broadsoft



COMMUNICATOR

Communicator for iPhone

User Guide

Release 22.3.1

Document Version 1

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BroadSoft® Guide

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1 Summary of Changes

This section describes the changes to this document for each release and document version.

1.1 Changes for Release 22.3.1, Document Version 1

This version of the document includes the following changes:

- Updated section *3.2 Sign In* to indicate support for Single Sign-On (SSO).

1.2 Changes for Release 22.2.1, Document Version 1

This version of the document includes the following changes:

- Added section *8.20 Seamless Call Handover for VoIP Calls.*
- Added section *10.2.6 BroadWorks Mobility Persona Management.*
- Updated *Appendix A: Third-Party Software*.

1.3 Changes for Release 22.1.1, Document Version 1

This version of the document includes the following change:

- Added CallKit integration.

1.4 Changes for Release 22.0.1, Document Version 1

This version of the document includes the following changes:

- Updated images.
- Added description for *About* screens.
- Updated Availability information.
- Added description for Short Names.

1.5 Changes for Release 21.5.1, Document Version 1

This version of the document includes the following changes:

- Removed *Sign-In Automatically* section.
- Added description for Enhanced Call Logs and Hunt Groups in Call History.
- Added description for Push Notifications for Chat Messages.
- Added description for duration of call in Call History.
- Added description for sending an e-mail to contact in Contact Card.
- Added description for Message History and Message Read Status Synchronization.

1.6 Changes for Release 21.4.1, Document Version 2

This version of the document includes the following change:

- Added description for contact ordering in section *5.4 Filters*.

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1.7 Changes for Release 21.4.1, Document Version 1

This version of the document includes the following changes:

- Added section *8.1.1 VoIP Calling Mode*.
- Added information about Dial into contact's My Room audio bridge.
- Added information about default selector for soft phone.
- Added section *14 Push Notifications*.
- Added information in section *8.14 Call Pull*.
- Added information about Clear History.

1.8 Changes for Release 21.3.1, Document Version 1

This version of the document includes the following changes:

- Added section *16.8 Emergency Call Address Change Service*.
- Added section *10.3.4 Device ID* for Lock Device feature.
- Added information about multiple vibrations in silent mode.
- Added section *8.19 Swipe between Chat and Audio/Video Communication Views*.
- Added more participants to Video call or N-Way video.
- Added section *10.3.3 Caller ID Lookup*.
- Updated section *13 Search*.
- Added section *12 Communicator and iPhone Settings*.

1.9 Changes for Release 21.2.1, Document Version 1

This version of the document includes the following changes:

- Added new functionality Mid-Call controls for business circuit-switched calls.
- Added new functionality for Presence Rules.
- Added new functionality for Personal Assistant.
- Added new functionality in Directory Search.
- Updated screenshots.

1.10 Changes for Release 21.1.1, Document Version 1

This version of the document includes the following changes:

- Added the new Guest Client feature to section *11 My Room*.
- Updated Availability information.
- Updated section *8.8 Business Line Call Back and Call-Through*.

1.11 Changes for Release 21.0.2, Document Version 1

This version of the document includes the following change:

- Updated document version.

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1.12 Changes for Release 21.0.1, Document Version 1

This version of the document includes the following changes:

- Added My Room tab.
- Added Side Navigation.
- Added *Appendix A: Third-Party Software*.
- Updated Contacts information.
- Updated document images.

1.13 Changes for Release 20.1.2, Document Version 1

This version of the document includes the following changes:

- Added section *10.2.5 BroadWorks Mobility*.
- Updated section *8.8 Business Line Call Back and Call-Through*.
- Added description for spellcheck / autocorrect.

1.14 Changes for Release 20.1.0, Document Version 1

This version of the document includes the following changes:

- Added Forgot Password description in section *3.2 Sign In*.
- Added description for adding local contacts in section *5.2 Add Contacts*.
- Updated information about *Buddies*, which are moved from the *Chat* to the *Contact* tab.
- Updated section *8 Audio and Video Calls*.
- Added Test Call description in section *10.5 Test Call*.

1.15 Changes for Release 20.0.1, Document Version 1

This version of the document includes the following change:

- Updated section *11 My Room* for Release 20.0.1.

1.16 Changes for Release 20.0.0, Document Version 1

This document was created for Release 20.0.0.

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2 About Communicator for iPhone

Communicator for iPhone provides the following communication features:

- Instant Messaging and Presence (IM&P)
- Voice Calling (VoIP)
- Voice Calling (Circuit Switched)
- Video Calling
- BroadWorks Call Settings

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3 Get Started

This section contains the essential information for getting started with Communicator.

3.1 Installation

The iPhone client can be downloaded from Apple App Store.

3.2 Sign In

When you first launch the application, you are prompted to sign in.

1) If displayed, enter the device configuration address (Uniform Resource Identifier [URI]) provided by your service provider.
2) Enter your BroadWorks user name and password.
3) Select whether you would like Communicator to remember your password.
4) Select whether you would like Communicator to sign you in automatically on subsequent launches.
5) Tap **Sign In**.

NOTE: Once you are signed in, the application does not ask again for the username and password until you sign out. The login is preserved even if the application is terminated or the device is restarted.

With basic sign-in, there are three options on the emergency call pop-up:

- Update location – Opens a web browser where you can set the location. When the location is set, you can return to the client to sign in.
- Ok – Sign-in completes and you can now use the client.
- Cancel – Sign-in is canceled and you are returned in the *Sign In* screen.

With advanced sign-in, there are two options:

- Update location – Opens a web browser where you can set the location. When the location is set, you must return to the client manually. If the location is updated successfully, sign-in completes and can now use the client.
- Cancel – Sign-in is canceled and you are returned to the *Sign In* screen.

Depending on your service provider settings, the client may have a Forgot Password link on the login dialog box allowing retrieval of forgotten passwords. The functionality for retrieving the password is provided by the service provider.

Starting with Communicator Android Release 22.2.1 and iOS Release 22.3.1, the solution supports SSO using an external Identity Provider (IdP) if supported by the service provider. This initial release supports OKTA SAML (Security Assertion Markup Language) 2.0 as identity provider. When using an external IdP, users are redirected to the corresponding authentication page in an external browser. After successful authentication, user are returned to Communicator and signed in.

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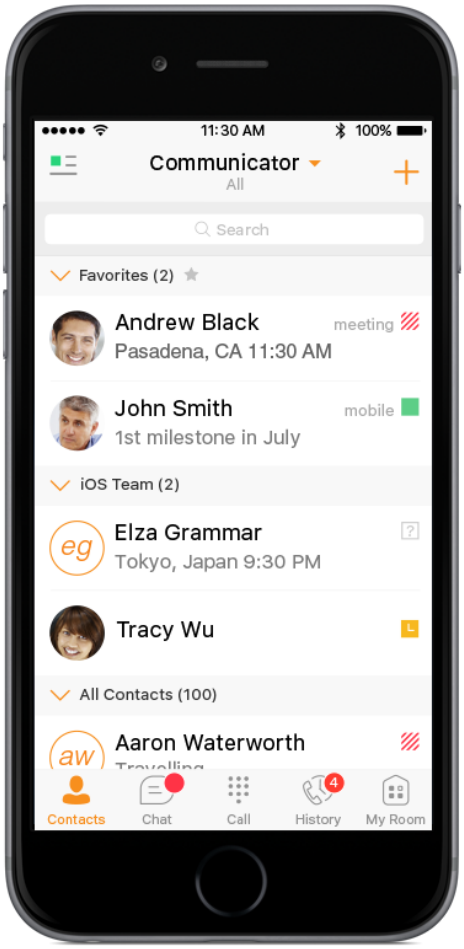
4 Main Tabs

When you start Communicator for the first time, the *Contacts* list is empty. Use the *search* field to find people and add them to your *Contacts* list. Contacts can also be added manually by tapping the **Add** button.



Icon	Description
	Contacts – View your contact list and local contacts or search for directory contacts.
	Chat – View Chat History.
	Call – Make calls.
	History – View incoming, outgoing, and missed calls.
	My Room – Join My Room.

