCPTT user in the Functional Alias field, if privacy is not requested;

B. shall include a Message Sequence Number field with a Message Sequence Number value increased with 1;

C. if the session is a broadcast group call, shall include the Permission to Request the floor field set to '0';

D. if the session is not a broadcast group call, may include the Permission to Request the floor field set to '1'; and

E. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

ii. shall enter the 'U: not permitted and Floor Taken' state as specified in the subclause 6.3.5.4.2; and

4. if the MCPTT client is invited to the MCPTT call and

a. if another MCPTT client has permission to send a media, the floor control interface towards the MCPTT client in the floor control server:

i. should send a Floor Taken message to the MCPTT client. The Floor Taken message:

A. shall include the granted MCPTT user's MCPTT ID in the Granted Party's Identity field and may include the functional alias of the granted MCPTT user in the Functional Alias field, if privacy is not requested;

B. shall include a Message Sequence Number field with a Message Sequence Number value increased with 1;

C. if the session is a broadcast group call, shall include the Permission to Request the floor field set to '0';

D. if the session is not a broadcast group call, may include the Permission to Request the floor field set to '1'; and

E. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

ii. shall enter the 'U: not permitted and Floor Taken' state as specified in the subclause 6.3.5.4.2; and

b. if no other MCPTT client has the permission to send a media; the floor control interface towards the MCPTT client in the floor control server:

i. should send a Floor Idle message to the MCPTT client. The Floor Idle message:

A. shall include a Message Sequence Number field with a <Message Sequence Number> value increased with 1; and

B. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

ii. shall enter the 'U: not permitted and Floor Idle' state as specified in the subclause 6.3.5.3.2.

When a SIP Session is established and if the session is a temporary group call session and,

1. if the associated floor participant is a constituent MCPTT group; or

2. if the associated floor participant is the initiator of the temporary group session;

then the floor control interface towards the MCPTT client:

1. shall initialize a general state machine as specified in subclause 6.3.4.2.2, if not already initiated; and

2. shall enter the 'U: not permitted and initiating' state as specified in subclause 6.3.5.10.2.

When a SIP Session is established and if the session is an ambient listening call session then the floor control interface towards the MCPTT client:

1. if the floor is granted to the associated floor participant

a. shall forward the "Floor Granted" message to the associated floor participant; and

b. shall enter the state 'U: permitted' as specified in the subclause 6.3.5.5.2; and

2. if the floor is not granted to the associated floor participant

a. shall forward the "Floor Taken" message to the associated floor participant; and

b. shall enter the state 'U: not permitted Floor Taken' as specified in the subclause 6.3.5.4.2.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.3.5 Send Floor Granted message (S: Floor Granted)

When a Floor Granted message is received from the floor control arbitration logic in the MCPTT server, the floor control interface towards the MCPTT client in the floor control server:

1. shall forward the Floor Granted messages to the associated floor participant;

2. may set the first bit in the subtype of the Floor Granted message to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

3. shall enter the state 'U: permitted' as specified in subclause 6.3.5.5.2.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.4.4 Receive Floor Request message (R: Floor Request)

Upon receiving a Floor Request message from the associated floor participant, if the group is configured for audio cut-in floor control, the floor control interface towards the MCPTT client in the floor control server:

1. shall forward the Floor Request message to the floor control server arbitration logic; and

2. shall remain in the 'U: not permitted and Floor Taken' state.

Upon receiving a Floor Request message from the associated floor participant, if the group is configured for multi-talker floor control, if the number of granted floor participants is below the configured maximum; and the MCPTT ID of the associated floor participants is in the list of allowed configured multi-talkers, the floor control interface towards the MCPTT client in the floor control server:

1. shall forward the Floor Request message to the floor control server arbitration logic; and

2. shall remain in the 'U: not permitted and Floor Taken' state.

