



Clearspan®

Communicator User Guide for Android™

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1st Edition (April 2014)

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1 About Clearspan Communicator for Android

Clearspan Communicator for Android provides the following communication features:

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

2 Getting Started

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

2.1 Installation

Android clients can be downloaded from Google Play.

2.2 Sign In

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

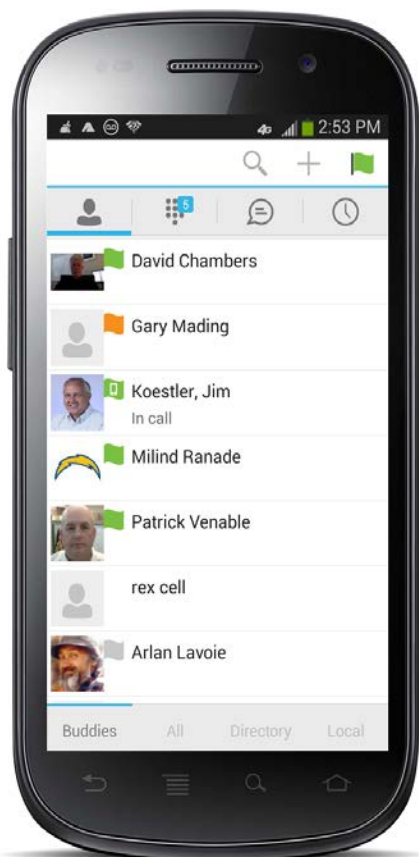
- 1) If displayed, enter the device configuration address (Uniform Resource Identifier [URI]) provided by your system administrator.
- 2) Enter your Clearspan user name and password.
- 3) Select whether you would like Clearspan Communicator to remember your password.
- 4) Select whether you would like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





NOTE: If you choose automatic sign in, you are automatically signed in and taken to the *Contacts* list upon subsequent Clearspan Communicator launches. Otherwise, you are presented with the *Sign In* screen.

After logging in, a pop-up dialog may appear informing you about emergency calls.

3 Main Tabs

When you start Clearspan Communicator for the first time, your *Contacts* list is empty. You 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.



	Contacts – View your contacts from a <i>Buddies</i> list, or a local or company directory.
	Dial Pad – Make calls.
	Chat – View chat history.
	History – View incoming, outgoing, and missed calls.

The main view contains a number of tabs that present information about the contacts and communications options located on the top bar:

- *Contacts*
- *Dial Pad*
- *Chat*
- *History*

NOTE: *Settings* are available from the Android menu key or action bar.

4 Contacts

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

- Presence-enabled contacts
- Non presence-enabled contacts
- Local contacts
- Directory contacts

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

The *Contacts* list has a filter bar at the bottom with the following options: *Buddies*, *Directory*, *Local*, and *All*.


Buddies lists presence-enabled contacts with their name, presence status, as well as a space for free text. A long press on a contact opens the context menu, whereas a short press opens the contact card.

The context menu opens via a long press on a contact and provides the following options:

- Voice call
- Video call
- Join Room
- Contact details
- Add to Favorites
- Subscribe or unsubscribe
- Remove

Directory provides the company directory contacts.

4.1 Add

When you sign in for the first time, there are no contacts in your *Contacts* list. You can add a new presence-enabled contact at any time by tapping the add icon  from the status bar. Another way to add new contacts is to use the directory search option.

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.

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

The newly added contact appears on your *Contacts* list.

You can add a conference number using the same add icon by typing the conference number in the *Add Contact* view. You can also add a conference number from a 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, in recurring conferences.

4.2 Edit

Tap a contact from the *Contacts* list to open a contact card. This is the same for 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 a presence relationship. An unsubscribed contact remains on the *Contacts* list and is always shown as "offline".
- *Remove* removes the contact from your *Contacts* list.
- *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.

4.3 Filters

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








- *Buddies* – These are presence-enabled contacts.
- *Local* – These are contacts from your local phone book.
- *Directory* – These are contacts from a company directory, (which requires a search).
- *All* – This is used to search all local and company directory contacts.

5 Presence

Instant Message (IM) and Presence (P) are optional Clearspan features.

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

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

Icon	What does it mean?
	The green presence icon indicates that the user is online and ready for communication.
	The yellow presence icon indicates that the user is online but has been idle or away from their computer for more than ten minutes.
	The red presence icon indicates that the user is busy and does not want to be disturbed.
	The grey presence icon indicates that the user is offline and the only available contact method is calling or chatting.
	The question mark indicates that a subscription is pending and the contact has not yet approved sharing their presence.
	This icon indicates that the contact is busy on a call. This is an automated presence status.
	This icon indicates that the contact is busy in a meeting. This is an automated presence status. The Busy – In Call status overrides the Busy – In Meeting status so this one is only seen if there is a meeting but no call.