Figure 1 Main View

The main view contains a number of tabs that present information about the contacts and communications options available as follows:

- Contacts
- Chat
- Call
- History
- My Room

The Communicator default tab is the *Contacts* tab and in the soft phone view, the default tab is the *Directory* tab.

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5 Contacts

The Contacts list in *Contacts* tab can contain different types of contacts as follows:

- Presence-enabled contacts
- Non-presence-enabled contacts

Any contact can be marked as a favorite and it appears at the top of the *Contacts* list in the *Favorites* section.

Presence-enabled contacts are users with an Extensible Messaging and Presence Protocol (XMPP) address. These can be other Communicator users or users from federated systems such as Google Talk. Non-presence-enabled contacts can be phone or conference numbers.

The iPhone client shows contact groups created from the Desktop or Tablet devices. The contacts groups cannot be created or edited from the iPhone client.

The *Contacts* tab contains:

- Communicator Contacts
  - All
  - Online
- Contact Directories
  - Local Address Book
  - Directory

Directory provides the company directory contacts. The *Local* contact list provides the contacts from the local phone book.

5.1 Contact Card

The contact card displays information about a contact based on the contact type. This includes Communicator contacts, Local address book contacts, and contacts from directory search results.

You can initiate a call or chat session directly from the contact card. This includes joining other contact's My Room or dialing a My Room audio bridge from a directory contact search result.

If the contact has an associated e-mail address, then the application supports sending an e-mail to the contact by launching the native e-mail client on the mobile device.

5.2 Add Contacts

When you sign in for the first time, there are no contacts on your *Contacts* list. Add a new presence-enable contact at any time by selecting the option *Add Contact* from the plus icon in the navigation bar. Another way to add new contacts is to use the directory search option from the *Contacts* tab.

In the *Add Contact* screen, enter the contact's information and then tap **Done**. By default, your presence information is always shared with a new contact if an XMPP address is provided.

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If you receive a contact request invitation, you can ignore or accept it. If you ignore the contact request, you can always share your presence information later by selecting **Subscribe** from the contact card. Note that the contact must accept your subscription request for you to establish the presence relationship successfully.

Add a conference number by selecting the option *Add Conference* from the *same* plus icon in the navigation bar by typing a conference number. You can also add a conference number from directory search. A conference contact is a special contact used for conference bridges to avoid having to remember a PIN code and a conference number, for example, for a recurring conference.

Add a local contact by selecting the option *Add Local Contact* from the plus icon in the navigation bar. The option *Add Local Contact* opens the native Address Book for adding a new contact from the local phone book.

5.3 Edit Contacts

Tap a contact entry from the *Contacts* list to open a contact card. This is the same for presence-enabled and non-presence-enabled contacts.

- *Edit* opens the *Contact Information* dialog box where you can add, edit, or remove information. This works for both presence-enabled and non-presence-enabled contacts.
- *Unsubscribe* removes the presence relationship between you and that contact. This means you do not see the contact's presence information and your contact does not see yours. Select *Subscribe* to re-establish the presence relationship. An unsubscribed contact remains on your *Contacts* list and is always shown as "offline".
- *Remove contact* deletes the contact from your *Contacts* list.

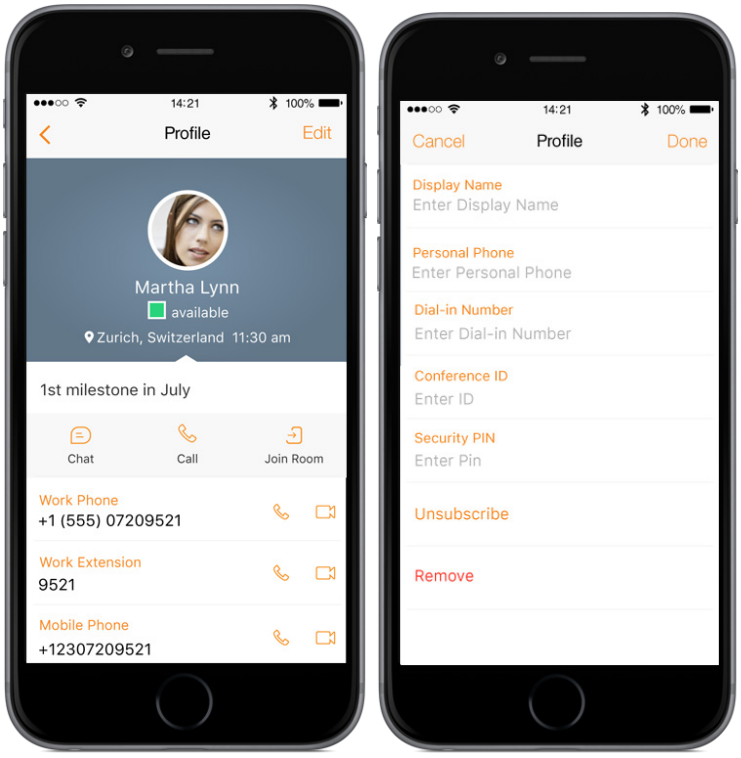

Figure 2 Edit Contact

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5.4 Filters

There are four contact filters available from the *Contacts* tab:

- *All* – Shows all presence-enabled and non-presence-enabled contacts.
- *Online* – Shows only the presence-enabled contacts that are currently online.
- *Local* Address Book – Shows the contacts from your local phone book.
- *Directory* – Shows the contacts from a company directory (which requires a search).

5.5 Sort and Display Order

The sort and display order for contacts is based on phone settings: *Settings* → *Mail, Contacts, Calendars* → *Contacts* for iOS 9 and lower, or *Settings* → *Contacts* for iOS 10.

- *Display order* – display First name or Last name first
- *Sort order* – sort by First name or Last name
- *Short name* – format of the name to be used in chat lists

NOTE 1: Short names are not supported on iOS 8. On iOS 8, the application will always use the full names for display in such lists.

NOTE 2: Asian names – Chinese, Japanese, and Korean (CJK):

On iOS, Asian names are sorted based on the iOS system settings; however, the display order is always last name first and the short name format is always the full name.

Local Contacts

Local contacts are ordered in groups by letter, based on the first letter of their display name. There is no further ordering within the group.

All contacts whose display name starts with non-Latin characters are put in the # group.

The display name of a local contact is taken from first name, middle name, and last name. If names are missing, the display name is taken from the JID field.

If all of the previous items are missing, then the phone number is used for the display name.

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6 Availability

For each contact you have subscribed to, you can see their availability. Similarly, your contacts can see your availability on their *Contacts* list.

NOTE: *Availability* can also be referred to as *presence status*, which was the term used in previous releases of Communicator.

Availability means that your friends are able to see whether you are available, for example, "I'm available" or "I'm busy".

Icon	What it means
 available	The green availability icon indicates that the user is online and is ready for communication.
 mobile	The green availability icon indicates that the user is online on the Communicator mobile client and is ready for communication. The icon is accompanied by the text "mobile".
 away	The yellow availability icon indicates that the user is online on their Communicator client but has been idle or away from their computer for more than 10 minutes.
 mobile	The yellow availability icon indicates that the user is online on their Communicator mobile client but has been idle or away from their computer for more than 10 minutes.
 offline	The grey availability icon indicates that the user is offline in a call and the only available contact method is calling or leaving a chat message.
 call	The grey availability icon indicates that the user is offline and the only available contact method is calling or leaving a chat message.
 pending	The question mark indicates that a subscription is pending and the contact has not yet approved sharing their availability.
 busy	The red availability icon indicates that the user is busy and does not want to be disturbed.
 call	This icon indicates that the contact is busy due to a call. This is an automated availability status.
 meeting	This icon indicates that the contact is busy due to a meeting. This is an automated availability status. The *Busy – In Call* status overrides the *Busy – In Meeting* status so this icon is only seen when there is a meeting but no call.

You can manually set your own availability by tapping on the availability icon from the status bar in all tab views. The availability icon opens the *My status* screen where you can change your avatar, personal message, and availability status.

NOTE: With the introduction of Push Notifications, the application no longer maintains persistent connection to the server. Changing the availability status with Push Notifications enabled persists the status while the application is in the foreground and changes the status to *Available on Mobile* when the application is moved to the background.