If the group is not configured for multi-talker floor control, upon receiving a Floor Request message, without a Floor Indicator field or with the Floor Indicator field included where the D-bit (Emergency call) and the E-bit (Imminent peril call) are set to '0', from the associated floor participant, and if the MCPTT client did not negotiate queueing of floor requests or did not include a priority in the "mc\_priority" fmtp attribute as specified in clause 14, the floor control interface towards the MCPTT client in the floor control server:

1. shall send a Floor Deny message to the associated floor participant. The Floor Deny message:

a. shall include in the Reject Cause field the <Reject Cause> value cause #1 (Another MCPTT client has permission);

b. may include in the Reject Cause field an additional text string explaining the reason for rejecting the floor request in the <Reject Phrase> value;

c. if the Floor Request included a Track Info field, shall include the received Track Info field; and

d. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications;

2. may set the first bit in the subtype of the Floor Deny message to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE 1: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

3. shall remain in the 'U: not permitted and Floor Taken' state.

Upon receiving a Floor Request message from the associated floor participant and the session is a broadcast group call or an ambient listening call, the floor control interface towards the MCPTT client in the floor control server:

1. shall send a Floor Deny message to the associated floor participant. The Floor Deny message:

a. shall include in the Reject Cause field the <Reject Cause> value cause #5 (Receive only);

b. may include in the Reject Cause field an additional text string explaining the reason for rejecting the floor request in the <Reject Phrase> value; and

c. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications;

2. may set the first bit in the subtype of the Floor Deny message to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE 2: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

3. shall remain in the 'U: not permitted and Floor Taken' state.

Upon receiving a Floor Request message from the associated floor participant and if the MCPTT client negotiated support of queueing of floor requests or included a floor priority in the "mc\_priority" or both as described in specified in clause 14 and according to local policy, the floor control interface towards the MCPTT client in the floor control server:

NOTE 3: In case the group is configured for multi-talker floor control, then the following steps are only carried out in case the maximum number of allowed talkers is reached.

1. shall determine the effective priority level as described in subclause 4.1.1.4 by using the following parameters:

a. the floor priority shall be:

i. the lower of the floor priority included in Floor Request message and the negotiated maximum floor priority that the MCPTT client is permitted to request, if the MCPTT client negotiated floor priority "mc\_priority" and floor priority is included in the Floor Request message;

ii. the receive only floor priority, if the MCPTT client negotiated floor priority in the "mc\_priority" fmtp attribute and if the negotiated maximum floor priority that the MCPTT client is permitted to request is "receive only";

iii. the default priority, if the MCPTT client negotiated floor priority in the "mc\_priority" fmtp attribute, if the negotiated maximum floor priority that the MCPTT client is permitted to request is not receive only and if the floor priority is not included in the Floor Request message; and

iv. the default priority, if the MCPTT client did not negotiate floor priority in the "mc\_priority" fmtp attribute; and

b. the type of the call shall be

i. if the Floor Indicator field is included in the message and the D-bit (Emergency call bit) is set to '1', determined to be an emergency call;

ii. if the Floor Indicator field is included in the message and the E-bit (Imminent peril call) is set to '1', determined to be an imminent peril call; and

iii. if the Floor Indicator field is not included in the message or the Floor Indicator field is included and neither the D-bit (Emergency call bit) nor the E-bit (Imminent peril call) is set to '1', determined to be a normal call;

2. if the effective priority is "receive only", the floor control interface towards the MCPTT client in the floor control server:

a. shall send a Floor Deny message to the floor participant. The Floor Deny message:

i. shall include in the Reject Cause field the <Reject Cause> value cause #5 (Receive only);

ii. may include in the Reject Cause field an additional text string explaining the reason for rejecting the floor request in the <Reject Phrase> value;

iii. if the Floor Request included a Track Info field, shall include the received Track Info field; and

iv. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall remain in the 'U: not permitted and Floor Taken' state;

3. if

a. a Track Info field is included in the Floor Request message, shall use the topmost <Participant Reference> value and the SSRC in the received Floor Request message to check if the floor participant has a queued floor request; or

b. a Track Info field is not included in the Floor Request message, shall use the SSRC in the received Floor Request message to check if the floor participant has a queued floor request;

4. if the floor participant already has a queued floor request with the same effective priority level, the floor control interface towards the MCPTT client in the floor control server:

a. shall send a Floor Queue Position Info message to the requesting MCPTT client, if the MCPTT client negotiated support of queueing of floor requests as specified in clause 14. The Floor Queue Position Info message:

i. shall include the queue position and floor priority in the Queue Info field;

ii. if the Floor Request included a Track Info field, shall include the received Track Info field; and

iii. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall remain in the 'U: not permitted and Floor Taken' state