You can set your own presence by tapping on the Presence icon from the status bar in all tabs view. Tapping the Presence icon opens the *My status* screen where you can change your avatar, personal message, and presence status.

Your avatar is the picture that represents you in your friends' *Contacts* list 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* list.

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

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

6 Instant Messaging



6.1 Chat Tab

Instant Message (IM) and Presence (P) are optional Clearspan features.





The *Chat* tab shows a list of recent chats since the user last logged in. 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. A long press on a contact opens the context menu with open chat and contact details (this is the same for the *Buddies* list).

Chats are listed so that the newest one is always on top. Chats are not in alphabetical order and are always listed with the most recent first.

The Status bar in the *Chat* tab displays icons for


My Room , Add Participants , Presence Status , and the Overflow menu .

Tapping the *My Room* icon opens a room view with *My Room* and a list with all the rooms in which you participate.

The Overflow menu displays the following options: Start group chat, Mark all as “Read”, About, Settings, and Sign out.

6.2 Chat

Start a chat using one of the following methods:

- Tap a contact from the *Contacts* list to open a contact card. From the contact card, choose the chat icon  to start a chat.
- From the options provided after a long press on a contact.
- In the *Chat History* list, tap a contact entry to start a chat.
- From search results, tap a contact to open the contact card and then choose the chat icon.



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 at the top of the *Chat History* list.

Once a chat opens, the name of the recipient is on the top bar and there is a presence icon flag before the name. The recipient's messages are presented in the orange background and the user is presented in the white background.

Smiles can be added to messages by typing the corresponding character codes and by selecting from the smiley icons, (the smiley is displayed graphically in the message area).

6.3 Group Chat (Ad-Hoc Rooms)

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.
- On the chat screen, tap the Overflow menu icon  and then 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 participants 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 from the *Chat tab*.

A user can leave a group chat by selecting the *Leave chat* option. The chat is marked as "offline" and the user no longer receives messages from the chat. When tapping on the "offline" chat, the user re-joins the room and starts receiving messages. However, the user does not receive the messages that were sent in the chat while the user was outside of the room.

The *Clear History* menu item behaves the same way as the corresponding option in the 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.

Note that deleting a chat room is not supported.

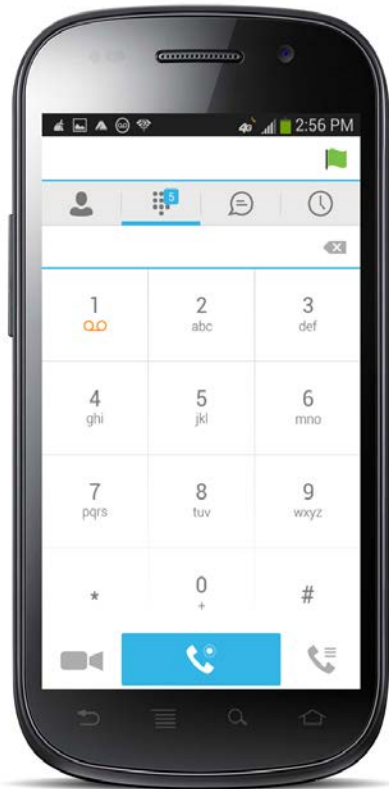
6.4 Chat Recording

The Clearspan Communicator client can provide a chat recording indication to users of all chat sessions depending on the server's configuration. A chat recording state is applied to all users registered in a single domain. This setting is not specific to any one user; therefore, the recording state cannot be modified by the user.

6.5 Chat Security Classification


The Clearspan Communicator client provides the ability to specify a security classification of a chat session. The security classification is configured on the server side and cannot be changed by the user. The security classification level for instant messaging is assigned to the entire domain and all users have same classification level. It is visible in all chat sessions (single and group).

7 Audio and Video Calls



7.1 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.

On the digit 1, there is notification for voice mail ¹ . A long press on digit one connects you with your voicemail box. When there are no voicemail messages in your voicemail box the icon is grey.

The dial pad menu contains two options: Pull call and Retrieve call.

7.2 Make Audio or Video Calls

You can make an audio or video call using one of the following methods:

- Tap a contact from the *Contacts* list to open a contact card. From the contact card, choose the headset icon  to make an audio call or the video icon  to make a video call.
- From the options provided, after long press on a contact.
- From the search results, tap a contact to open a contact card and choose the audio or video icon or by using the long press options.
- 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  to make an audio call or the video icon  to make a video call.

7.3 Answer Call

An incoming call is indicated with a ringtone. There are two options on the incoming call screen: *Accept* 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.