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Your avatar is the picture that represents you in your friends' *Contacts* lists and in chat screens. Tapping on an avatar opens a dialog with options to select an existing image, to take a new one with your phone camera, or to clear your avatar.

You can enter a status message in the area next to the avatar. This status text is shown in your friends' *Contacts* lists.

If you see the error message "Chat Unavailable" under any tab, it means that XMPP connectivity has been lost for chat and availability; however, you can still make calls. In this case, you should contact your service provider.

The availability update is only triggered by appointments and meetings that are either accepted by the user or made by them. All-day meetings do not trigger an availability change to *Busy – In Meeting*.

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7 Instant Messaging

7.1 Chat Tab

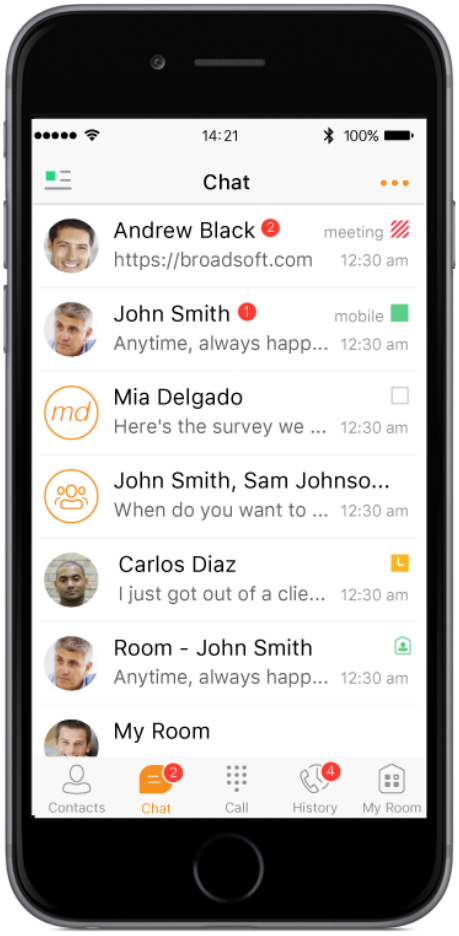

Figure 3 Chat Tab

Chat shows the list of recent chats since the last login. If User A chats with User B multiple times, their discussions appear as one item in the list.

Tapping the name opens the chat view (IM view) where new messages can be typed. Old messages are also shown.

New incoming messages are indicated with a notification badge to the right of the name. The icon remains next to the name until the message is read.

Chats are listed so that the newest ones are always at the top. Chats are not in alphabetical order. Instead, they are listed with the most recent first.

Tapping the menu button in the navigation bar displays the *Start Group Chat* options.

7.2 Chat

Start a chat using one of the following methods:

- From the *Contacts* list, tap a contact to open the contact card. From the contact card, choose the chat bubble icon to start a chat.
- In the *Chat History* list, tap a Chat History entry to start a chat.

When you initiate a chat, the *Chat* screen opens. Chatting with a contact is possible only when you are both online. If your contact initiates a chat, you see a notification badge on the *Chat* tab and the entry appears on the top of *Chat History* list.

When the chat opens, the name of the recipient is on the top bar and there is availability icon flag before the name. The recipient messages are presented in the orange background and the user is presented in white background.

A smiley can be added to a message by typing the corresponding character code or by selecting a smiley icon. The smiley is displayed with its character code in the input text are and graphically in the chat area and when displayed to the remote party.

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The text input field in *Chat* uses autocorrect, auto-cap, and spell check based on system settings. Use the system settings to enable or disable these features.

Upon Clear History, the chat history is removed from the view, but the chat view remains open in case you want to continue chatting. If you navigate back to the chat list, then this specific chat entry is removed from the list because there is no chat history associated with it.

7.3 Group Chat

Start a group chat using one of the following methods:

- In single chat session, tap the add participant icon to escalate from a single to a group chat.
- From the *Chat* tab, tap on the menu icon to select the "start group chat" option.
- In the *Chat History* list, tap a group communication entry to start a group chat.

When you initiate a group chat, the *Chat* screen opens. More people can be added later to the chat using the add participant icon. Anyone in the group chat can add participants. However, removing participants is currently not supported.

A group chat works the same way as a one-on-one chat. All messages from anyone are sent to everyone else. All contacts need to be online to be able to participate in a group chat. You cannot invite an offline contact.

A group Chat History is saved and is available to view later in the *Chat* tab.

You can leave a group chat by selecting the Leave chat option. The chat is marked as "offline" and you will no longer receive messages from the chat. When tapping on the "offline" chat, you re-join the room and start receiving messages. However, you will not receive the messages that were sent in the chat while you were outside of the room.

The Clear History menu item works the same way as the corresponding option in a one-on-one chat and removes the local history.

The View Participants button opens a dialog that shows the list of participants in the group chat.

Deleting a chat room is not supported.

7.4 Chat Recording

The Communicator client can provide a chat recording indication to users for all chat sessions depending on the server configuration. Chat recording state is applied to all users registered in a single domain. This setting is not specific to any user and therefore the recording state cannot be modified by end users.

7.5 Chat Security Classification

The Communicator client provides the ability to specify the security classification of chat sessions. The security classification is configured on the server side and cannot be changed by end users. The security classification level for instant messaging is assigned to the whole domain and all users in that domain have the same classification level. It is visible in all the chat session types: single and group.

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8 Audio and Video Calls

8.1 Dial Pad Tab

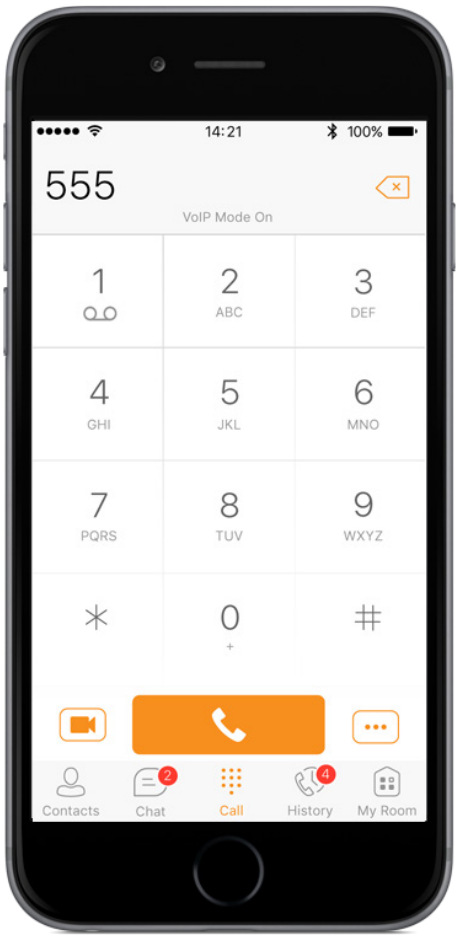

Figure 4 Dial Pad Tab

The *Dial Pad* tab displays a dial pad and a text field used to enter numbers. The dial pad is one of the options used to make audio or video calls. There are three buttons below the dial pad: Call, Video call, and Dial pad menu that are configurable by the service provider. The top text field also has a delete button that, when pressed, deletes one character at a time.

A badge notification appears on the *Dial Pad* box. A long press on the "1" digit connects you to the voice mail box. When there is no voice mail in your voice mail box, no notification badge is shown.

The *Dial Pad* menu can contain three options: VoIP Mode, Pull Call, and Retrieve Call.

8.1.1 VoIP Calling Mode

Communicator Mobile supports an option that allows you to switch easily between VoIP and Mobile calling modes.

- VoIP calls use WiFi or the carrier data network.
- Mobile calls use the carrier circuit-switched network. Mobile calls leverage BroadWorks Anywhere or BroadWorks Mobility to present the business identity of the user (for more information, see section *8.8 Business Line Call Back and Call-Through*).

You can switch between VoIP and Mobile through the *Dial Pad* menu. An indication of the currently selected mode is displayed on the Dial pad.

- VoIP Mode On:
  - Outgoing and incoming calls use VoIP over WiFi or data network.
  - BroadWorks Anywhere or BroadWorks Mobility location for the device is disabled.

