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# hangups Documentation

*Release 0.4.12*

**Tom Dryer**

**Sep 29, 2020**



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hangups is the first third-party instant messaging client for [Google Hangouts](#). It includes both a Python library and a reference client with a text-based user interface.

Unlike its predecessor Google Talk, Hangouts uses a [proprietary, non-interoperable protocol](#). hangups is implemented by reverse-engineering this protocol, which allows it to support features like group messaging that aren't available in clients that connect via XMPP.

hangups is still in an early stage of development. The reference client is usable for basic chatting, but the API is undocumented and subject to change. Bug reports and pull requests are welcome!



# CHAPTER 1

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## Quick Links

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- [hangups on GitHub](#)





## 2.1 Installation

hangups requires [Python 3.5.3+](#) and is known to work on Linux, Mac OS X, and Windows (with [Cygwin](#)).

### 2.1.1 Python Package Index (PyPI)

hangups is listed in [PyPI](#), and may be installed using [pip](#):

```
pip3 install hangups
```

### 2.1.2 Docker

hangups is available as an automated build on [Docker Hub](#) as [tdryer/hangups](#).

Create a data-only container for hangups to allow upgrading without losing your login session:

```
docker run --name hangups-session --entrypoint true tdryer/hangups
```

Whenever you want to start hangups, run a new container:

```
docker run -it --rm --name hangups --volumes-from hangups-session tdryer/hangups
```

To upgrade hangups, pull the latest version of the image:

```
docker pull tdryer/hangups
```

### 2.1.3 Arch Linux

An [unofficial hangups package](#) is available for Arch Linux in the Arch User Repository.

## 2.1.4 Install from Source

The hangups code is available from GitHub. Either download and extract a [hangups release archive](#), or clone the [hangups repository](#):

```
git clone https://github.com/tdryer/hangups.git
```

Switch to the hangups directory and install the package:

```
cd hangups
python3 setup.py install
```

## 2.2 User Guide

This page is intended for end-users who want to use the textual user interface included with hangups.

### 2.2.1 Running

Once installed, run this command to start hangups:

```
hangups
```

For help with command line arguments, run:

```
hangups -h
```

### 2.2.2 Logging in

The first time you start hangups, you need to log into your Google account.

**Caution:** Never give your Google account credentials to any application or device that you don't trust. Logging into Google grants hangups unrestricted access to your account. hangups works this way because Google does not provide any other method to access the Hangouts API.

You will be prompted to enter your Google email address, password, and verification code (if applicable).

If this login method fails, try the manual login method instead:

```
hangups --manual-login
```

After a successful login, hangups will save a refresh token allowing it to login automatically. By default, the token is saved to a file in an OS-specific cache directory. The default token file path can be viewed using `hangups -h`. To specify a different path for the token file, use the `--token-path` option:

```
hangups --token-path /path/to/refresh_token.txt
```

hangups may be deauthorized from your Google account using the [Google recently used devices page](#). hangups will be listed as “hangups” (or “iOS” in older versions).

### 2.2.3 Usage

After connecting, hangups will display the conversations tab, which lists the names of all the available conversations. Use the up and down arrow keys to select a conversation, and press `enter` to open it in a new tab.

hangups uses a tabbed interface. The first tab is always the conversations tab. Once multiple tabs are open, use `ctrl+u` and `ctrl+d` and move up and down the list of tabs. Use `ctrl+w` to close a tab.

In a conversation tab, type a message and press `enter` to send it, or use the up and arrows to scroll the list of previous messages. hangups supports readline commands for editing text. See the [readlike library documentation](#) for a full list. Note that some of hangouts' bindings conflict with these key combinations, see the Configuration section on how to adjust key bindings.

When new messages arrive, hangups will open a conversation tab in the background, and display the number of unread messages in the tab title. On Linux (with an appropriate desktop notification service running) and Mac OS X, hangups will also display a desktop notification. To mark messages as read, press any key (such as `enter`) while in a conversation tab.

When the network connection is interrupted, hangups will show a “Disconnected” message in each conversation. When the connection is restored a “Connected” message is shown, and hangups will attempt to sync any messages that were missed during the disconnection. If hangups is disconnected for too long, it will eventually exit.

To exit hangups, press `ctrl+e`.

### 2.2.4 Configuration

hangups may be configured through both command line arguments and a configuration file. See the output of *hangups -h* for details on using both of these methods.

Keybindings are specified using [urwid's format](#), for example: *ctrl e* or *shift ctrl e*. Some key combinations may be unavailable due to terminal limitations or conflicts.

Colours are specified using [urwid's colors](#), for example: *dark red* or *Xresources color1*. Standard Foreground and Background Colors can be found here for 16 bit palette.

Constants for 88-Color and 256-Color palettes for [urwid's hcolors](#).

### 2.2.5 Troubleshooting

hangups can log information that may be useful for troubleshooting a problem. Run *hangups -h* to view the default log file path.

To specify a custom log file path, run:

```
hangups --log /path/to/mylog
```

To log detailed debugging messages, run:

```
hangups -d
```

## 2.3 Developer Guide

This section is intended for developers who want to use the hangups library to write their own applications.

See the [examples directory](#) for examples of using hangups as a library.

### 2.3.1 Low-Level APIs

This page documents the low-level APIs for using hangups.

#### Authentication

`hangups.get_auth_stdin(refresh_token_filename, manual_login=False)`  
Simple wrapper for `get_auth()` that prompts the user using stdin.

##### Parameters

- **refresh\_token\_filename** (*str*) – Path to file where refresh token will be cached.
- **manual\_login** (*bool*) – If true, prompt user to log in through a browser and enter authorization code manually. Defaults to false.

**Raises** `GoogleAuthError` – If authentication with Google fails.

`hangups.get_auth(credentials_prompt, refresh_token_cache, manual_login=False)`  
Authenticate with Google.

##### Parameters

- **refresh\_token\_cache** (`RefreshTokenCache`) – Cache to use so subsequent logins may not require credentials.
- **credentials\_prompt** (`CredentialsPrompt`) – Prompt to use if credentials are required to log in.
- **manual\_login** (*bool*) – If true, prompt user to log in through a browser and enter authorization code manually. Defaults to false.

**Returns** Google session cookies.

**Return type** `dict`

**Raises** `GoogleAuthError` – If authentication with Google fails.

**class** `hangups.CredentialsPrompt`

Callbacks for prompting user for their Google account credentials.

This implementation prompts the user in a terminal using standard in/out.

**static** `get_email()`

Prompt for email.

**Returns** Google account email address.

**Return type** `str`

**static** `get_password()`

Prompt for password.

**Returns** Google account password.

**Return type** `str`

**static** `get_verification_code()`

Prompt for verification code.

**Returns** Google account verification code.

**Return type** `str`

**static** `get_authorization_code()`

Prompt for authorization code.

**Returns** Google account authorization code.

**Return type** `str`

**class** `hangups.RefreshTokenCache(filename)`

File-based cache for refresh token.

**Parameters** `filename` (`str`) – Path to file where refresh token will be cached.

**get** ()

Get cached refresh token.

**Returns** Cached refresh token, or `None` on failure.

**set** (`refresh_token`)

Cache a refresh token, ignoring any failure.

**Parameters** `refresh_token` (`str`) – Refresh token to cache.

## Client

**class** `hangups.Client(cookies, max_retries=5, retry_backoff_base=2)`

Instant messaging client for Hangouts.

Maintains a connections to the servers, emits events, and accepts commands.