7.4 In Call Actions

From the *In Call* screen, you can perform the following actions:

- End a call
- Mute your microphone
- Place a call on hold
- Adjust the volume
- Open the dial pad
- Add more participants to the call
- Transfer a call
- Talk and then transfer a call
- Make a conference call
- Park a call
- Transfer a call to a circuit-switched call
- View participants (of a conference call)

7.5 Missed Calls and New Messages

When you miss a call, the notification bar on the Android device shows a note. By tapping the missed call, you go to the *History* screen. Notifications, for example, missed calls or new messages, are also shown as badges on the tab icons.

7.6 Message Waiting Indicator and Voice Mail Access

If you have pending voice mail messages, then the notification bar on the Android device displays an icon and the message, "You have XX pending voicemail messages". By tapping the voice mail notification, the application dials the voice mail access number directly and you can listen to the VM messages.

Voice mail is also accessible with a long press of the dial pad "1" key (similar to how it is on a regular mobile dial pad). If voice mail messages are available, then the "1" key changes color. In addition, a voice mail notification is displayed as a badge on the *Call* tab icon.

The number for new voice mails changes depending on how many are open or are new. The voice mail icon in the notification area has an associated badge that shows the number of new messages.

7.7 Business Line Call Back and Call-Through

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

Basic Call Back is only available if the user has the Clearspan Anywhere or Remote Office services assigned. The application checks to see whether one of these two 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.

Clearspan Mobility is an optional feature.

Call-Through functionality is available if the Mobility service is assigned to a user's Clearspan profile. Call-Through provides a more natural dialing experience. When a call is placed in this mode, the client communicates transparently with Clearspan to get a temporary intermediate routing number (IMRN). The client then calls the IMRN and connects the user directly to the destination identifying the call with the user's business line identity.

7.8 Contact Name Lookup for Incoming Calls and Call Logs

Whenever an incoming call does not have a calling name associated with it, Clearspan Communicator Mobile performs a local contact search. If the number matches one of the contacts on the mobile phone's *Contacts* list, the name is shown on the incoming *Call* screen along with the alert.

When a user retrieves their call logs/history and the call log does not have a calling name associated with it, the client does a lookup in the local contacts and populates the name if a match is found.

7.9 N-Way Calling

Clearspan Communicator Mobile supports SIP-based conference calls with up to three participants. While on a two-way call, users can add a third party using the Conference button. It opens the address book on the device to search for and select the new participant.

The supported mode is *Blind Conference* calling. The third party receives a call and they are added to the conference automatically as soon as they pick up. The *Attended Conference* mode, which prompts the third party to join or decline, is not supported in this version.

Once the conference is established, the participants are shown on the *Device* screen.

7.10 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.

7.11 Call Transfer

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

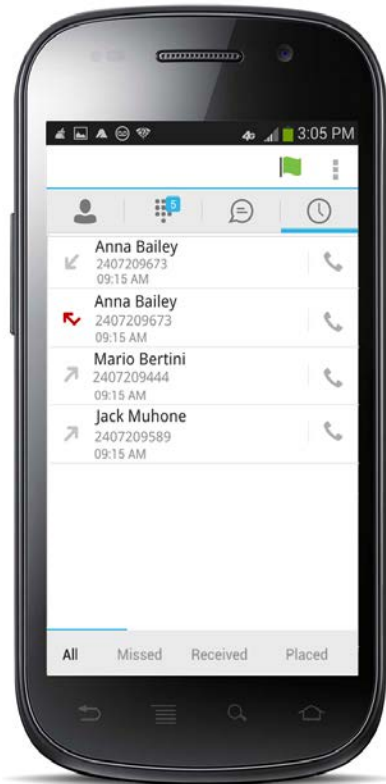
- *Attended Call* – Select **Talk First** from the menu and a second call is placed with the selected contact. If the call is successfully established, you can talk with the third party privately before completing the transfer by pressing the **Transfer** call button again.
- *Unattended Call* – Select **Transfer** from the menu, the second party is transferred to the selected contact, and the current user is dropped from the call.

7.12 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 Clearspan Communicator. If the user has an active call on the desk phone, this call can be transferred seamlessly to the mobile phone via 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.

8 Call History

Call history can be accessed from the *History* tab. Clearspan Communicator saves a call history for placed, received, and missed calls. 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.



9 Settings

The *Settings* view contains the following items, which can be configured by the end user:

- Remember password
- Sign in automatically (note, that this is disabled until *Remember password* is checked)
- Call settings
- Clearspan Mobility settings
- Credentials
- Help

The hard key menu contains the *Settings*, *About*, and *Sign out* options. The *Settings* option opens a new view with different settings that the user can toggle. The *About* screen shows information about the client, for example, it shows the current client version number. Sign out exits and closes the client.

9.1 Help Pages

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

9.2 Automatic Sign In

The user can choose to sign in automatically with Clearspan Communicator Mobile with a default account when the client is started. Together with the functionality to start Clearspan Communicator automatically at system startup, this makes it easier for users to remember to sign in and be available for communication.