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- VoIP Mode Off:
  - Outgoing and incoming calls use the mobile circuit-switched network.
  - BroadWorks Anywhere or BroadWorks Mobility location for the device is enabled. Outgoing calls are performed with Call-Through or Call Back. Incoming calls are delivered via the BroadWorks Anywhere or Mobility location.

VoIP calls over the carrier data network are dependent on the quality of the network and may incur additional charges. As such, there are options for an operator or end user to disable VoIP calls over the carrier data network (3G, 4G, or LTE) if needed. Users can control this behavior in *Call Settings* → *VoIP Calls*. There are two options:

- WiFi only: VoIP calls are only allowed only WiFi.
- All Networks: VoIP calls are only allowed on any data network.

8.2 Make Audio or Video Calls

Make an audio or video call using one of the following methods:

- Choose a contact from contact list and tap on the headset icon for an audio call or the video icon for a video call.
- From search results, open a contact card and tap on the headset icon for an audio call or the video icon to perform a video call.
- Open the dial pad, enter a phone number, and tap the Call or Video button.
- On the *Call History* list, tap a call entry.
- On the *Chat* screen, tap the headset icon for an audio call or the video icon for a video call.

8.3 Answer Call

An incoming call is indicated by a ringtone. There are two options on the incoming call screen: *Answer* and *Decline.* If you decline the call, it causes the line to sound busy at the caller's end and they know that you rejected the call.

If you are in the middle of a VoIP call and receives an incoming cellular call, the VoIP call is put on hold right away before answering/declining it.

If the iOS device (iPhone or iPad) is locked and there is an incoming VoIP call, a notification is displayed to you on the locked screen, accompanied with an alerting sound and vibration.

If the device is in silent mode, the Communicator notification is accompanied by multiple vibrations. Vibrations are played until the call is answered locally, answered on another location, or redirected to voice mail or another number, or after a predefined timeout.

The incoming call ring volume when the application is in background is controlled by the Ringer volume when the phone is unlocked. The volume of the incoming call ring when the application is in foreground is controlled only during active alerting of an incoming call.

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8.4 CallKit

Starting with iOS 10, Communicator supports integration with the iPhone UI using the CallKit Framework. This integration enables the functionality described in the following subsections.

8.4.1 Answer Incoming VoIP Call on Locked Screen

When an incoming VoIP call is received and the device is locked, iOS shows the native incoming call screen with the caller ID, avatar, and the “Communicator Audio” label.

Sliding the device lock establishes the call with no additional interaction required. You are not required to enter the device unlock code if such is set.

You can perform basic mid-call control functions from the native screen. For advanced mid-call control functionality, you must activate the application by using the application button on the native screen. Entering the device lock code, if set, is required at that point.

Incoming calls are always accepted as audio. You have the option on the native in-call screen to add video. Upon adding video from the native incoming screen and unlocking the phone, the application comes to foreground with the video call enabled.

If you do not want to accept the call, you can tap the power button once to silence the call, and twice to reject it.

8.4.2 Answer Incoming VoIP Call on Unlocked Screen

When an incoming VoIP call is received while the device is unlocked and the application is either in foreground or background, you are notified with the iOS native incoming call screen, which shows the caller ID, avatar, and the “Communicator Audio” label.

You can answer the call using the **Accept** button, which opens the application in call screen.

8.4.3 Receive Second Incoming Call (Call Waiting)

When an incoming native circuit switched (CS) call is received during an ongoing VoIP call, you are notified with the iOS native incoming call screen, which shows the caller ID and avatar of the new calling party. You have the choice to hold the current call and answer, or end the current call and answer or decline the new call to voicemail. Upon accepting the new call, the previous call is put on hold. You have the option to swap between the calls or to end any or both of them.

The same behavior is applicable to receiving an incoming VoIP call during a native CS call, or receiving a second VoIP call.

8.4.4 Integration with Native Contacts and Call History

VoIP calls made with Communicator are shown in the native call history (“Recents”). Selecting such a call entry in the call history initiates the call with Communicator.

Communicator calls can also be initiated directly from the contact profile of an address book entry. Long press on the call or video button in a contact profile opens a list of calling options which includes Communicator.

If the last call to a contact has been handled by Communicator, the call button in the profile changes to “Communicator”.

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8.5 Communicator In Call Actions

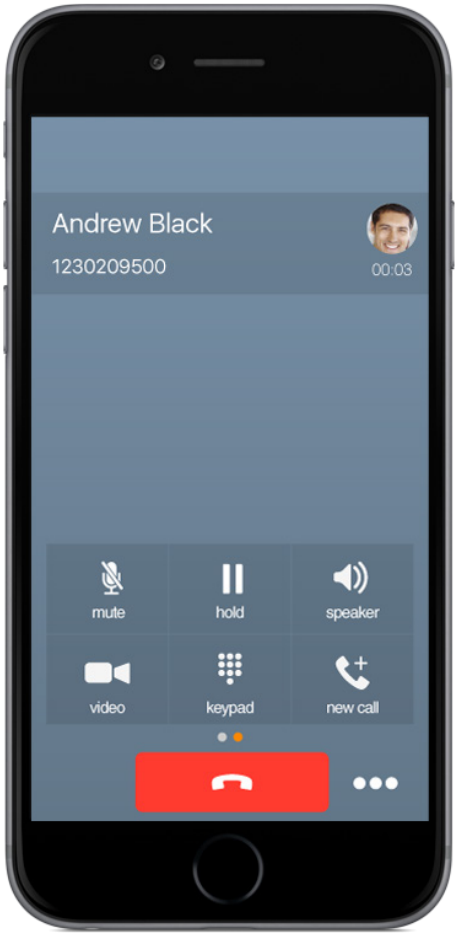

Figure 5 In Call Screen

You can perform the following actions from the *In Call* screen:

- End a call
- Mute the microphone
- Enable / Disable Speaker*
- Open the key pad
- Adjust the volume
- Escalate from an audio to video call and downgrade from a video to audio call
- Place a call on hold
- Make a new call
- Transfer a call – Attended
- Transfer a call – Unattended
- Make a conference
- Park a call
- Transfer a call to circuit-switched call

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- Add more participants (in conference call only)
- Merge two separate calls
- Swap two separate calls
- View participants (on a conference call)

***** During a video call, the audio output is automatically switched to speaker-only mode.

8.6 Missed Calls and New Messages

Notifications (for example, for missed calls or new messages) are shown as badges on the tab icons.

8.7 Message Waiting Indicator and Voice Mail Access

If you have pending voice mail (VM) messages, then a badge is displayed on the *Call* tab icon with indicating the number of pending VM messages.

The voice mail is accessible with a long press of the dial pad digit “1” (similar to how it is done on a regular mobile keyboard).

8.8 Business Line Call Back and Call-Through

Communicator allows you to originate a circuit-switched call using your business line identity. This is done using the basic Call Back functionality on BroadWorks or the Call-Through functionality available with BroadWorks Mobility.

Call Back is available if you have the BroadWorks Mobility, BroadWorks Anywhere, or Remote Office assigned. The application checks to see whether one of these services is provisioned with a phone number that matches the mobile number. If it is provisioned this way, it provides you with the option to make calls using the Call Back feature.

Call-Through functionality is available if the BroadWorks Mobility or BroadWorks Anywhere service is assigned to the user and configured with at least one location. Call-Through provides a more natural dialing experience. When a call is placed in this mode, the client communicates transparently with BroadWorks to obtain a temporary IP Multimedia Routing Number (IMRN). The client then calls the IMRN and connects you directly to the destination identifying the call with your business line identity.

Note that Call-Through requires “My Phone number” on iOS (or “Own phone number” on Android) local setting to be set to the phone number of the mobile device. This number must be set and must also match the number configured in BroadWorks Mobility or BroadWorks Anywhere in order for Call-Through to work.

In order to provide a better user experience (UX) for Call Through, the client creates and updates a single contact entry in the native phonebook with the temporary IMRN number assigned as Assistant phone number. The contact entry name is set to the name of the application (for example, “Communicator”) but can also be branded by the customer. Therefore, for all IMRN calls, users receive usual feedback from the phone’s native dialer that the call is performed with the application via BroadWorks.