### Parameters

- **cookies** (`dict`) – Google session cookies. Get these using `get_auth()`.
- **max\_retries** (`int`) – (optional) Maximum number of connection attempts hangups will make before giving up. Defaults to 5.
- **retry\_backoff\_base** (`int`) – (optional) The base term for the exponential backoff. The following equation is used when calculating the number of seconds to wait prior to each retry:  $\text{retry\_backoff\_base}^{(\# \text{ of retries attempted thus far})}$  Defaults to 2.

**on\_connect** = `None`

*Event* fired when the client connects for the first time.

**on\_reconnect** = `None`

*Event* fired when the client reconnects after being disconnected.

**on\_disconnect** = `None`

*Event* fired when the client is disconnected.

**on\_state\_update** = `None`

*Event* fired when an update arrives from the server.

**Parameters** `state_update` – A `StateUpdate` message.

**coroutine** `connect()`

Establish a connection to the chat server.

Returns when an error has occurred, or `disconnect()` has been called.

**coroutine** `disconnect()`

Gracefully disconnect from the server.

When disconnection is complete, `connect()` will return.

**get\_request\_header()**

Return `request_header` for use when constructing requests.

**Returns** Populated request header.

**static get\_client\_generated\_id()**

Return `client_generated_id` for use when constructing requests.

**Returns** Client generated ID.

**coroutine set\_active()**

Set this client as active.

While a client is active, no other clients will raise notifications. Call this method whenever there is an indication the user is interacting with this client. This method may be called very frequently, and it will only make a request when necessary.

**coroutine upload\_image** (*image\_file*, *filename=None*, \*, *return\_uploaded\_image=False*)

Upload an image that can be later attached to a chat message.

**Parameters**

- **image\_file** – A file-like object containing an image.
- **filename** (*str*) – (optional) Custom name for the uploaded file.
- **return\_uploaded\_image** (*bool*) – (optional) If True, return *UploadedImage* instead of image ID. Defaults to False.

**Raises** *hangups.NetworkError* – If the upload request failed.

**Returns** *UploadedImage* instance, or ID of the uploaded image.

**coroutine add\_user** (*add\_user\_request*)

Invite users to join an existing group conversation.

**coroutine create\_conversation** (*create\_conversation\_request*)

Create a new conversation.

**coroutine delete\_conversation** (*delete\_conversation\_request*)

Leave a one-to-one conversation.

One-to-one conversations are “sticky”; they can’t actually be deleted. This API clears the event history of the specified conversation up to `delete_upper_bound_timestamp`, hiding it if no events remain.

**coroutine easter\_egg** (*easter\_egg\_request*)

Send an easter egg event to a conversation.

**coroutine get\_conversation** (*get\_conversation\_request*)

Return conversation info and recent events.

**coroutine get\_entity\_by\_id** (*get\_entity\_by\_id\_request*)

Return one or more user entities.

Searching by phone number only finds entities when their phone number is in your contacts (and not always even then), and can’t be used to find Google Voice contacts.

**coroutine get\_group\_conversation\_url** (*get\_group\_conversation\_url\_request*)

Get URL to allow others to join a group conversation.

**coroutine get\_self\_info** (*get\_self\_info\_request*)

Return info about the current user.

**coroutine get\_suggested\_entities** (*get\_suggested\_entities\_request*)

Return suggested contacts.

**coroutine query\_presence** (*query\_presence\_request*)

Return presence status for a list of users.

**coroutine remove\_user** (*remove\_user\_request*)

Remove a participant from a group conversation.

**coroutine rename\_conversation** (*rename\_conversation\_request*)

Rename a conversation.

Both group and one-to-one conversations may be renamed, but the official Hangouts clients have mixed support for one-to-one conversations with custom names.

**coroutine search\_entities** (*search\_entities\_request*)

Return user entities based on a query.

**coroutine send\_chat\_message** (*send\_chat\_message\_request*)

Send a chat message to a conversation.

**coroutine modify\_otr\_status** (*modify\_otr\_status\_request*)

Enable or disable message history in a conversation.

**coroutine send\_offnetwork\_invitation** (*send\_offnetwork\_invitation\_request*)

Send an email to invite a non-Google contact to Hangouts.

**coroutine set\_active\_client** (*set\_active\_client\_request*)

Set the active client.

**coroutine set\_conversation\_notification\_level** (*set\_conversation\_notification\_level\_request*)

Set the notification level of a conversation.

**coroutine set\_focus** (*set\_focus\_request*)

Set focus to a conversation.

**coroutine set\_group\_link\_sharing\_enabled** (*set\_group\_link\_sharing\_enabled\_request*)

Set whether group link sharing is enabled for a conversation.

**coroutine set\_presence** (*set\_presence\_request*)

Set the presence status.

**coroutine set\_typing** (*set\_typing\_request*)

Set the typing status of a conversation.

**coroutine sync\_all\_new\_events** (*sync\_all\_new\_events\_request*)

List all events occurring at or after a timestamp.

**coroutine sync\_recent\_conversations** (*sync\_recent\_conversations\_request*)

Return info on recent conversations and their events.

**coroutine update\_watermark** (*update\_watermark\_request*)

Update the watermark (read timestamp) of a conversation.

**class** hangups.client.UploadedImage (*image\_id*, *url*)

Details about an uploaded image.

#### Parameters

- **image\_id** (*str*) – Image ID of uploaded image.
- **url** (*str*) – URL of uploaded image.

## Exceptions

**exception** `hangups.GoogleAuthError`

A Google authentication request failed.

**exception** `hangups.HangupsError`

An ambiguous error occurred.

**exception** `hangups.NetworkError`

A network error occurred.

## Event

**class** `hangups.event.Event` (*name*)

An event that can notify subscribers with arguments when fired.

**Parameters** `name` (*str*) – Name of the new event.

**add\_observer** (*callback*)

Add an observer to this event.

**Parameters** `callback` – A function or coroutine callback to call when the event is fired.

**Raises** `ValueError` – If the callback has already been added.

**remove\_observer** (*callback*)

Remove an observer from this event.

**Parameters** `callback` – A function or coroutine callback to remove from this event.

**Raises** `ValueError` – If the callback is not an observer of this event.

**coroutine fire** (*\*args, \*\*kwargs*)

Fire this event, calling all observers with the same arguments.

## 2.3.2 High-Level APIs

This page documents high-level APIs that expose some of hangups' low-level functionality in a simpler way.

### Conversation List

**coroutine** `hangups.build_user_conversation_list` (*client*)

Build *UserList* and *ConversationList*.

This method requests data necessary to build the list of conversations and users. Users that are not in the contact list but are participating in a conversation will also be retrieved.

**Parameters** `client` (*Client*) – Connected client.

**Returns** Tuple of built objects.

**Return type** (*UserList, ConversationList*)

**class** `hangups.ConversationList` (*client, conv\_states, user\_list, sync\_timestamp*)

Maintains a list of the user's conversations.

Using `build_user_conversation_list()` to initialize this class is recommended.

**Parameters**

- `client` – The connected *Client*.



- **conv\_states** – List of `ConversationState` messages used to initialize the list of conversations.
- **user\_list** – `UserList` object.
- **sync\_timestamp** (`datetime.datetime`) – The time when `conv_states` was synced.

**on\_event = None**

*Event* fired when an event occurs in any conversation.

Parameters **conv\_event** – `ConversationEvent` that occurred.

**on\_typing = None**

*Event* fired when a users starts or stops typing in any conversation.

Parameters **typing\_message** – `TypingStatusMessage` that occurred.

**on\_watermark\_notification = None**

*Event* fired when a watermark (read timestamp) is updated for any conversation.

Parameters **watermark\_notification** – `WatermarkNotification` that occurred.

**get\_all** (*include\_archived=False*)

Get all the conversations.

