Module Interfaces (IMS PoC Client Invitation)

Wireless Network A	IMS	Wireless Network B	**EventStudio System Designer 4.0**

Push-to-talk over Cellular (PoC) service allows cell phones to used as walkie-talkies. A group of users in a PoC session can communicate by simply pressing a button and speaking when the phone indicates it is OK to do so. The user releases the button when he or she is done speaking.

When a user begins to speak, the PoC server allocates resources and notifies other users in the PoC session that the user is speaking. The PoC server then delivers the speech packets to all the users in the session.

PoC is resource efficient as it allocates resources only when a user is actually speaking. This makes it suitable for applications where there are long gaps between individual session participants speaking.

This flows covers the case where PoC Client A invites PoC Client B to a Pre-established Session by sending SIP REFER request to PoC Server A.

This sequence diagram was generated with EventStudio System Designer 4.0 (http://www.EventHelix.com/EventStudio). Copyright © 2008 EventHelix.com Inc. All Rights Reserved. The EventStudio source files for this document can be downloaded from http://www.eventhelix.com/call-flow/ims-poc-pre-established.zip.

IMS Registration and PoC Session Pre-establishment

IMS Registration and PoC Session Pre-establishment (Click here for details)

PoC Client A registers and pre-establishes the PoC session. Click on the action box to see details.

IMS Registration and PoC Session Pre-establishment (Click here for details)

PoC Client B registers and pre-establishes the PoC session. Click on the action box to see details.

Invite Client B to a session with SIP REFER

Push-to-Talk Button Pressed

The user selects a friend (PoC Client B) for the push to talk session and pressed the "Push-to-talk button".

REFER

Request-URI:sip:Pre-establishedSessionIdentityA @PoC-ServerA.networkA.net,
Refer-To:<sip:PoC-UserB @networkB.net>

A push-to-talk session currently not active, so initiate a PoC session establishment. The PoC Client A invites the PoC Client B to the Pre-established Session.

202 Accepted

The IMS Core A forwards the response to the PoC Client A.

NOTIFY

The PoC Server A sends a SIP NOTIFY request via the IMS Core A towards the PoC Client A to inform about the progress of the session request.

200 (OK)

The PoC Client A acknowledges the NOTIFY with 200 OK towards PoC Server A.

PoC Server A invites PoC Client B

Media Burst Control Protocol (MBCP) Session Setup using RTCP Port

MBCP Connect

protocol = RTCP APP

The PoC Server B sends the MBCP Connect to the PoC Client B. The message includes the PoC Session Identity.

MBCP Media Burst Acknowledgement

protocol = RTCP APP

The PoC Client B acknowledges the reception of the MBCP Connect message.

Push-to-Talk session activated

Indication to the user that the push-to-talk session has been activated.

NOTIFY

The PoC Server A sends a SIP NOTIFY request via the IMS Core A towards the PoC Client A to inform about the progress of the session request.

200 (OK)

The PoC Client A acknowledges the NOTIFY with 200 OK towards PoC Server A.