Note that nothing can be done for the phone’s native call log. That is, users can see in the phone’s native call log all the IMRN numbers with no indication of the actual destination number being called or that this was a call initiated by the application. Users must access the BroadWorks *Call History* via the Communicator application to see the actual destination number that was called.

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Starting with Communicator Release 21.2.x, the application provides mid-call control services for business circuit-switched calls. For more information, see section *8.18 Mid-Call Controls for Circuit-switched Business Calls*.

> **NOTE**: The following functionality is only available for iOS.

The iOS client provides two additional settings related to Call Back dialing:

- Callback validation – if set to "ON", it checks that BroadWorks Anywhere or Remote Office is enabled and verifies that the phone number in BroadWorks Anywhere or Remote Office matches the user's mobile phone number.
- Mobility – if set to "ON", it imposes that the Mobility service number is used for Call Back instead of BroadWorks Anywhere or Remote Office.

8.9 Contact Name Lookup for Incoming Calls and Call Logs

When receiving a call, Communicator searches for the name in the following sources and in the following order: XMPP contact name, Enterprise directories, Local Contact, *P-Identifier* header (SIP), and *From* header (SIP). If the number matches one of the contacts, the name is shown on the incoming call screen.

8.10 Call Waiting

You can have one active call at any one time if you receive a new incoming call and accept it. The existing call is put on hold and you can change between these two calls by using the Hold and Unhold buttons.

8.11 N-Way Calling (Conference)

Communicator supports network SIP-based conference calls. While on a two-way audio or video call, you can add more participants by using the **Conference** button. It opens the Address Book on the device to search for and select the new participant. Once the conference is established, the participants are shown on the *Device* screen.

The other way to create a Conference call or to add participants to an existing Conference is to make a second new call and then select the *merge* option.

8.12 New Call

The client supports starting a new call while in an ongoing call. The steps are as follows:

1) Establish a call with a remote party.
2) Initiate second call using the **new call** button.
3) Select a contact and then choose a number. After the new call is established, the first call is put on hold. You can also swap the two calls or to merge it in conference.

8.13 Call Transfer

The client supports transferring VoIP calls to another party. Two modes of transfer are supported:

- Attended Transfer – Establish a call with a remote party. Select a contact then choose a number. Select the *call first* option. If the call is successfully established, you can talk with the third party privately before completing the transfer by tapping the **Complete** button.

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- Unattended Transfer – Establish a call with a remote party. Select a contact and then choose a number. Select the *Transfer* option and the transfer is completed.

8.14 Call Pull

Call Pull can be used in scenarios where a user has two endpoints, for example, a VoIP desk phone and a mobile phone with Communicator. If the user has an active call on the desk phone, then this call can be transferred seamlessly to the mobile phone using the **Call Pull** button. Depending on the application, dialing settings, and service configuration, the call can be pulled as a VoIP or circuit-switched call to the mobile phone. There is no interruption to the voice call.

The Call Pull button pulls audio only. Users can pull video calls directly by dialing the feature access code *11 and then selecting the video call button.

NOTE: Call Pull is not possible when there is an ongoing circuit-switched call on the iPhone. This is regardless if the circuit-switched call is mobile (personal) or business (anchored at BroadWorks). Call Pull requires initiating a VoIP call and iOS initiating a VoIP call during a Swipe Call Park.

The Call Park service allows a “parking” user to park a call against a “parked against” extension. The “parked” user is placed on hold until a user retrieves the parked call. If the call is not retrieved within the provisioned recall time, then the parked call is reverted and presented to the “recall” user.

8.15 Call Recording

The Communicator client provides the ability for users to start, stop, pause, and resume call recordings. Call recording controls depend on user’s call recording mode configured on the server. The client supports the option to record a call before it begins or during the call itself.

Recorded calls are accessed outside of Communicator; you cannot view them using the client. Depending on your service settings, call recording behavior is one of the following (this cannot be controlled in the client but in the self-provisioning portal):

- Always – recording indication (icon) in the *In Call* screen.
- Always with pause/resume – recording indication (icon) in the *In Call* screen. Only pause/resume menus are available in this mode.
- On demand – recording indication (icon) in the *In Call* screen. No stop menu is available, only start and pause/resume. After a call is established, call recording starts on the server. If the user presses the **Start Recording** button during the call, the call recording is stored and the server keeps the recording of the whole call regardless of when the recording was started (except for pauses). Otherwise, if no start recording is initiated from the user, the call recording is deleted from the server.
- On demand with user-initiated start – recording indication (icon) in the *In Call* screen. Menu options available for start, stop, and pause. Call recording can be initiated at any time and several times during a call. There are separate call recordings for each call recording startup.
- Never – no indicators or menu options present. Pause/resume audio indication depends on your service provider settings. It is recommended to re-login after changing the call recording mode in the self-provisioning portal.

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8.16 Security Classification

The Communicator client provides the ability to specify the security classification of calls and chats.

The security classification of a call party is determined by the security classification set at the BroadWorks Enterprise level; all users within the organization inherit that security classification. Security levels are configurable on the server side, but there is always at least one security level, that is, “Unclassified”.

In addition, each user can change the security classification for the duration of the call via their handset. The user can change the security classification to a level less than or equal to their configured security classification.

For calls, the security classification can be changed during a call by a user and it works with supplementary services such as Call Transfer and Conference.

For chat, the security classification is displayed but cannot be changed.

8.17 Bluetooth Support

You can perform audio calls from a compatible Bluetooth headset. The System Requirements section in the *Communicator (Desktop, Mobile, iOS Tablet, and Android Tablet) Product Guide* lists the headsets that have been tested, although other Bluetooth devices should also work.

Communicator Mobile iOS supports mute and volume control from the Bluetooth headset; however, answer and hang up are only supported from the application.

8.18 Mid-Call Controls for Circuit-switched Business Calls

Communicator Mobile provides mid-call control services for business circuit-switched calls that are anchored at BroadWorks. This functionality is available for:

- Call-Through and Call Back circuit-switched calls initiated from the Communicator client via the native phone dialer.
- Incoming circuit-switch calls delivered to the mobile phone via BroadWorks Anywhere, BroadWorks Mobility, or Remote Office location.

Supported mid-call control services are:

- Hold / Resume. For more than one call, this functionality requires BroadWorks Call Control to be turned ON for the location.
- Transfer
- Conference (limited to five participants)
- Swap. Requires BroadWorks Call Control to be turned ON for the location.
- End call

After initiating a Call-Through or Call Back call or after receiving a business circuit-switched call, the user can return to the main screen and launch Communicator to the foreground. At this point, the application brings a Mid-Call Control screen which can be used to manage the call.

For Call-Through or Call Back outgoing calls, Communicator for iOS displays a local notification after the remote party accepts the call with information that the user can tap on the notification in order to return to Communicator and control the call.

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8.19 Swipe between Chat and Audio/Video Communication Views

Communicator provides ability to switch between Chat and Audio/Video communications sessions for own My Room, other users' My Room, and two-way chat. The ability to switch between sessions is indicated by the dots at the bottom of the screen. The user can perform a swipe to switch between sessions.

8.20 Seamless Call Handover for VoIP Calls

Starting with Release 22.2.1, Communicator for iPhone clients support seamless call handover for VoIP calls between WiFi and cellular data networks.

If the data connection drops during an ongoing VoIP call, then the application tries to use anther data connection, if available, or waits for a configurable period of time (for example, one minute) for the data connection to be re-established. At that point, the call is retried on the new or re-established connection.

During the transition, there is a beeping sound played to the user and an indication in the user interface that the application is trying to reconnect the call.

Note that if a user has multiple ongoing calls, only the active calls are retrieved after restoring the data connection and the other calls are terminated. In which case, the user is notified about the terminated calls.

A typical use case is when a call is started on a WiFi network in the office and the user leaves the office while on the call. In this case, the call is transferred to the 4G/LTE data network, if one is available.

Another use case is when the device loses data coverage for a brief period of time while the user is on a VoIP call (for example, the user enters an elevator). In this case, the call is recovered when the data connection is re-established, provided it is within the configurable period of time, which is typically one minute.

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9 Call History

The client supports displaying basic and enhanced BroadWorks Call History.