Parameters **include\_archived** (*bool*) – (optional) Whether to include archived conversations. Defaults to `False`.

Returns List of all `Conversation` objects.

**get** (*conv\_id*)

Get a conversation by its ID.

Parameters **conv\_id** (*str*) – ID of conversation to return.

Raises `KeyError` – If the conversation ID is not found.

Returns `Conversation` with matching ID.

**coroutine leave\_conversation** (*conv\_id*)

Leave a conversation.

Parameters **conv\_id** (*str*) – ID of conversation to leave.

## Conversation

```
class hangups.conversation.Conversation(client, user_list, conversation, events=[],
                                       event_cont_token=None)
```

A single chat conversation.

Use `ConversationList` methods to get instances of this class.

**on\_event = None**

*Event* fired when an event occurs in this conversation.

Parameters **conv\_event** – `ConversationEvent` that occurred.

**on\_typing = None**

*Event* fired when a users starts or stops typing in this conversation.

Parameters **typing\_message** – `TypingStatusMessage` that occurred.

**on\_watermark\_notification = None**

*Event* fired when a watermark (read timestamp) is updated for this conversation.

**Parameters** `watermark_notification` – *WatermarkNotification* that occurred.

**id\_**

The conversation's ID (*str*).

**users**

List of conversation participants (*User*).

**name**

The conversation's custom name (*str*)

May be `None` if conversation has no custom name.

**last\_modified**

When conversation was last modified (*datetime.datetime*).

**latest\_read\_timestamp**

Timestamp of latest read event (*datetime.datetime*).

**events**

Loaded events sorted oldest to newest.

(list of *ConversationEvent*).

**watermarks**

Participant watermarks.

(dict of *UserID*, *datetime.datetime*).

**unread\_events**

Loaded events which are unread sorted oldest to newest.

Some Hangouts clients don't update the read timestamp for certain event types, such as membership changes, so this may return more unread events than these clients will show. There's also a delay between sending a message and the user's own message being considered read.

(list of *ConversationEvent*).

**is\_archived**

True if this conversation has been archived.

**is\_quiet**

True if notification level for this conversation is quiet.

**is\_off\_the\_record**

True if conversation is off the record (history is disabled).

**update\_conversation** (*conversation*)

Update the internal state of the conversation.

This method is used by *ConversationList* to maintain this instance.

**Parameters** `conversation` – Conversation message.

**add\_event** (*event\_*)

Add an event to the conversation.

This method is used by *ConversationList* to maintain this instance.

**Parameters** `event` – Event message.

**Returns** *ConversationEvent* representing the event.

**get\_user** (*user\_id*)

Get user by its ID.

**Parameters** `user_id` (`UserID`) – ID of user to return.

**Raises** `KeyError` – If the user ID is not found.

**Returns** `User` with matching ID.

**coroutine** `send_message` (`segments`, `image_file=None`, `image_id=None`, `image_user_id=None`)

Send a message to this conversation.

A per-conversation lock is acquired to ensure that messages are sent in the correct order when this method is called multiple times asynchronously.

**Parameters**

- **segments** – List of `ChatMessageSegment` objects to include in the message.
- **image\_file** – (optional) File-like object containing an image to be attached to the message.
- **image\_id** – (optional) ID of an Picasa photo to be attached to the message. If you specify both `image_file` and `image_id` together, `image_file` takes precedence and `image_id` will be ignored.
- **image\_user\_id** – (optional) Picasa user ID, required only if `image_id` refers to an image from a different Picasa user, such as Google's sticker user.

**Raises** `NetworkError` – If the message cannot be sent.

**coroutine** `leave` ()

Leave this conversation.

**Raises** `NetworkError` – If conversation cannot be left.

**coroutine** `rename` (`name`)

Rename this conversation.

Hangouts only officially supports renaming group conversations, so custom names for one-to-one conversations may or may not appear in all first party clients.

**Parameters** `name` (`str`) – New name.

**Raises** `NetworkError` – If conversation cannot be renamed.

**coroutine** `set_notification_level` (`level`)

Set the notification level of this conversation.

**Parameters** `level` – `NOTIFICATION_LEVEL_QUIET` to disable notifications, or `NOTIFICATION_LEVEL_RING` to enable them.

**Raises** `NetworkError` – If the request fails.

**coroutine** `set_typing` (`typing=1`)

Set your typing status in this conversation.

**Parameters** `typing` – (optional) `TYPING_TYPE_STARTED`, `TYPING_TYPE_PAUSED`, or `TYPING_TYPE_STOPPED` to start, pause, or stop typing, respectively. Defaults to `TYPING_TYPE_STARTED`.

**Raises** `NetworkError` – If typing status cannot be set.

**coroutine** `update_read_timestamp` (`read_timestamp=None`)

Update the timestamp of the latest event which has been read.

This method will avoid making an API request if it will have no effect.

**Parameters** `read_timestamp` (*datetime.datetime*) – (optional) Timestamp to set.  
Defaults to the timestamp of the newest event.

**Raises** *NetworkError* – If the timestamp cannot be updated.

**coroutine** `get_events` (*event\_id=None, max\_events=50*)

Get events from this conversation.

Makes a request to load historical events if necessary.

**Parameters**

- **event\_id** (*str*) – (optional) If provided, return events preceding this event, otherwise return the newest events.
- **max\_events** (*int*) – Maximum number of events to return. Defaults to 50.

**Returns** List of *ConversationEvent* instances, ordered oldest-first.

**Raises**

- *KeyError* – If `event_id` does not correspond to a known event.
- *NetworkError* – If the events could not be requested.

**next\_event** (*event\_id, prev=False*)

Get the event following another event in this conversation.

**Parameters**

- **event\_id** (*str*) – ID of the event.
- **prev** (*bool*) – If True, return the previous event rather than the next event. Defaults to False.

**Raises** *KeyError* – If no such *ConversationEvent* is known.

**Returns** *ConversationEvent* or None if there is no following event.

**get\_event** (*event\_id*)

Get an event in this conversation by its ID.

**Parameters** **event\_id** (*str*) – ID of the event.

**Raises** *KeyError* – If no such *ConversationEvent* is known.

**Returns** *ConversationEvent* with the given ID.

## Conversation Event

**class** `hangups.ConversationEvent` (*event*)

An event which becomes part of the permanent record of a conversation.

This is a wrapper for the *Event* message, which may contain one of many subtypes, represented here as other subclasses.

**Parameters** **event** – Event message.

**timestamp**

When the event occurred (*datetime.datetime*).

**user\_id**

Who created the event (*UserID*).

**conversation\_id**

ID of the conversation containing the event (*str*).

**id\_**  
ID of this event (*str*).

**class** hangups.**ChatMessageEvent** (*event*)  
An event that adds a new message to a conversation.  
Corresponds to the ChatMessage message.

**text**  
Text of the message without formatting (*str*).

**segments**  
List of *ChatMessageSegment* in message (*list*).

**attachments**  
List of attachments in the message (*list*).

**class** hangups.**OTREvent** (*event*)  
An event that changes a conversation's OTR (history) mode.  
Corresponds to the OTRModification message.

**new\_otr\_status**  
The conversation's new OTR status.  
  
May be either OFF\_THE\_RECORD\_STATUS\_OFF\_THE\_RECORD or OFF\_THE\_RECORD\_STATUS\_ON\_THE\_RECORD.

**old\_otr\_status**  
The conversation's old OTR status.  
  
May be either OFF\_THE\_RECORD\_STATUS\_OFF\_THE\_RECORD or OFF\_THE\_RECORD\_STATUS\_ON\_THE\_RECORD.