MBCP Connect message

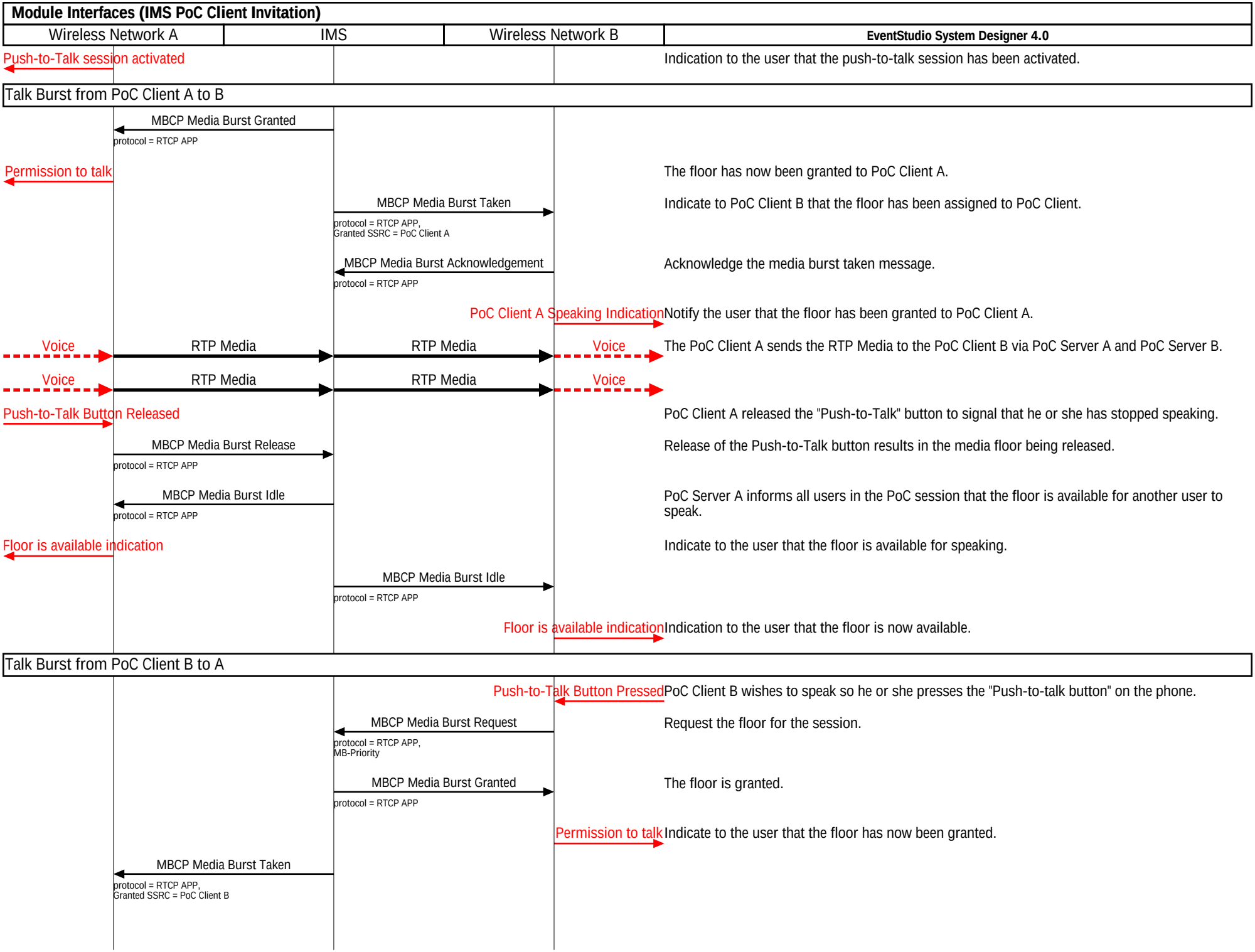
protocol = RTCP APP

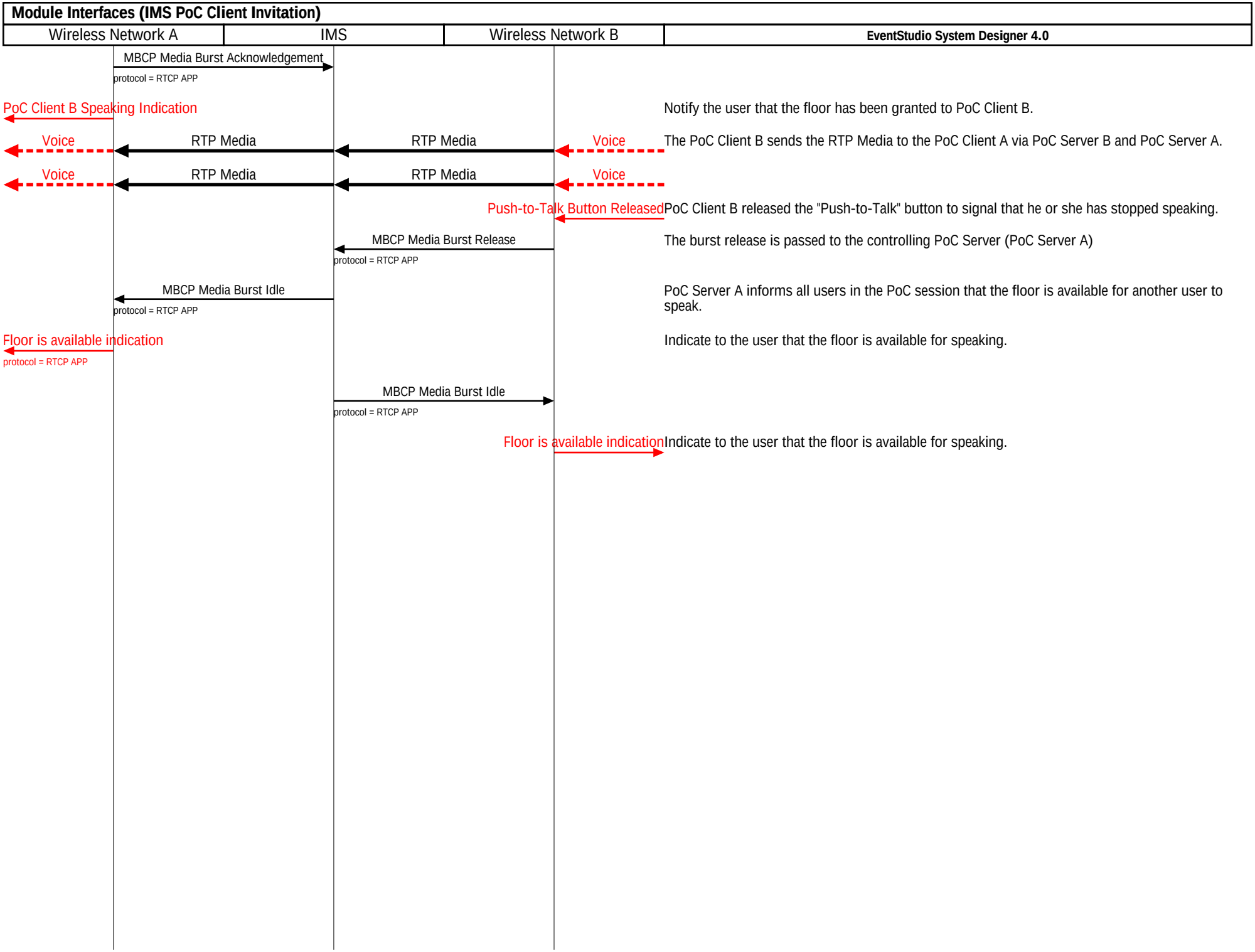
The PoC Server A sends the MBCP Connect message to the PoC Client A and informs the PoC session identity.

