The model has two agents (agent A, agent B) and two proxy. (The red words can be used for the final report as part of introduction to ltl formula)

Properties:

1. Agents can have two sessions at the same time. One session was initiated by itself, another session was initiated by the other agent.

ltl p1 {<> (agent[0]@media_session_client && agent[0]@media_session_server)}) (Because this model only have two agents, so only check one agent (agent[0]) is enough.)

2. Eventually agent A are able to send another invite to agent B after sending an invite to agent B.

ltl p2 {[] ((agent[0]@inviting -> <> (invitesent[0]== 0 && agent[0]@idle)) && (agent[1]@inviting -> <> (invitesent[1]== 0 && agent[1]@idle)))}

3. If the agent cancel its invitation, it is unable to initial a media session corresponding to this invitation.

ltl p3 {[](!(cancelsent[0]== 1 && agent[0]@media_session_client)) && (! (cancelsent[0]== 1 && agent[0]@media_session_client)))}

4. If agent A send an invitation to agent B, it will unable to send another invitation to B until one of the following situations:

a. A get a server error to fulfil the invite request, A go back to the idle state.
b. The invite request has been rejected by B, A go back to the idle state.
c. The invite request has been canceled by A, A go back to the idle state.
d. The invite request has initiated a session with B and this session has been terminated, A go back to the idle state.

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ltl p4 {[](!(invitesent[0]== 1 && X agent[0]@inviting)) && (!
(invitesent[1]== 1 && X agent[1]@inviting))) }
(  This formula does not satisfied, need to think it again.)
```