**class** hangups.**RenameEvent** (*event*)  
An event that renames a conversation.  
Corresponds to the ConversationRename message.

**new\_name**  
The conversation's new name (*str*).  
  
May be an empty string if the conversation's name was cleared.

**old\_name**  
The conversation's old name (*str*).  
  
May be an empty string if the conversation had no previous name.

**class** hangups.**MembershipChangeEvent** (*event*)  
An event that adds or removes a conversation participant.  
Corresponds to the MembershipChange message.

**type\_**  
The type of membership change.  
  
May be either MEMBERSHIP\_CHANGE\_TYPE\_JOIN or MEMBERSHIP\_CHANGE\_TYPE\_LEAVE.

**participant\_ids**  
*UserID* of users involved (*list*).

**class** hangups.**HangoutEvent** (*event*)  
An event that is related to a Hangout voice or video call.  
Corresponds to the HangoutEvent message.

**event\_type**

The Hangout event type.

May be one of `HANGOUT_EVENT_TYPE_START`, `HANGOUT_EVENT_TYPE_END`, `HANGOUT_EVENT_TYPE_JOIN`, `HANGOUT_EVENT_TYPE_LEAVE`, `HANGOUT_EVENT_TYPE_COMING_SOON`, or `HANGOUT_EVENT_TYPE_ONGOING`.

**class** `hangups.GroupLinkSharingModificationEvent` (*event*)

An event that modifies a conversation's group link sharing status.

Corresponds to the `GroupLinkSharingModification` message.

**new\_status**

The new group link sharing status.

May be either `GROUP_LINK_SHARING_STATUS_ON` or `GROUP_LINK_SHARING_STATUS_OFF`.

## Chat Message Segment

**class** `hangups.ChatMessageSegment` (*text*, *segment\_type=None*, *is\_bold=False*, *is\_italic=False*, *is\_strikethrough=False*, *is\_underline=False*, *link\_target=None*)

A segment of a chat message in `ChatMessageEvent`.

**Parameters**

- **text** (*str*) – Text of the segment.
- **segment\_type** – (optional) One of `SEGMENT_TYPE_TEXT`, `SEGMENT_TYPE_LINE_BREAK`, or `SEGMENT_TYPE_LINK`. Defaults to `SEGMENT_TYPE_TEXT`, or `SEGMENT_TYPE_LINK` if `link_target` is specified.
- **is\_bold** (*bool*) – (optional) Whether the text is bold. Defaults to `False`.
- **is\_italic** (*bool*) – (optional) Whether the text is italic. Defaults to `False`.
- **is\_strikethrough** (*bool*) – (optional) Whether the text is struck through. Defaults to `False`.
- **is\_underline** (*bool*) – (optional) Whether the text is underlined. Defaults to `False`.
- **link\_target** (*str*) – (option) URL to link to. Defaults to `None`.

**static** `from_str` (*text*)

Construct `ChatMessageSegment` list parsed from a string.

**Parameters** **text** (*str*) – Text to parse. May contain line breaks, URLs and formatting markup (simplified Markdown and HTML) to be converted into equivalent segments.

**Returns** List of `ChatMessageSegment` objects.

**static** `deserialize` (*segment*)

Construct `ChatMessageSegment` from Segment message.

**Parameters** **segment** – Segment message to parse.

**Returns** `ChatMessageSegment` object.

**serialize** ()

Serialize this segment to a Segment message.

**Returns** Segment message.

## Notifications

**class** `hangups.parsers.TypingStatusMessage` (*conv\_id, user\_id, timestamp, status*)

A notification about a user's typing status in a conversation.

### Parameters

- **conv\_id** (*str*) – ID of the conversation.
- **user\_id** (`hangups.user.UserID`) – ID of the affected user.
- **timestamp** (*datetime.datetime*) – When the notification was generated.
- **status** – The new status; one of `TYPING_TYPE_STARTED`, `TYPING_TYPE_PAUSED`, or `TYPING_TYPE_STOPPED`.

**class** `hangups.parsers.WatermarkNotification` (*conv\_id, user\_id, read\_timestamp*)

A notification about a user's watermark (read timestamp).

### Parameters

- **conv\_id** (*str*) – ID of the conversation.
- **user\_id** (`hangups.user.UserID`) – ID of the affected user.
- **read\_timestamp** (*datetime.datetime*) – The new watermark.

## User List

**class** `hangups.UserList` (*client, self\_entity, entities, conv\_parts*)

Maintains a list of all the users.

Using `build_user_conversation_list()` to initialize this class is recommended.

### Parameters

- **client** – The connected `Client`.
- **self\_entity** – Entity message for the current user.
- **entities** – List of known Entity messages.
- **conv\_parts** – List of `ConversationParticipantData` messages. These are used as a fallback in case any users are missing.

**get\_user** (*user\_id*)

Get a user by its ID.

**Parameters** **user\_id** (`UserID`) – The ID of the user.

**Raises** `KeyError` – If no such user is known.

**Returns** `User` with the given ID.

**get\_all** ()

Get all known users.

**Returns** List of `User` instances.

## User

**class** hangups.user.NameType

Indicates which type of name a user has.

DEFAULT indicates that only a first name is available. NUMERIC indicates that only a numeric name is available.

REAL indicates that a real full name is available.

**DEFAULT** = 0

**NUMERIC** = 1

**REAL** = 2

**class** hangups.user.UserID(*chat\_id, gaia\_id*)

A user ID, consisting of two parts which are always identical.

**class** hangups.user.User(*user\_id, full\_name, first\_name, photo\_url, emails, is\_self*)

A chat user.

Use *UserList* or *ConversationList* methods to get instances of this class.

**name\_type** = None

The user's name type (*NameType*).

**full\_name** = None

The user's full name (*str*).

**first\_name** = None

The user's first name (*str*).

**id\_** = None

The user's ID (*UserID*).

**photo\_url** = None

The user's profile photo URL (*str*).

**emails** = None

The user's email address (*str*).

**is\_self** = None

Whether this user is the current user (*bool*).

**upgrade\_name**(*user\_*)

Upgrade name type of this user.

Google Voice participants often first appear with no name at all, and then get upgraded unpredictably to numbers (“+12125551212”) or names.

**Parameters** *user* (*User*) – User to upgrade with.

**static from\_entity**(*entity, self\_user\_id*)

Construct user from Entity message.

### Parameters

- **entity** – Entity message.
- **self\_user\_id** (*UserID* or *None*) – The ID of the current user. If *None*, assume *entity* is the current user.

**Returns** *User* object.

**static from\_conv\_part\_data**(*conv\_part\_data, self\_user\_id*)

Construct user from ConversationParticipantData message.



**Parameters**

- **conv\_part\_id** – ConversationParticipantData message.
- **self\_user\_id** (UserID or None) – The ID of the current user. If None, assume conv\_part\_id is the current user.

**Returns** *User* object.

## 2.4 Protocol Documentation

The Hangouts protocol is undocumented, as such any documentation here is unofficial and liable to be incomplete and/or incorrect.

### 2.4.1 Protocol Buffers

This file documents the reverse-engineered **Protocol Buffers** used by the Hangouts chat protocol. hangups and other projects may use these Protocol Buffers to serialize and deserialize data for communicating with Google's servers.

Some of the most important Protocol Buffer messages include:

- *Conversation*
- *Entity*
- *Event*
- *StateUpdate*

### DoNotDisturbSetting

The state of do-not-disturb mode. Not to be confused with DndSetting, which is used to change the state of do-not-disturb mode.