MBCP Media Burst Acknowledgement

protocol = RTCP APP

The PoC Client A acknowledges the reception of the MBCP Connect message.


Module Interfaces (IMS PoC Client Invitation)
Wireless Network A
IMS
Wireless Network B
EventStudio System Designer 4.0
Push-to-Talk session activated
Indication to the user that the push-to-talk session has been activated.
Talk Burst from PoC Client A to B
MBCP Media Burst Granted
protocol = RTCP APP
Permission to talk
The floor has now been granted to PoC Client A.
MBCP Media Burst Taken
Indicate to PoC Client B that the floor has been assigned to PoC Client.
protocol = RTCP APP,
Granted SSRC = PoC Client A
MBCP Media Burst Acknowledgement
Acknowledge the media burst taken message.
protocol = RTCP APP
PoC Client A Speaking Indication
Notify the user that the floor has been granted to PoC Client A.
Voice
RTP Media
RTP Media
Voice
The PoC Client A sends the RTP Media to the PoC Client B via PoC Server A and PoC Server B.
Voice
RTP Media
RTP Media
Voice
Push-to-Talk Button Released
PoC Client A released the "Push-to-Talk" button to signal that he or she has stopped speaking.
MBCP Media Burst Release
Release of the Push-to-Talk button results in the media floor being released.
protocol = RTCP APP
MBCP Media Burst Idle
PoC Server A informs all users in the PoC session that the floor is available for another user to speak.
protocol = RTCP APP
Floor is available indication
Indicate to the user that the floor is available for speaking.
MBCP Media Burst Idle
protocol = RTCP APP
Floor is available indication
Indication to the user that the floor is now available.
Talk Burst from PoC Client B to A
Push-to-Talk Button Pressed
PoC Client B wishes to speak so he or she presses the "Push-to-talk button" on the phone.
MBCP Media Burst Request
Request the floor for the session.
protocol = RTCP APP,
MB-Priority
MBCP Media Burst Granted
The floor is granted.
protocol = RTCP APP
Permission to talk
Indicate to the user that the floor has now been granted.
MBCP Media Burst Taken
protocol = RTCP APP,
Granted SSRC = PoC Client B


Module Interfaces (IMS PoC Client Invitation)
Wireless Network A
IMS
Wireless Network B
EventStudio System Designer 4.0
MBCP Media Burst Acknowledgement
protocol = RTCP APP
PoC Client B Speaking Indication
Notify the user that the floor has been granted to PoC Client B.
Voice
RTP Media
RTP Media
Voice
The PoC Client B sends the RTP Media to the PoC Client A via PoC Server B and PoC Server A.
Voice
RTP Media
RTP Media
Voice
Push-to-Talk Button Released
PoC Client B released the "Push-to-Talk" button to signal that he or she has stopped speaking.
MBCP Media Burst Release
protocol = RTCP APP
The burst release is passed to the controlling PoC Server (PoC Server A)
MBCP Media Burst Idle
protocol = RTCP APP
PoC Server A informs all users in the PoC session that the floor is available for another user to speak.
Floor is available indication
protocol = RTCP APP
Indicate to the user that the floor is available for speaking.
MBCP Media Burst Idle
protocol = RTCP APP
Floor is available indication
Indicate to the user that the floor is available for speaking.