5. if the effective priority level is pre-emptive and there are no other pre-emptive requests in the active floor request queue and the effective priority level of the current MCPTT client with permission to send a media is not the pre-emptive priority, the floor control interface towards the MCPTT client in the floor control server:

a. shall forward the Floor Request message to the floor control server arbitration logic indicating that a Floor Request message with pre-emptive priority is received; and

b. shall remain in the 'U: not permitted and Floor Taken' state

NOTE 4: The Floor control server arbitration logic initiates revoking the permission to send media towards the current MCPTT client with the permission to send media as specified in the subclause 6.3.4.4.7;

6. if the MCPTT client did not negotiate support of queueing of floor requests as specified in clause 14, the effective priority level is pre-emptive and either other pre-emptive request is queued or the effective priority level of the current MCPTT client with permission to send a media is the pre-emptive priority, the floor control interface towards the MCPTT client in the floor control server:

a. shall send a Floor Deny message to the associated floor participant. The Floor Deny message:

i. shall include in the Reject Cause field the <Reject Cause> value cause #1 (Another MCPTT client has permission);

ii. may include in the Reject Cause field an additional text string explaining the reason for rejecting the floor request in the <Reject Phrase> value;

iii. if the Floor Request included a Track Info field, shall include the received Track Info field; and

iv. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall remain in the 'U: not permitted and Floor Taken' state;

7. if the MCPTT client did not negotiate "queueing" and the effective priority level is not pre-emptive, the floor control interface towards the MCPTT client in the floor control server:

a. shall send a Floor Deny message to the associated floor participant. The Floor Deny message:

i. shall include in the Reject Cause field the <Reject Cause> value cause #1 (Another MCPTT client has permission);

ii. may include in the Reject Cause field an additional text string explaining the reason for rejecting the floor request in the <Reject Phrase> value;

iii. if the Floor Request included a Track Info field, shall include the received Track Info field; and

iv. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall remain in the 'U: not permitted and Floor Taken' state;

8. if the MCPTT client negotiated support of queueing of floor requests as specified in clause 14 and the effective priority level is not pre-emptive and the maximum queue length has not been reached, the floor control interface towards the MCPTT client in the floor control server:

a. shall insert the MCPTT client into the active floor request queue, if not inserted yet, or update the position of the MCPTT client in the active floor request queue, if already inserted, to the position immediately following all queued requests at the same effective priority level;

b. the floor control server shall send a Floor Queue Position Info message to the floor participant. The Floor Queue Position Info message:

i. shall include the queue position and floor priority in the Queue Info field;

ii. if the Floor Request included a Track Info field, shall include the received Track Info field; and

iii. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications;

c. shall remain in the 'U: not permitted and Floor Taken' state; and

d. may set the first bit in the subtype of the Floor Queue Position message to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE 5: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

9. if the MCPTT client negotiated support of queueing of floor requests as specified in clause 14 and the effective priority level is not pre-emptive and the maximum queue length has been reached, the floor control interface towards the MCPTT client in the floor control server:

a. shall send a Floor Deny message to the associated floor participant. The Floor Deny message:

i. shall include in the Reject Cause field the <Reject Cause> value cause #7 (Queue Full);

ii. may include in the Reject Cause field an additional text string explaining the reason for rejecting the floor request in the <Reject Phrase> value;

iii. if the Floor Request included a Track Info field, shall include the received Track Info field; and

iv. if the group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall remain in the 'U: not permitted and Floor Taken' state.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.4.14 Send Floor Queued Cancel Notification message (S: Floor Queued Cancel Notification)

When a Floor Queued Cancel Notification message is received from the floor control arbitration logic in the MCPTT server, the floor control interface towards the MCPTT client in the floor control server:

1. shall forward the Floor Queued Cancel Notification message to the associated floor participant;

2. may set the first bit in the subtype of the Floor Queued Cancel Notification message to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

3. shall remain in the 'U: not permitted and Floor Taken' state.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.5.6 Receive RTP media packets (R: media)