Field	Number	Type	Label	Description
do_not_disturb	1	bool	optional	Whether do-not-disturb mode is enabled.
expiration_timestamp	2	uint64	optional	Timestamp when do-not-disturb mode expires.
version	3	uint64	optional	Timestamp when this setting was applied. Not present when this message comes from a notification.

### NotificationSettings

Field	Number	Type	Label	Description
dnd_settings	1	<i>DoNotDisturbSetting</i>	optional	

## ConversationId

Identifies a conversation.

Field	Number	Type	Label	Description
id	1	string	optional	Unique identifier for a conversation.

## ParticipantId

Identifies a user.

Field	Number	Type	Label	Description
gaia_id	1	string	optional	Unique identifier for a user's Google account.
chat_id	2	string	optional	Seems to always be the same as gaia_id.

## DeviceStatus

Indicates whether Hangouts is active (running in the foreground) on different types of devices.

Field	Number	Type	Label	Description
mobile	1	bool	optional	True if a mobile phone is active.
desktop	2	bool	optional	True if a desktop or laptop is active.
tablet	3	bool	optional	True if a tablet is active.

## LastSeen

Field	Number	Type	Label	Description
last_seen_timestamp_usec	1	uint64	optional	
usec_since_last_seen	2	uint64	optional	

## Presence

Field	Number	Type	Label	Description
reachable	1	bool	optional	
available	2	bool	optional	
device_status	6	<i>DeviceStatus</i>	optional	
mood_message	9	<i>MoodMessage</i>	optional	
last_seen	10	<i>LastSeen</i>	optional	

## PresenceResult

Field	Number	Type	Label	Description
user_id	1	<i>ParticipantId</i>	optional	
presence	2	<i>Presence</i>	optional	

### ClientIdentifier

Field	Number	Type	Label	Description
resource	1	string	optional	(client_id in hangups).
header_id	2	string	optional	unknown (header_id in hangups).

### ClientPresenceState

Field	Number	Type	Label	Description
identifier	1	<i>ClientIdentifier</i>	optional	
state	2	<i>ClientPresenceStateType</i>	optional	

### UserEventState

Field	Number	Type	Label	Description
user_id	1	<i>ParticipantId</i>	optional	
client_generated_id	2	string	optional	
notification_level	3	<i>NotificationLevel</i>	optional	

### Formatting

Field	Number	Type	Label	Description
bold	1	bool	optional	
italic	2	bool	optional	
strikethrough	3	bool	optional	
underline	4	bool	optional	

### LinkData

Field	Number	Type	Label	Description
link_target	1	string	optional	

### Segment

A segment of a message. Message are broken into segments that may be of different types and have different formatting.

Field	Number	Type	Label	Description
type	1	<i>Segment-Type</i>	required	Note: This field is required because Hangouts for Chrome misbehaves if it isn't serialized.
text	2	string	optional	The segment text. For line breaks, may either be empty or contain new line character.
formatting	3	<i>Formatting</i>	optional	Formatting for this segment.
link_data	4	<i>LinkData</i>	optional	Link data for this segment, if it is a link.

## PlusPhoto

Google Plus photo that can be embedded in a chat message.

Field	Number	Type	Label	Description
thumbnail	1	<i>PlusPhoto.Thumbnail</i>	optional	Thumbnail.
owner_obfuscated_id	2	string	optional	Owner obfuscated ID.
album_id	3	string	optional	Album ID.
photo_id	4	string	optional	Photo ID.
url	6	string	optional	URL of full-sized image.
original_content_url	10	string	optional	URL of image thumbnail.
media_type	13	<i>PlusPhoto.MediaType</i>	optional	The media type.
stream_id	14	string	repeated	List of stream ID parameters.

## PlusPhoto.Thumbnail

Metadata for displaying an image thumbnail.

Field	Number	Type	Label	Description
url	1	string	optional	URL to navigate to when thumbnail is selected (a Google Plus album page).
image_url	4	string	optional	URL of thumbnail image.
width_px	10	uint64	optional	Image width in pixels.
height_px	11	uint64	optional	Image height in pixels.

## PlusPhoto.MediaType

Media type.

Name	Number	Description
MEDIA_TYPE_UNKNOWN	0	
MEDIA_TYPE_PHOTO	1	
MEDIA_TYPE_ANIMATED_PHOTO	4	

## Place

Place that can be embedded in a chat message via Google Maps.

Field	Number	Type	Label	Description
url	1	string	optional	Google Maps URL pointing to the place coordinates.
name	3	string	optional	Name of the place.
address	24	<a href="#">EmbedItem</a>	optional	Address of the place.
geo	25	<a href="#">EmbedItem</a>	optional	Geographic location of the place.
representative_image	185	<a href="#">EmbedItem</a>	optional	Representative image of the place (map with pin).

## EmbedItem

An item of some type embedded in a chat message.

Field	Number	Type	Label	Description
type	1	<a href="#">ItemType</a>	repeated	List of embedded item types in this message.
id	2	string	optional	For photos this is not given, for maps, it's the URL of the map.
plus_photo	27639957	<a href="#">PlusPhoto</a>	optional	Embedded Google Plus photo.
place	35825640	<a href="#">Place</a>	optional	Embedded Google Map of a place.
postal_address	36003298	<a href="#">EmbedItem.PostalAddress</a>	optional	Embedded postal address.
geo_coordinates	36736749	<a href="#">EmbedItem.GeoCoordinates</a>	optional	Embedded geographical coordinates.
image	40265033	<a href="#">EmbedItem.Image</a>	optional	Embedded image.

### EmbedItem.PostalAddress

Field	Number	Type	Label	Description
street_address	35	string	optional	

### EmbedItem.GeoCoordinates

Field	Number	Type	Label	Description
latitude	36	double	optional	
longitude	37	double	optional	

## EmbedItem.Image

Field	Number	Type	Label	Description
url	1	string	optional	

## Attachment

An attachment for a chat message.

Field	Number	Type	Label	Description
embed_item	1	<i>EmbedItem</i>	optional	

## MessageContent

Chat message content.

Field	Number	Type	Label	Description
segment	1	<i>Segment</i>	repeated	
attachment	2	<i>Attachment</i>	repeated	

## EventAnnotation

Annotation that can be applied to a chat message event. The only known use for this is “me” actions supported by the Chrome client (type 4).

Field	Number	Type	Label	Description
type	1	int32	optional	Annotation type.
value	2	string	optional	Optional annotation string value.

## ChatMessage

A chat message in a conversation.

Field	Number	Type	Label	Description
annotation	2	<i>EventAnnotation</i>	repeated	Optional annotation to attach to message.
message_content	3	<i>MessageContent</i>	optional	The message’s content.

## MembershipChange

Field	Number	Type	Label	Description
type	1	<i>MembershipChangeType</i>	optional	
participant_ids	3	<i>ParticipantId</i>	repeated	

## ConversationRename

Field	Number	Type	Label	Description
new_name	1	string	optional	
old_name	2	string	optional	

## HangoutEvent

Field	Number	Type	Label	Description
event_type	1	<i>HangoutEventType</i>	optional	
participant_id	2	<i>ParticipantId</i>	repeated	

## OTRModification

Field	Number	Type	Label	Description
old_otr_status	1	<i>OffTheRecordStatus</i>	optional	
new_otr_status	2	<i>OffTheRecordStatus</i>	optional	
old_otr_toggle	3	<i>OffTheRecordToggle</i>	optional	
new_otr_toggle	4	<i>OffTheRecordToggle</i>	optional	

## HashModifier

Field	Number	Type	Label	Description
update_id	1	string	optional	
hash_diff	2	uint64	optional	
version	4	uint64	optional	

## Event

Event that becomes part of a conversation's history.