9.3 Call Settings

The client supports the following Aastra Clearspan service management features, allowing Clearspan supplementary services to be turned on or off using the native client *Preferences* window:

- Call Forwarding
- Do Not Disturb
- Remote Office
- Clearspan Anywhere
- Hide Caller ID (Calling Line Identification Presentation [CLIP]/Calling Line Identification Restriction [CLIR])
- Simultaneous Ring Personal
- Own Phone Number

9.3.1 Clearspan Anywhere

Clearspan Anywhere allows service providers to offer fixed-mobile convergence (FMC) services today without additional equipment.

Clearspan 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 *Diversion inhibitor* to prevent a call ending up as a voice mail, which can be problematic, for example, in conference call situations.

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).

Clearspan Anywhere is a premium feature.

9.3.2 Clearspan 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.

Clearspan Remote Office is a premium feature.

9.3.3 Call Forwarding

By tapping on a different *Call Forward* option, you can enter a number to forward your calls as follows: Call Forward Always, Busy, or When Unreachable.

9.3.4 Do Not Disturb

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

9.3.5 Hide Number

You can hide or display your number when calling or communicating with other parties or contacts. To hide your number, set to "Enable". To show your number, set to "Disable".


9.3.6 Own Number

Own Number is used in conjunction with the Clearspan Mobility service, and more specifically, with the Call-Through calling mode. The user should provide their mobile device telephone number in this field. This number should match the number configured in Clearspan Mobility for the Call-Through functionality to work.

Clearspan Mobility is an optional feature.

10 My Room

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

My Room is accessible using the house icon  in the action bar of the *Chat* tab.

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 clicking your name on their *Contacts* list and by selecting *Join Room* from the contact card.

My Room and Desktop Sharing are optional Clearspan features.

11 Search Enterprise Directory

The client supports a directory search of the Clearspan enterprise directory. The search is performed in a separate input field in the *Contacts* tab. Tapping the search icon opens the search view and after a search, the enterprise directory search results are displayed with the names and numbers.

The default starting screen for a search shows the screen when the user has pressed the search icon. Typing in characters starts the filtering process through the contacts. The search is performed in both the XMPP contacts lists, as well as the directory list. Pressing the back key minimizes the keyboard, hides the search bar, and empties the search result.

There is no hard key menu in the directory search results listing view. A long press on a name opens the context menu and hides the keyboard but keeps the search bar with the characters. A short press opens the contact card.

The context menu contains the following options for the directory list:

- VoIP call
- Video call
- Contact card

12 Clearspan Call History

The client supports the basic Clearspan Call History. The bottom of the screen has filters for All calls, Received calls, Placed calls, and Missed calls.

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

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, and a red arrow means missed). It also shows the name, number, *Unavailable* status for the caller, and below the name, it shows the number, if available. To the right, the user can see the date of the call and the time the call was initiated.

Tapping an item on the list opens the contact card where a call can be made to that number.

13 Multi-Device

Clearspan 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 has 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, there are presence notifications from the server to all of the user's clients indicating that the subscription was terminated, and 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 *Contacts* list in one device is recognized in another client, and the *Contacts* list is updated (that is, the contact is removed) in the other client as well.

14 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 Help button on the *Sign In* screen – This opens the *Settings* 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 connectivity.
- From the *General Settings* screen – Help and troubleshooting entries are available at the bottom of the Settings menu. These are accessible while the user is logged in.

15 Sign Out

You sign out at the bottom of the *Settings* tab.

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 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

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

16.2 Version Control

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

16.3 Privacy Management

Clearspan 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 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 (that is, currently unlikely to work without an SBC).

16.5 Failover and Failback

The client supports failover and failback mechanisms for all of the used protocols: Xsi, XMPP, and SIP. This feature adds:

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

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 Call Quality Reports

The client can generate call quality (Real-Time Control Protocol [RTCP] Extended Reports [XR]) reports, which can be sent to external systems, providing real-time quality analysis and monitoring.

17 Abbreviations

APN	Access Point Name
ACD	Automatic Call Distribution
CC	Country Codes
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CS	Circuit Switched
DSCP	Differentiated Services Code Point
FMC	Fixed-Mobile Convergence
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure Sockets
IM&P	Instant Messaging and Presence
IP	Internet Protocol
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
SBC	Session Border Controller
SIM	Subscriber Identity Module
SIP	Session Initiation Protocol
TN	Telephone Number
ToS	Type of Service
UC	Unified Communications
UI	User Interface
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VM	Voice Mail
VoIP	Voice Over IP
VPN	Virtual Private Network
XMPP	Extensible Messaging and Presence Protocol

XR	Extended Reports
Xsi	Xtended Services Interface