Upon receiving an indication from the network media interface in the MCPTT server that RTP media packets with payload are received from the associated floor participant, the floor control interface towards the MCPTT client in the floor control server:

1. if an indication that the participant is overriding without revoke is not stored,

a. shall request the network media interface in the MCPTT server to forward RTP media packets to the media distributor in the MCPTT server; and

2. shall remain in the 'U: permitted' state.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.5.13 Send Floor Queued Cancel Notification message (S: Floor Queued Cancel Notification)

When a Floor Queued Cancel Notification message is received from the floor control arbitration logic in the MCPTT server, the floor control interface towards the MCPTT client in the floor control server:

1. shall forward the Floor Queued Cancel Notification message to the associated floor participant;

2. may set the first bit in the subtype of the Floor Queued Cancel Notification message to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

3. shall remain in the 'U: permitted' state.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

##### 6.3.5.7.4 Receive Floor Release message (R: Floor Release)

Upon receiving a Floor Release message, the floor control interface towards the MCPTT client in the floor control server:

1. if the first bit in the subtype of the Floor Release message is set to '1' (Acknowledgment is required) as described in subclause 8.2.2, shall send a Floor Ack message. The Floor Ack message:

a. shall include the Message Type field set to '4' (Floor Release); and

b. shall include the Source field set to '2' (the controlling MCPTT function is the source);

2. if the general state is 'G: Floor Idle', the floor control interface towards the MCPTT client in the floor control server:

a. shall send the Floor Idle message. The Floor Idle message:

i. shall include a Message Sequence Number field with a Message Sequence Number value increased with 1; and

ii. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall enter the 'U: not permitted and Floor Idle' state as specified in the subclause 6.3.5.3.2; and

3. if the general state is 'G: Floor Taken', the floor control interface towards the MCPTT client in the floor control server:

a. shall send a Floor Taken message. The Floor Taken message:

i. shall include the granted MCPTT user's MCPTT ID in the Granted Party's Identity field and may include the functional alias of the granted MCPTT user in the Functional Alias field, if privacy is not requested;

ii. if the session is a broadcast group call, shall include the Permission to Request the floor field set to '0';

iii. if the session is not a broadcast group call, may include the Permission to Request the floor field set to '1';

iv. may include the first bit in the subtype of the Floor Taken message set to '1' (Acknowledgment is required) as described in subclause 8.2.2; and

NOTE: It is an implementation option to handle the receipt of the Floor Ack message and what action to take if the Floor Ack message is not received.

v. if a group call is a broadcast group call, a system call, an emergency call, an imminent peril call, or a temporary group session, shall include the Floor Indicator field with appropriate indications; and

b. shall enter the 'U: not permitted and Floor Taken' state as specified in the subclause 6.3.5.4.2.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \* \*

#### 8.2.6.2 Rejection cause codes and rejection cause phrase

Cause #1 - Another MCPTT client has permission

The <Reject cause> value set to '1' indicates that another MCPTT user has permission to send a media.

Cause #2 - Internal floor control server error

The <Reject cause> value set to '2' indicates that the floor control server cannot grant the floor request due to an internal error.

Cause #3 - Only one participant

The <Reject cause> value set to '3' indicates that the floor control server cannot grant the floor request, because the requesting party is the only participant in the MCPTT session.

Cause #4 - Retry-after timer has not expired

The <Reject cause> value set to '4' indicates that the floor control server cannot grant the floor request, because timer T9 (Retry-after) has not expired after permission to send media has been revoked.

Cause #5 - Receive only

The <Reject cause> value set to '5' indicates that the floor control server cannot grant the floor request, because the requesting party only has receive privilege.

Cause #6 - No resources available

The <Reject cause> value set to '6' indicates that the floor control server cannot grant the floor request due to congestion.

Cause #7 – Queue full

The <Reject cause> value set to '7' indicates that the floor control server cannot queue the floor request, because the queue is full.

Cause #255 - Other reason

The <Reject cause> value set to '255' indicates that the floor control server does not grant the floor request due to the floor control server local policy.

\* \* \* \* \* \* END CHANGES \* \* \* \* \* \* \*