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	ID of the conversation this event belongs to.
sender_id	2	<i>ParticipantId</i>	optional	ID of the user that sent this event.
timestamp	3	uint64	optional	Timestamp when the event occurred.
self_event_state	4	<i>UserEventState</i>	optional	
source_type	6	<i>SourceType</i>	optional	
chat_message	7	<i>ChatMessage</i>	optional	
membership_change	9	<i>MembershipChange</i>	optional	
conversation_rename	10	<i>ConversationRename</i>	optional	
hangout_event	11	<i>HangoutEvent</i>	optional	
event_id	12	string	optional	Unique ID for the event.
expiration_timestamp	13	uint64	optional	
otr_modification	14	<i>OTRModification</i>	optional	
advances_sort_timestamp	15	bool	optional	
otr_status	16	<i>OffTheRecordStatus</i>	optional	
persisted	17	bool	optional	
medium_type	20	<i>DeliveryMedium</i>	optional	
event_type	23	<i>EventType</i>	optional	The event's type.
event_version	24	uint64	optional	Event version timestamp.
hash_modifier	26	<i>HashModifier</i>	optional	
group_link_sharing_modification	31	<i>GroupLinkSharingModification</i>	optional	

## UserReadState

Field	Number	Type	Label	Description
participant_id	1	<i>ParticipantId</i>	optional	
latest_read_timestamp	2	uint64	optional	Timestamp of the user's last read message in the conversation.



## DeliveryMedium

Field	Number	Type	Label	Description
medium_type	1	<i>DeliveryMediumType</i>	optional	
phone_number	2	<i>PhoneNumber</i>	optional	Phone number to use for sending Google Voice messages.

## DeliveryMediumOption

Field	Number	Type	Label	Description
delivery_medium	1	<i>DeliveryMedium</i>	optional	
current_default	2	bool	optional	

## UserConversationState

Field	Number	Type	Label	Description
client_generated_id	2	string	optional	
self_read_state	7	<i>UserReadState</i>	optional	
status	8	<i>ConversationStatus</i>	optional	
notification_level	9	<i>NotificationLevel</i>	optional	
view	10	<i>ConversationView</i>	repeated	
inviter_id	11	<i>ParticipantId</i>	optional	
invite_timestamp	12	uint64	optional	
sort_timestamp	13	uint64	optional	
active_timestamp	14	uint64	optional	
invite_affinity	15	<i>InvitationAffinity</i>	optional	
delivery_medium_option	17	<i>DeliveryMediumOption</i>	repeated	

## ConversationParticipantData

Field	Number	Type	Label	Description
id	1	<i>ParticipantId</i>	optional	
fallback_name	2	string	optional	
invitation_status	3	<i>InvitationStatus</i>	optional	
participant_type	5	<i>ParticipantType</i>	optional	
new_invitation_status	6	<i>InvitationStatus</i>	optional	

## Conversation

A conversation between two or more users.

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
type	2	<i>ConversationType</i>	optional	
name	3	string	optional	
self_conversation_state	4	<i>UserConversationState</i>	optional	
read_state	8	<i>UserReadState</i>	repeated	Read state (watermark position) for every conversation participant.
has_active_hangout	9	bool	optional	True if the conversation has an active Hangout.
otr_status	10	<i>OffTheRecordStatus</i>	optional	The conversation's "off the record" status.
otr_toggle	11	<i>OffTheRecordToggle</i>	optional	Whether the OTR toggle is available to the user for this conversation.
conversation_history_supported	12	bool	optional	
current_participant	13	<i>ParticipantId</i>	repeated	
participant_data	14	<i>ConversationParticipantData</i>	repeated	
network_type	18	<i>NetworkType</i>	repeated	
force_history_state	19	<i>ForceHistory</i>	optional	
group_link_sharing_status	22	<i>GroupLinkSharingStatus</i>	optional	

## EasterEgg

Field	Number	Type	Label	Description
message	1	string	optional	

## BlockStateChange

Field	Number	Type	Label	Description
participant_id	1	<i>ParticipantId</i>	optional	
new_block_state	2	<i>BlockState</i>	optional	

## Photo

Field	Number	Type	Label	Description
photo_id	1	string	optional	Picasa photo ID.
delete_albumless_source_2_photo	2	bool	optional	
user_id	3	string	optional	Optional Picasa user ID needed for photos from other accounts (eg. stickers).
is_custom_user_id	4	bool	optional	Must be true if user_id is specified.

## ExistingMedia

Field	Number	Type	Label	Description
photo	1	<i>Photo</i>	optional	

## EventRequestHeader

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
client_generated_id	2	uint64	optional	
expected_otr	3	<i>OffTheRecordStatus</i>	optional	
delivery_medium	4	<i>DeliveryMedium</i>	optional	
event_type	5	<i>EventType</i>	optional	

## ClientVersion

The client and device version.

Field	Number	Type	Label	Description
client_id	1	<i>ClientId</i>	optional	Identifies the client.
build_type	2	<i>ClientBuildType</i>	optional	The client build type.
major_version	3	string	optional	Client version.
version_timestamp	4	uint64	optional	Client version timestamp.
device_os_version	5	string	optional	OS version string (for native apps).
device_hardware	6	string	optional	Device hardware name (for native apps).

## RequestHeader

Header for requests from the client to the server.

Field	Number	Type	Label	Description
client_version	1	<i>ClientVersion</i>	optional	
client_identifier	2	<i>ClientIdentifier</i>	optional	
language_code	4	string	optional	

## ResponseHeader

Header for responses from the server to the client.

Field	Number	Type	Label	Description
status	1	<i>ResponseStatus</i>	optional	
error_description	2	string	optional	
debug_url	3	string	optional	
request_trace_id	4	string	optional	
current_server_time	5	uint64	optional	

## Entity

A user that can participate in conversations.

Field	Number	Type	Label	Description
id	9	<i>ParticipantId</i>	optional	The user's ID.
presence	8	<i>Presence</i>	optional	Optional user presence status.
properties	10	<i>EntityProperties</i>	optional	Optional user properties.
entity_type	13	<i>ParticipantType</i>	optional	
had_past_hangout_state	16	<i>Entity.PastHangoutState</i>	optional	

## Entity.PastHangoutState

Name	Number	Description
PAST_HANGOUT_STATE_UNKNOWN	0	
PAST_HANGOUT_STATE_HAD_PAST_HANGOUT	1	
PAST_HANGOUT_STATE_NO_PAST_HANGOUT	2	

## EntityProperties

Field	Number	Type	Label	Description
type	1	<i>ProfileType</i>	optional	
display_name	2	string	optional	
first_name	3	string	optional	
photo_url	4	string	optional	Photo URL with protocol scheme omitted (eg. “//lh.googleusercontent.com/...”).
email	5	string	repeated	
phone	6	string	repeated	
in_users_domain	10	bool	optional	
gender	11	<i>Gender</i>	optional	
photo_url_status	12	<i>PhotoUrl-Status</i>	optional	
canonical_email	15	string	optional	

## ConversationState

State of a conversation and recent events.

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
conversation	2	<i>Conversation</i>	optional	
event	3	<i>Event</i>	repeated	
event_continuation_token	5	<i>EventContinuationToken</i>	optional	

## EventContinuationToken

Token that allows retrieving more events from a position in a conversation. Specifying event\_timestamp is sufficient.

Field	Number	Type	Label	Description
event_id	1	string	optional	
storage_continuation_token	2	bytes	optional	
event_timestamp	3	uint64	optional	

## EntityLookupSpec

Specifies an entity to lookup by one of its properties.