Communicator can also show information about Hunt Groups and call duration, which is only available as part of enhanced call logs.

From the segmented controls, the Call History can be set to show all or missed calls.

On the list of calls, there are icons indicating whether a call was incoming, outgoing, or missed.

The list of the call items consists of an icon showing what kind of call it was (a green arrow means incoming, a blue arrow means outgoing, a red arrow means missed, and a green group icon means hunt group). It also shows the name, number, and *Unavailable* status for the caller. Below the name it shows the number, if available, and below the number, it shows the date and time of the call.

In the *Call Details* screen the user can find information about the duration of the call.

Call History makes it easy for you to redial and call back when you miss a call or when you want to dial a contact with whom you have recently spoken.

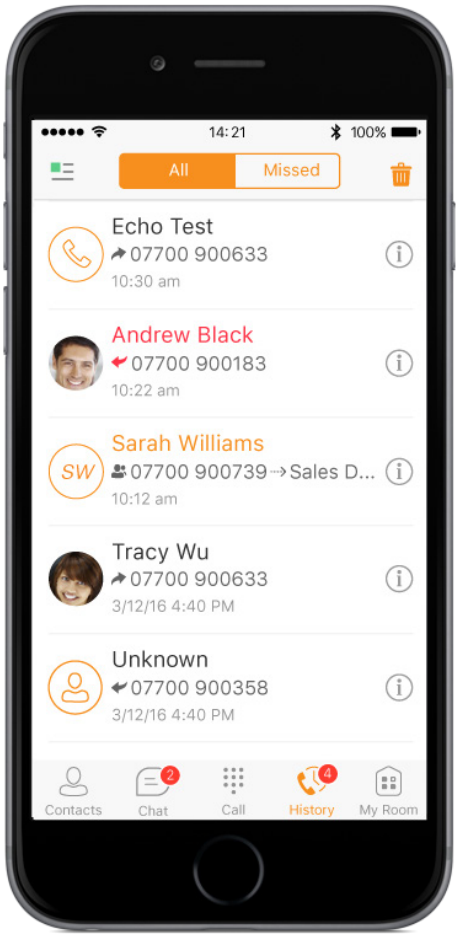

Figure 6 Call History

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10 Side Navigation

The side navigation contains the following items:

- My status
- Call Settings
- Preferences
- Queues
- Test Call
- Update 911 Location
- About
- Help
- Sign Out

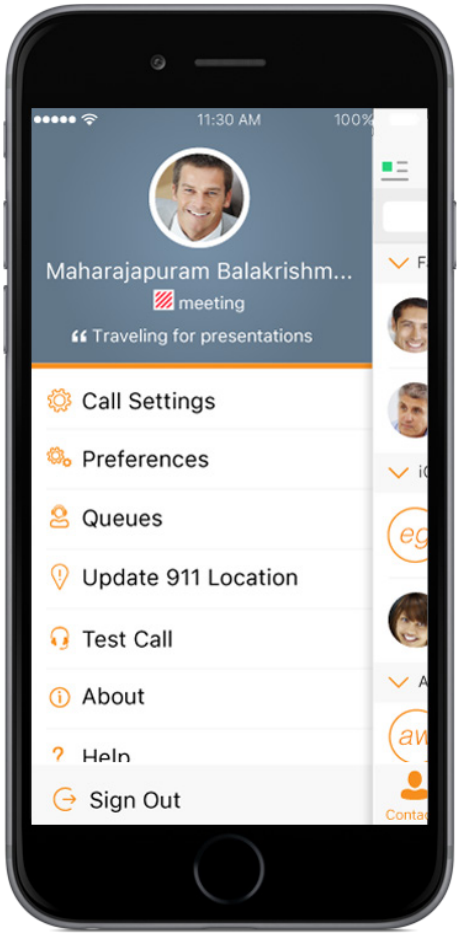

Figure 7 Side Navigation

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10.1 My Status

You can set your own availability by tapping on your personal status from the side navigation. It opens the *My status* screen where you can change your avatar, personal message, and availability status.

> **NOTE**: *Availability* can also be referred to as *presence status*, which was the term used in previous versions of Communicator.

Your avatar is the picture that represents you in your friends' *Contacts* lists and in chat screens. Tapping on an avatar opens a dialog with options to select an existing image, to take a new one with your device's camera, or to clear your avatar.

You can enter a status message into the area next to the avatar. This status text is shown in your friends' *Contacts* lists.

If you see the error message "Chat Unavailable" under any tab, it means that XMPP connectivity has been lost for chat and availability; however, you can still make calls. In this case, you should contact your service provider.

10.1.1 Availability Rules

Availability Rules allow a user to configure calling rules associated with each of the availability states. When the availability state is triggered, the associated rule is applied.

Each availability rule can be configured with one of the following options:

- No Rules
- Forward to Number
- Silent Alerting

10.2 Call Settings

The client supports the following BroadWorks service management features, allowing BroadWorks supplementary services to be turned on or off using the native client *Call Settings* screen:

Call Options

- VoIP Call
- Block My Caller ID
- Dialing Service
- iPhone Number

Call Forwarding

- When Not Reachable
- When Busy
- Always
- When No Answer
- Do Not Disturb
- Personal Assistant

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Incoming Calls

- Simultaneous Ring
- BroadWorks Remote Office
- BroadWorks Anywhere
- BroadWorks Mobility

10.2.1 Call Forwarding

By tapping on a different *Call Forward* option, you can enter a number to forward your calls as follows: Call Forward Always, When Busy, When No Answer, or When Not Reachable.

10.2.2 Personal Assistant

Personal Assistant allows configuring an announcement to be played to callers when the called party is not available. The announcement notifies the caller of the reason the called party is not available, optionally providing information on when the called party will return and whether there is an attendant to attend the call. Based on that, the caller can make a better decision on calling back, transferring to an attendant, or leaving a voice message.

Personal Assistant options can be configured in Call Settings. The following options are available:

- Presence different than None
- Until
- Transfer number
- Ring Splash

Select “None” for Presence to disable Personal Assistant.

10.2.3 Do Not Disturb

When you activate this service, all calls are typically blocked by the server and sent to voice mail.

10.2.4 BroadWorks Anywhere

BroadWorks Anywhere allows service providers to offer fixed-mobile covergence (FMC) services without additional equipment.

BroadWorks Anywhere simplifies communications for on-the-go users and remote users by extending the features of a desk phone to any other fixed or mobile device, regardless of the network or handset manufacturer. Callers dial one number and can reach you on any phone the user chooses. A desk phone, cell phone, and/or a soft phone can ring simultaneously.

Voice call continuity is possible with the ability to move live calls from one device to another without hanging up.

Add locations (numbers) that can be used in the service using the **Add New Location** button. Use the Alert all locations to activate parallel ringing.

Select “Prevent Diverting” to prevent a call ending up as a voice mail, which can be problematic, for example, in conference call situations.

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Select “Answer Confirmation” to receive a separate audio prompt when answering a call from that number (location). It may be useful in cases where, for example, mobile numbers are being used to prevent incoming calls going to mobile voice mail since the call will be ended without going to voice mail if the answer confirmation is not provided.

Select “Call Control” to enable the server platform to provide mid-call services such as Call Transfer and Conferencing for that number (location).

10.2.5 BroadWorks Mobility

BroadWorks Mobility is a flexible solution that extends the BroadWorks Centrex features transparently to the mobile network. This service provides a set of mobile capabilities that help meet the key requirements of mobile operators for deployment of business services to the mobile handsets.

The following attributes can be set:

- Active – Flag to enable or disable the BroadWorks Mobility service for the user.
- Mobile Number – This is the subscriber’s mobile number in E.164 format.
- Phones To Ring – The default is “Fixed”. The options are as follows:
  - Fixed – If set, then only the user’s desk phone is alerted.
  - Mobile – If set, then only the user’s mobile phone is alerted.
  - Both – If set, then both the mobile phone as well as desk phone of the user are alerted.

