

# Technical Disclosure Commons

---

Defensive Publications Series

---

December 2021

## METHOD TO FACILITATE A CONCURRENT TELEPHONE CALL AND CONFERENCE MEETING

Rafal Pilarczyk

Hui-Ling Lu

Piotr Rozen

Follow this and additional works at: [https://www.tdcommons.org/dpubs\\_series](https://www.tdcommons.org/dpubs_series)

---

### Recommended Citation

Pilarczyk, Rafal; Lu, Hui-Ling; and Rozen, Piotr, "METHOD TO FACILITATE A CONCURRENT TELEPHONE CALL AND CONFERENCE MEETING", Technical Disclosure Commons, (December 26, 2021)  
[https://www.tdcommons.org/dpubs\\_series/4805](https://www.tdcommons.org/dpubs_series/4805)



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

## METHOD TO FACILITATE A CONCURRENT TELEPHONE CALL AND CONFERENCE MEETING

AUTHORS:  
Rafal Pilarczyk  
Hui-Ling Lu  
Piotr Rozen

### ABSTRACT

In order to answer a telephone call on a mobile telephone during an online video collaboration session or meeting, an individual must first mute their meeting, then remove their headphones, and finally answer their mobile telephone. While answering the telephone call, the individual is disconnected from the conference meeting audio channel, prohibiting them from participating in the meeting. For example, they would not know if someone in the meeting called upon them. To address such challenges, techniques are presented herein that enable the automatic switching between different communication mediums within a video collaboration environment. Aspects of the presented techniques support the automatic redirection of mobile telephone calls to a video collaboration application, may employ a mobile video collaboration application to facilitate such redirection in some instances, and, thus, may facilitate the reception of telephone calls in parallel during other meetings.

### DETAILED DESCRIPTION

As an initial matter, it is important to note that the subject matter that is described and illustrated in the narrative that is presented below may be employed with any video collaboration systems or platforms that are popularly available. As will be described and illustrated in the narrative that is presented below, aspects of the techniques presented herein facilitate an individual receiving a telephone call in parallel during an video collaboration teleconference without the individual needing to physically switch between their communication sources.

Aspects of the techniques presented herein may be explicated with reference to an illustrative scenario. Under this scenario, consider that, while an individual is using their

headphones to participate in a video collaboration meeting, someone calls the individual on their mobile telephone.

In order to answer the call on their mobile telephone, the individual must first mute their collaboration session, then remove their headphones, and finally answer their mobile telephone. While answering the telephone call, the individual is disconnected from the conference meeting audio channel, prohibiting them from participating in the meeting. For example, they would not know if someone in the meeting called upon them.

In general, an individual must change their communication medium in order to answer a telephone call during a virtual conference call. Such a change introduces a blackout period during meeting communications. Additionally, it is also difficult for an individual to listen to two parallel speakers (i.e., one from a conference call and another from a mobile telephone) with the same volume level.

Under a variant of the instant illustrative scenario, consider that an individual has their headphones connected to a collaboration environment and would like to answer the telephone using the collaboration environment without disconnecting from their laptop computer ('laptop'). Typically, such an action may be completed if the telephone is integrated and connected to the laptop.

To address the types of challenges that were described above, techniques are presented herein that, as noted previously, support the automatic switching between different communication mediums within a collaboration environment.

In some instances, a collaboration environment can be configured to enable the forwarding of telephone calls on the system level of a mobile telephone. Currently, call forwarding is available for both iOS-based and Android-based mobile telephones. Additionally, there are many applications that enable dynamic call forwarding. Call forwarding could employ a proximity measurement (e.g., if a mobile telephone is found to be close to a laptop then a mobile telephone is forwarding calls). Alternatively, call forwarding could be enabled if an individual actively uses a collaboration environment on a laptop. Further, call forwarding could be enabled only when a user is in a meeting.

In some instances, a collaboration environment could be configured to provide for the redirection of telephone calls to dedicated telephone number for each user within the

collaboration environment. A telephone number could also be dynamically assigned to each user based on an available telephone number pool.

Consider an operational example in which an individual accepts a telephone call during a conference call (e.g., on the screen of the collaboration environment). In this example, the client's voice transmission to the conference call can be automatically muted. For example, a small icon may appear in the collaboration display to indicate that the client received an important telephone call. In some instances, a notetaking-enabled transcription feature can be automatically turned on if the client chooses to do so when the client answers the telephone call.

Different techniques may be utilized for dynamically mixing incoming telephone calls and conference calls. Two different options are illustrative.

A first option encompasses spatial audio to help an individual listen to both audio sources with localized sound technology. Under such an option a telephone call is audibly 'closer' (and louder) while a conference call is audibly 'farther' (and does not interfere with the telephone conversation). Spatial audio headphones may also include a gyroscope, accelerometer, motion sensor, etc. for better immersive audio localization.

A second option encompasses stereo audio with loudness level mixing. Under such an option a first channel in stereo contains louder audio that is designed for telephone calls and a second channel in stereo contains quieter audio that is designed for conference room meetings.

Under either of the two options that were described above, a user has the ability to adjust the relative loudness levels of the two channels according to the cognitive load of the telephone conversation.

Figure 1, below, illustrates various of the technical elements of an exemplary telephone call forwarding capability, following the description that was presented above, in accordance with aspects of the techniques presented herein.