Field	Number	Type	Label	Description
gaia_id	1	string	optional	
email	3	string	optional	
phone	4	string	optional	Phone number as string (eg. “+15551234567”).
create_offnetwork_gaia	6	bool	optional	Whether create a gaia_id for off-network contacts (eg. Google Voice contacts).

### ConfigurationBit

Field	Number	Type	Label	Description
configuration_bit_type	1	<i>ConfigurationBitType</i>	optional	
value	2	bool	optional	

### RichPresenceState

Field	Number	Type	Label	Description
get_rich_presence_enabled_state	3	<i>RichPresenceEnabledState</i>	repeated	

### RichPresenceEnabledState

Field	Number	Type	Label	Description
type	1	<i>RichPresenceType</i>	optional	
enabled	2	bool	optional	

### DesktopOffSetting

Field	Number	Type	Label	Description
desktop_off	1	bool	optional	State of “desktop off” setting.

### DesktopOffState

Field	Number	Type	Label	Description
desktop_off	1	bool	optional	Whether Hangouts desktop is signed off or on.
version	2	uint64	optional	

## DndSetting

Enable or disable do-not-disturb mode. Not to be confused with DoNotDisturbSetting, which is used to indicate the state of do-not-disturb mode.

Field	Number	Type	Label	Description
do_not_disturb	1	bool	optional	Whether to enable or disable do-not-disturb mode.
timeout_secs	2	uint64	optional	Do not disturb expiration in seconds.

## PresenceStateSetting

Field	Number	Type	Label	Description
timeout_secs	1	uint64	optional	
type	2	<i>ClientPresenceStateType</i>	optional	

## MoodMessage

Field	Number	Type	Label	Description
mood_content	1	<i>MoodContent</i>	optional	

## MoodContent

Field	Number	Type	Label	Description
segment	1	<i>Segment</i>	repeated	

## MoodSetting

The user's mood message.

Field	Number	Type	Label	Description
mood_message	1	<i>MoodMessage</i>	optional	

## MoodState

Field	Number	Type	Label	Description
mood_setting	4	<i>MoodSetting</i>	optional	

## DeleteAction

Field	Number	Type	Label	Description
delete_action_timestamp	1	uint64	optional	
delete_upper_bound_timestamp	2	uint64	optional	
delete_type	3	<i>DeleteType</i>	optional	

## InviteID

Field	Number	Type	Label	Description
gaia_id	1	string	optional	
fallback_name	4	string	optional	

## Country

Describes a user's country.

Field	Number	Type	Label	Description
region_code	1	string	optional	Abbreviated region code (eg. "CA").
country_code	2	uint64	optional	Country's calling code (eg. "1").

## DesktopSoundSetting

Sound settings in the desktop Hangouts client.

Field	Number	Type	Label	Description
desktop_sound_state	1	<i>Sound-State</i>	optional	Whether to play sound for incoming messages.
desktop_ring_sound_state	2	<i>Sound-State</i>	optional	Whether to ring for incoming calls.

## PhoneData

Field	Number	Type	Label	Description
phone	1	<i>Phone</i>	repeated	
caller_id_settings_mask	3	<i>CallerIdSettingsMask</i>	optional	

## Phone

Field	Number	Type	Label	Description
phone_number	1	<i>PhoneNumber</i>	optional	
google_voice	2	bool	optional	
verification_status	3	<i>PhoneVerificationStatus</i>	optional	
discoverable	4	bool	optional	
discoverability_status	5	<i>PhoneDiscoverabilityStatus</i>	optional	
primary	6	bool	optional	



## I18nData

Field	Number	Type	Label	Description
national_number	1	string	optional	
international_number	2	string	optional	
country_code	3	uint64	optional	
region_code	4	string	optional	
is_valid	5	bool	optional	
validation_result	6	<i>PhoneValidationResult</i>	optional	

## PhoneNumber

Field	Number	Type	Label	Description
e164	1	string	optional	Phone number as string (eg. “+15551234567”).
i18n_data	2	<i>I18nData</i>	optional	

## SuggestedContactGroupHash

Field	Number	Type	Label	Description
max_results	1	uint64	optional	Number of results to return from this group.
hash	2	bytes	optional	An optional 4-byte hash. If this matches the server’s hash, no results will be sent.

## SuggestedContact

Field	Number	Type	Label	Description
entity	1	<i>Entity</i>	optional	The contact’s entity.
invitation_status	2	<i>InvitationStatus</i>	optional	The contact’s invitation status.

## SuggestedContactGroup

Field	Number	Type	Label	Description
hash_matched	1	bool	optional	True if the request’s hash matched and no contacts will be included.
hash	2	bytes	optional	A 4-byte hash which can be used in subsequent requests.
contact	3	<i>SuggestedContact</i>	repeated	List of contacts in this group.

## GroupLinkSharingModification

Field	Number	Type	Label	Description
new_status	1	<i>GroupLinkSharingStatus</i>	optional	

## StateUpdate

Pushed from the server to the client to notify it of state changes. Includes exactly one type of notification, and optionally updates the attributes of a conversation.

Field	Number	Type	Label	Description
state_update_header	1	<i>StateUpdateHeader</i>	optional	
conversation	13	<i>Conversation</i>	optional	If set, includes conversation attributes that have been updated by the notification.
conversation_notification	2	<i>ConversationNotification</i>	optional	
event_notification	3	<i>EventNotification</i>	optional	
focus_notification	4	<i>SetFocusNotification</i>	optional	
typing_notification	5	<i>SetTypingNotification</i>	optional	
notification_level_notification	6	<i>SetConversationNotificationLevelNotification</i>	optional	
reply_to_invite_notification	7	<i>ReplyToInviteNotification</i>	optional	
watermark_notification	8	<i>WatermarkNotification</i>	optional	
view_modification	11	<i>ConversationViewModification</i>	optional	
easter_egg_notification	12	<i>EasterEggNotification</i>	optional	
self_presence_notification	14	<i>SelfPresenceNotification</i>	optional	
delete_notification	15	<i>DeleteActionNotification</i>	optional	
presence_notification	16	<i>PresenceNotification</i>	optional	
block_notification	17	<i>BlockNotification</i>	optional	
notification_setting_notification	19	<i>SetNotificationSettingNotification</i>	optional	
rich_presence_enabled_notification	20	<i>RichPresenceEnabledStateNotification</i>	optional	

## StateUpdateHeader

Header for StateUpdate messages.

Field	Number	Type	Label	Description
active_client_state	1	<i>ActiveClientState</i>	optional	
request_trace_id	3	string	optional	
notification_settings	4	<i>NotificationSettings</i>	optional	
current_server_time	5	uint64	optional	

## BatchUpdate

List of StateUpdate messages to allow pushing multiple notifications from the server to the client simultaneously.

Field	Number	Type	Label	Description
state_update	1	<i>StateUpdate</i>	repeated	

## ConversationNotification

Field	Number	Type	Label	Description
conversation	1	<i>Conversation</i>	optional	

## EventNotification

Field	Number	Type	Label	Description
event	1	<i>Event</i>	optional	

## SetFocusNotification

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
sender_id	2	<i>ParticipantId</i>	optional	
timestamp	3	uint64	optional	
type	4	<i>FocusType</i>	optional	
device	5	<i>FocusDevice</i>	optional	

## SetTypingNotification

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
sender_id	2	<i>ParticipantId</i>	optional	
timestamp	3	uint64	optional	
type	4	<i>TypingType</i>	optional	

### SetConversationNotificationLevelNotification

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
level	2	<i>NotificationLevel</i>	optional	
timestamp	4	uint64	optional	

### ReplyToInviteNotification

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
type	2	<i>ReplyToInviteType</i>	optional	

### WatermarkNotification

Field	Number	Type	Label	Description
sender_id	1	<i>ParticipantId</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
latest_read_timestamp	3	uint64	optional	

### ConversationViewModification

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
old_view	2	<i>ConversationView</i>	optional	
new_view	3	<i>ConversationView</i>	optional	

### EasterEggNotification

Field	Number	Type	Label	Description
sender_id	1	<i>ParticipantId</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
easter_egg	3	<i>EasterEgg</i>	optional	

### SelfPresenceNotification

Notifies the status of other clients and mood.