The following attributes apply when the alerting mobile is set:

- Alert for Click-To-Dial – If checked, Click To Dial calls alert the mobile phone.
- Alert for Group Paging – If checked, group paging calls alert the mobile phone.
- Prevent Diverting – This attribute determines whether the Application Server enables a diversion inhibitor when extending a call leg to the mobile phone.
- Answer Confirmation – This attribute determines whether the Application Server prompts for an answer confirmation when the user answers the mobile call leg.
- Call Control – This attribute determines whether call control is to be performed by the mobile device (off) or by BroadWorks (on). This must be turned on to provide mid-call service features to the mobile originated or terminated calls.

10.2.6 BroadWorks Mobility Persona Management

Communicator for iPhone supports changing the Calling Line Identity (CLID) of the BroadWorks Mobility Identity on a mobile device. The user can configure the outgoing CLID in *Call Settings/Call From*. The options are *Mobile Identity, Profile Identity*, or *Hide Caller ID*. There is also the *Always Ask* option, which when selected, prompts the user to choose the CLID when initiating a call from the dialer.

When the feature is enabled and available to the user, the *Call Settings* include a *Call From* entry, which is available for the user to choose whether the BroadWorks Mobility device uses its own identity versus the *Profile Identity* or the primary *Mobile Identity*.

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10.2.7 Remote Office

This service allows the use of any phone as the office phone from a charging and numbering perspective. For instance, a hotel room phone can be used as the office phone.

Enable Remote Office and specify a phone number to be used as the Remote Office number.

10.3 Preferences

The client supports the following preferences:

- Language
- Troubleshooting
- Remember password
- Sign in automatically
- Caller ID Lookup
- Enable video calls

The preferences available through *Sign In* screen are as follows:

- Language
- Version
- Device ID
- Help
- About
- Troubleshooting

10.3.1 Language Support

The client is prepared for localization and can be delivered in any language. Currently, the client is available in the following languages:

- U.S. English
- French
- French (Canadian)
- German
- Italian
- Spanish (European)
- Spanish (Latin America)
- Korean
- Japanese
- Chinese

Additional languages are available upon request as part of a customization project.

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10.3.2 Troubleshooting

The troubleshooting function can be used if there are issues encountered with the application. It collects and sends diagnostic information to a predefined support e-mail address that is configurable via the branding process. This helps support personnel to identify the issues. The information sent consists of the application and media engine diagnostic logs.

Troubleshooting is managed by a menu entry in *Settings*. It can be accessed from two places in the client:

- From the Settings button on the *Sign In* screen – This opens the screen that contains the help and troubleshooting-related entries. This can be used before the user has signed in, which is most often for cases when a user has issues with signing in or with connectivity.
- From the *Preferences* screen, accessible from the Side navigation. This is available while the user is logged in.

Troubleshooting options:

- **Console logging** – Option for getting logs in a development environment. The device should be connected to a PC/MAC and the logs to appear real-time in the console.
- **File Logging** – Saves logs to the device memory for subsequent sending by e-mail.
- **XMPP logging** – Includes IM&P related information (XMPP stanzas) in the logs.
- **Other logging** – Includes additional logs different from XMPP.
- **PN logging** – Includes Push Notification-related information (only when Push Notifications are enabled).
- **Crash reporting** – Sends crash logs to crash report.
- **Display Diagnostic Info in Calls** – Displays information about ongoing calls like the codec type.

10.3.3 Caller ID Lookup

When there is an incoming call, Communicator matches it by searching in the contact list, local address book, and BroadWorks directory. To improve the performance, Communicator for iPhone provides the ability to turn on/off searching in the local address book.

10.3.4 Device ID

Communicator has the ability to lock the user to a single desktop or mobile device, so that the software cannot be used on other hardware. The iPhone user can copy the Device ID from *Preferences* before signing into the application and provide it to the company administrator. The administrator locks Communicator to the reported device and the user can sign in only from this device.

10.4 Call Center Agent (Queues)

Communicator allows a user to join and leave Call Center Queues and set their Automatic Call Distribution (ACD) status. This functionality is available based on the configuration and services assigned to the user.

To view the currently assigned queues, join and leave queues, and change state, use the Queues entry in the side navigation menu.

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10.5 Test Call

The client provides the ability to perform an audio or video test call to an echo number. Note that the echo service is provided and enabled by the service provider.

A common example of using an echo service is:

- Press **Test Call** to initiate a call to the echo service, then follow the operator's instructions until you hear back your recorded message.

10.6 About

The *About* screen includes three sub views:

- Info – The Info view contains short info text, version, copyright, website URL, app ID, and build version.
- License – The License view contains the End User License Agreement.
- Legal Notices – The Legal Notices view contains third parties used by the application.

10.7 Help Page

The client provides web-based help that can be launched from the *Settings* view.

10.8 Sign Out

You can sign out at the bottom of the left-side navigation drawer.

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11 My Room

My Room is an always available and permanent room you can use to chat with anyone that joins.

My Room is accessible using the My Room icon in the Tab bar.

You can add more participants using the add participants icon or they can join your room from your contact card. Once participants join the chat room, they can tap on the **Call** button of that screen to automatically join the conference.

My Room uses your permanent chat room, permanent collaboration room, and a conference bridge (audio or video). All *My Room* sessions start as chats but a call can be added to the session while in progress.

Others join your room by tapping your name on their *Contacts* list and by selecting *Join Room* from the contact card.

You can dial into others contact's My Room audio bridge from the directory contact card.

11.1 Guest Client

The Guest Client feature is specifically intended for users outside of the company. Communicator users can invite Guest Client users to their My Room by selecting “Copy Guest Join Link” from a My Room menu button on the top right corner. The copied link delivery (that is, e-mail) is outside the scope of Communicator.

Guest users can join a session with audio in the web browser by requesting a Call Back using the provided dial-in number and conference PIN. They can also use group chat and sharing inside the web browser. However, guest clients do not have the private chat possibility and they can only see the chat history of messages that occurred after they joined the session.

The My Room owner is prompted to *accept* or *reject* guest client users requesting to join the My Room session.

Guest Client user invitations can be revoked by selecting “Reset Guest Link” from the My Room menu button.

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12 Communicator and iPhone Settings

From iPhone *Settings* → *Communicator*, the user can allow Communicator to access:

- Contacts
- Microphone
- Camera
- Notifications
- Cellular Data

It is recommended that Communicator have access to all resources in the previous list.

In addition, the user can configure the type of notifications they want to get with Communicator:

- Allow Notifications
- Show in Notification Center
- Sounds
- Badge App Icon
- Show on Lock Screen

It is recommended for all items in the previous list to be enabled.

In addition, it is recommended to configure the option *Alert style when unlocked* to “Alerts”.

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13 Search

Communicator supports search in Communicator Contacts and Contact Directories. The search is performed in a separate input field in the *Contacts* tab. Depending on the selected filter (All, Online, Local Address Book, or Directories), search results display contacts only from the current selected category.

In addition to results from the Enterprise Directory, the search is also performed in several more search sources:

- User's Personal Phone List
- Group's Common Phone List
- Enterprise's Common Phone List

The enhanced search is applied for both contacts searching initiated by the user and upon receiving an incoming call, and searching for a display name corresponding to an unknown number.

Communicator for iOS also supports search in an LDAP-compatible directory like Microsoft Exchange. If the device e-mail and contact applications are synchronized with Microsoft Exchange or a compatible e-mail provider, Communicator can look up contacts from the directory Global Address List (GAL). This search is available through Contacts, Local Address Book, All Contacts with Groups, Groups, and GAL.

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14 Push Notifications

14.1 Push Notifications for Incoming Calls

Communicator introduces support for Push Notifications for Incoming Calls.

Mobile client applications use Push Notifications to get alerted for incoming calls and for accepting calls as VoIP.

When there is new call, a Push Notification is sent to the client, which is presented to the user as either platform-specific visual notification or in the user interface of the client application.

From a user experience standpoint, accepting a call works in the same way for both push-enabled clients and non-push-enabled clients.

On iOS, when the client is in the background, the call is presented to the user with an iOS-specific local notification (alert or banner). When the client is in the foreground, the call is presented with an application-specific *Incoming Call* screen with Answer and Decline buttons.

Outgoing VoIP calls are performed with SIP registration on demand, which is transparent to the user. The SIP registration is done only when the user initiates the VoIP call.

In addition to Push Notifications for new calls, the solution also supports Push Notifications for new voice mail.