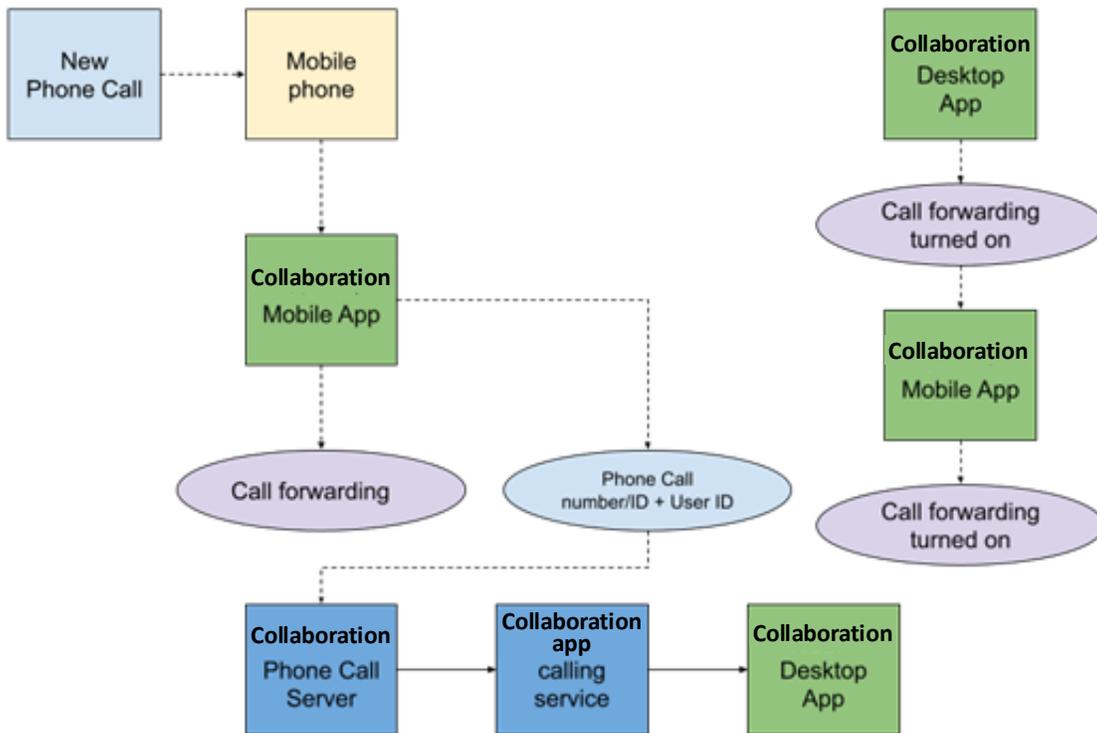


Figure 1: Exemplary Call Forwarding Solution

As depicted in Figure 1, above, a call forwarding capability, in accordance with aspects of the techniques presented herein, comprises a number of features.

A first feature encompasses a mobile collaboration application (which is identified as the element ‘Collaboration Mobile App’ in Figure 1, above). Such an application includes an option for dynamically setting a telephone number for call forwarding. Further, such an application is able to check the telephone number or the identifier of an incoming call to determine who is calling who.

A second feature encompasses a collaboration desktop application (which is identified as the element ‘Collaboration Desktop App’ in Figure 1, above). Such an application is able to turn call forwarding on and off for a mobile collaboration application, may employ a device identifier to determine where to perform call forwarding, and is able to answer forwarded telephone calls.

A third feature encompasses a collaboration telephone call server (which is identified as the element ‘OMC Phone Call Server’ in Figure 1, above). Such a server is able to map the telephone number or the identifier of an incoming call to a collaboration

system user identifier. Existing components from public switched telephone network (PSTN) media servers may be used in conjunction with a dedicated telephone call server. An entire group or company may use one dedicated telephone number for call forwarding with collaboration telephone call services being responsible for any routing operations that may be required.

A call forwarding capability within a collaboration application, according to aspects of the techniques presented herein (and as described and illustrated above), may comprise a number of options. A first potential option encompasses manual call forwarding using a button on a collaboration soft client or desktop device. A second potential option leverages proximity (between a mobile telephone and a laptop or device), through which a collaboration environment may suggest turning on call forwarding (when there is proximity) and turning off call forwarding (if there is no proximity). Under a third potential option, during a meeting on a collaboration device or laptop all telephone calls will be forwarded from mobile telephones. A fourth potential option enables call forwarding during work hours.

Aspects of the techniques presented herein may be applied to a number of different use cases and offer a range of advantages. First, techniques herein provide for the ability for an individual to answer a telephone call during active collaboration sessions. Second, techniques herein may provide for an individual to answer any telephone call through a collaboration environment. For such an ability no Bluetooth or wired connection is needed (which is particularly relevant on a workstation or company laptop). Only a collaboration application on two devices is needed – e.g., a mobile device and a collaboration device or laptop with a soft client.

Third, techniques herein provide that an individual does not need to take their mobile telephone, switch their headphones from a laptop to a mobile telephone, leave their desk, or leave an active collaboration session in order to accept an incoming call received during the collaboration session. Any combination of the various features and capabilities that were described above may serve as a distinguishing feature of a collaboration environment as an integrator of telephone call services.

In summary, techniques have been presented herein that that enable the automatic switching between different communication mediums within a collaboration environment.

Thus, aspects of the presented techniques support the automatic redirection of mobile telephone calls to a collaboration application, provide for employing a mobile collaboration application to facilitate such redirection in some instances, and, therefore, may facilitate the reception of telephone calls in parallel during other meetings.