NOTE: Using Push Notifications for calls with Apple Watch:

When using Push Notifications for calls and Apple Watch, notifications go to the iPhone or the Apple Watch, depending on the device that is being used. When there is an incoming call and the phone is locked, the notification is only shown on the watch. The user can see the notification on the watch but cannot pick up the call from the watch. For more information, see the following Apple support document: https://support.apple.com/en-us/HT204791.

14.2 Push Notifications for Chat Messages

Communicator introduces support for Push Notifications for Chat Messages.

Mobile client applications use Push Notifications to get alerted for incoming messages and chat invitations.

When there is new message, a Push Notification is sent to the client, which is presented to the user as either a platform-specific visual notification or in the user interface of the client application.

The following functionality is supported with Push Notifications:

- Receiving one-on-one messages.
- Receiving My Room and chat invitations.
- Receiving requests for approving guest invitations.

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NOTE: Receiving Push Notifications when the application is not running:

A user can decide to explicitly remove the application from memory by swiping it, at which point the application is no longer running in the background.

Push Notifications for incoming calls and one-on-one messages are received even if the client application is not running, provided that the user has signed in and registered for Push Notifications before the application is removed from memory.

The following types of Push Notifications and functionality require the application to be running:

Push Notifications for invitations into My Room or group chats, Push Notifications for approving Guest Client invitations, as well as ongoing communication in a chat room require the client application to be running either in the background or foreground.

In addition, the application icon badge for unread conversations is updated only if the application is running in the background.

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15 Multi-Device Support

Communicator provides support for users with multiple devices. This includes several features:

- Chat invitations are sent to all devices. Before the session is accepted, messages are sent to all devices, and once answered, the chat messages go to the device that sent a reply message.
- Retrieving one's own presence notifications when another client updates the user's presence. The client updates its own status based on the information it receives from the server.
- Accepting a shared presence invitation in one client is also recognized by another client and both clients start receiving presence updates.
- A new presence subscription made in one client is recognized in another. If the contact blocks the invitation, then there are presence notifications sent from the server to all of the user's clients indicating that the subscription was terminated. This information is shown to the user. If the client receives two presence authorization requests from two or more devices for the same user, it only shows one request to the user.
- Removing a contact from a contact list in one device is recognized in another client and the contact list is updated (that is, the contact is removed) in the other client as well.

15.1 Message History and Message Read Status Synchronization

Communicator introduces support for synchronizing message history and message read status on all devices.

- Message history is retrieved and synchronized on all devices. This includes all received and sent messages, even if the particular user device is not online when a message is received or sent.
- Message history is fetched when the mobile application is brought from the background to the foreground, or during certain time periods when receiving messages in the background.

NOTE: Received messages are immediately available on all logged clients, while sent messages are synchronized when the message history is fetched from the server.

- Messages read status is also synchronized when a message is read on another device and unread message counts are appropriately updated on badges.

NOTE: The application icon badge for unread messages is updated only if the application is running in the background.

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16 Other Features

16.1 Deployment Configurations for IM&P, Audio, and Video

The mobile client can be deployed in several different configurations based on configuration file parameters as follows:

- Primarily as an IM&P client only (no audio or video support)
- Primarily as a soft client with audio only (no IM&P or video)
- Primarily as a soft client with audio and video (no IM&P)
- Primarily as a Unified Communications (UC) client with audio only (that is, IM&P and audio, but no video)
- Primarily as a UC client with audio, video, and IM&P
- Click To Dial (Call Back and Call-Through using the native dialer)

For more information on the functionalities that are available in your version of the client, contact your service provider.

16.2 Version Control

Version control is supported using the App Store mechanism. When a new release is available, the old version is removed from the App Store and users of the previous version are notified about the update possibility.

16.3 Privacy Management

Communicator supports authentication with a user name and password for different services and servers requiring authentication. For convenience, the end user can save a user name and password for different realms.

When the end user adds contacts to the *Contacts* list, these contacts receive a New Subscriber dialog asking whether they allow the end user to see their presence. This information is stored in this contact's presence policies.

At any time, the user can edit the presence policies, (which are stored on the server). The user can see all contacts that are allowed to view the user's presence (white list) and users that are not allowed to view the user's presence (blacklist). This feature requires a compatible presence server.

16.4 Firewalls and NATs

The client supports *rport* (*RFC 3581*) for Network Address Translation (NAT) traversal and for using the client behind a firewall. However, it is assumed that the client is mainly used with a session border controller (SBC), which also provides support for NAT traversal for several key features, such as calling (which is currently unlikely to work without an SBC).

16.5 Failover and Failback

The client supports failover and failback mechanisms for all used protocols: Xsi, XMPP, and SIP. This feature is used to:

- Detect multiple connection endpoints (per protocol).
- Order connection points by priority.
- Connect to the highest priority connection point.

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- Reconnect to the next connection point by priority one (if there is a problem with the primary connection point).
- Provide a failback mechanism to switch back to the primary (which is the highest priority connection point).

16.6 Secure VoIP Communication

The client supports secure VoIP communication using encrypted call negotiation and media streams. Mandatory, preferred, and optional secure modes are supported.

16.7 VoIP Quality of Service

The client has the ability to mark audio and video streams with Differentiated Services Code Point (DSCP) or Type of Service (ToS) flags using the Quality of Service (QoS) capabilities of the network equipment.

16.8 Emergency Call Address Change Service

Depending on service provider settings, a special dialog can be shown at login asking if the physical address should be updated. If not, login proceeds normally. If the user replies “yes”, a web browser opens with the possibility to update the physical address for emergency calls. Once the address update is complete, the user can return to the client and continue with the login.

Depending on service provider settings, a separate Emergency Call Address Change Service (ECACS) menu item may also be visible in the application. This menu item allows the ECACS service to be invoked at any time after login.

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Acronyms and Abbreviations

APN	Access Point Name
ACD	Automatic Call Distribution
CLID	Calling Line Identity
CJK	Chinese, Japanese, and Korean
CS	Circuit Switched
DSCP	Differentiated Services Code Point
ECACS	Emergency Call Address Change Service
FMC	Fixed-Mobile Covergence
GAL	Global Address List
HTTPS	Hypertext Transfer Protocol Secure Sockets
IM	Instant Messaging
IdP	External Identity Provider
IM&P	Instant Messaging and Presence
IMRN	IP Multimedia Routing Number
IP	Internet Protocol
JID	Jabber Identifier
LTE	Long Term Evolution
NAT	Network Address Translation
PBX	Private Branch Exchange
PIN	Personal Identification Number
QoS	Quality of Service
RCS	Rich Communication Suite
RTCP	Real-Time Control Protocol
SAML	Security Assertion Markup Language
SBC	Session Border Controller
SIP	Session Initiation Protocol
TN	Telephone Number
ToS	Type of Service
UC	Unified Communications
UI	User Interface
URI	Uniform Resource Identifier

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URL	Uniform Resource Locator
UX	User Experience
VM	Voice Mail
VoIP	Voice Over IP
VPN	Virtual Private Network
WebRTC	Web Real-Time Communication
XMPP	Extensible Messaging and Presence Protocol
XR	Extended Report
Xsi	Xtended Services Interface

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Appendix A: Third-Party Software

This software uses XMPP Framework (https://github.com/robbiehanson/XMPPFramework), license: https://github.com/robbiehanson/XMPPFramework/blob/master/copying.txt

This software uses CocoaAsyncSocket (https://github.com/robbiehanson/CocoaAsyncSocket), public domain

This software uses CocoaLumberjack (https://github.com/robbiehanson/CocoaLumberjack), license: https://github.com/robbiehanson/CocoaLumberjack/blob/master/LICENSE.txt

This software uses XML-to-NSDictionary (https://github.com/bcaccinolo/XML-to-NSDictionary), license: https://github.com/bcaccinolo/XML-to-NSDictionary/blob/master/LICENCE

This software uses ASIHTTPRequest (http://allseeing-i.com/ASIHTTPRequest), license: https://github.com/pokeb/asi-http-request/blob/master/LICENSE

This software uses Minizip (http://www.winimage.com/zLibDll/minizip.html), license: http://zlib.net/zlib_license.html

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