Field	Number	Type	Label	Description
client_presence_state	1	<i>ClientPresenceState</i>	optional	
do_not_disturb_setting	3	<i>DoNotDisturbSetting</i>	optional	
desktop_off_setting	4	<i>DesktopOffSetting</i>	optional	
desktop_off_state	5	<i>DesktopOffState</i>	optional	
mood_state	6	<i>MoodState</i>	optional	

### DeleteActionNotification

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	
delete_action	2	<i>DeleteAction</i>	optional	

### PresenceNotification

Field	Number	Type	Label	Description
presence	1	<i>PresenceResult</i>	repeated	

### BlockNotification

Field	Number	Type	Label	Description
block_state_change	1	<i>BlockStateChange</i>	repeated	

### SetNotificationSettingNotification

Field	Number	Type	Label	Description
configuration_bit	1	<i>ConfigurationBit</i>	repeated	
desktop_sound_setting	2	<i>DesktopSoundSetting</i>	optional	

### RichPresenceEnabledStateNotification

Field	Number	Type	Label	Description
rich_presence_enabled_state	1	<i>RichPresenceEnabledState</i>	repeated	

### ConversationSpec

Field	Number	Type	Label	Description
conversation_id	1	<i>ConversationId</i>	optional	

### OffnetworkAddress

Field	Number	Type	Label	Description
type	1	<i>OffnetworkAddressType</i>	optional	
email	3	string	optional	

## EntityResult

Field	Number	Type	Label	Description
lookup_spec	1	<i>EntityLookupSpec</i>	optional	
entity	2	<i>Entity</i>	repeated	

## AddUserRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
invitee_id	3	<i>InviteeID</i>	repeated	
event_request_header	5	<i>EventRequestHeader</i>	optional	

## AddUserResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
created_event	5	<i>Event</i>	optional	

## CreateConversationRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
type	2	<i>ConversationType</i>	optional	
client_generated_id	3	uint64	optional	
name	4	string	optional	
invitee_id	5	<i>InviteeID</i>	repeated	

## CreateConversationResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
conversation	2	<i>Conversation</i>	optional	
new_conversation_created	7	bool	optional	

## DeleteConversationRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
delete_upper_bound_timestamp	3	uint64	optional	

## DeleteConversationResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
delete_action	2	<i>DeleteAction</i>	optional	

## EasterEggRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
easter_egg	3	<i>EasterEgg</i>	optional	

## EasterEggResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
timestamp	2	uint64	optional	

## GetConversationRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_spec	2	<i>ConversationSpec</i>	optional	
include_conversation_metadata	3	bool	optional	Whether the ConversationState in the response should include metadata other than the conversation ID (default true).
include_event	4	bool	optional	Whether to include list of events in the response (default true).
max_events_per_conversation	6	uint64	optional	
event_continuation_token	7	<i>EventContinuationToken</i>	optional	

## GetConversationResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
conversation_state	2	<i>ConversationState</i>	optional	

### GetEntityByIdRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
batch_lookup_spec	3	<i>EntityLookupSpec</i>	repeated	

### GetEntityByIdResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
entity	2	<i>Entity</i>	repeated	Resulting entities of PARTICIPANT_TYPE_GAIA only.
entity_result	3	<i>EntityResult</i>	repeated	All resulting entities.

### GetGroupConversationUrlRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	Conversation to retrieve URL for.

### GetGroupConversationUrlResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
group_conversation_url	2	string	optional	URL for others to join conversation.



### GetSuggestedEntitiesRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
max_count	4	uint64	optional	Max number of non-grouped entities to return.
favorites	8	<i>SuggestedContactGroupHash</i>	optional	Optional hash for “favorites” contact group.
contacts_you_hangout_with	9	<i>SuggestedContactGroupHash</i>	optional	Optional hash for “contacts you hangout with” contact group.
other_contacts_on_hangouts	10	<i>SuggestedContactGroupHash</i>	optional	Optional hash for “other contacts on hangouts” contact group.
other_contacts	11	<i>SuggestedContactGroupHash</i>	optional	Optional hash for “other contacts” contact group.
dismissed_contacts	12	<i>SuggestedContactGroupHash</i>	optional	Optional hash for “dismissed contacts” contact group.
pinned_favorites	13	<i>SuggestedContactGroupHash</i>	optional	Optional hash for “pinned favorites” contact group.

### GetSuggestedEntitiesResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
entity	2	<i>Entity</i>	repeated	
favorites	4	<i>SuggestedContactGroup</i>	optional	
contacts_you_hangout_with	5	<i>SuggestedContactGroup</i>	optional	
other_contacts_on_hangouts	6	<i>SuggestedContactGroup</i>	optional	
other_contacts	7	<i>SuggestedContactGroup</i>	optional	
dismissed_contacts	8	<i>SuggestedContactGroup</i>	optional	
pinned_favorites	9	<i>SuggestedContactGroup</i>	optional	

### GetSelfInfoRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	

## GetSelfInfoResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
self_entity	2	<i>Entity</i>	optional	
is_known_minor	3	bool	optional	
dnd_state	5	<i>DoNotDisturbSetting</i>	optional	
desktop_off_setting	6	<i>DesktopOffSetting</i>	optional	
phone_data	7	<i>PhoneData</i>	optional	
configuration_bit	8	<i>ConfigurationBit</i>	repeated	
desktop_off_state	9	<i>DesktopOffState</i>	optional	
google_plus_user	10	bool	optional	
desktop_sound_setting	11	<i>DesktopSoundSetting</i>	optional	
rich_presence_state	12	<i>RichPresenceState</i>	optional	
default_country	19	<i>Country</i>	optional	

## QueryPresenceRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
participant_id	2	<i>ParticipantId</i>	repeated	
field_mask	3	<i>FieldMask</i>	repeated	

## QueryPresenceResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
presence_result	2	<i>PresenceResult</i>	repeated	

## RemoveUserRequest

Field	Number	Type	Label	Description
request_header	1	<i>Request-Header</i>	optional	
participant_id	3	<i>ParticipantId</i>	optional	Optional participant to remove from conversation, yourself if not given.
event_request_header	5	<i>EventRequest-Header</i>	optional	

## RemoveUserResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
created_event	4	<i>Event</i>	optional	

### RenameConversationRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
new_name	3	string	optional	
event_request_header	5	<i>EventRequestHeader</i>	optional	

### RenameConversationResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
created_event	4	<i>Event</i>	optional	

### SearchEntitiesRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
query	3	string	optional	
max_count	4	uint64	optional	

### SearchEntitiesResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
entity	2	<i>Entity</i>	repeated	

### Location

Field	Number	Type	Label	Description
place	1	<i>Place</i>	optional	

### SendChatMessageRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
annotation	5	<i>EventAnnotation</i>	repeated	
message_content	6	<i>MessageContent</i>	optional	
existing_media	7	<i>ExistingMedia</i>	optional	
event_request_header	8	<i>EventRequestHeader</i>	optional	
user_id	9	<i>ParticipantId</i>	optional	
location	10	<i>Location</i>	optional	TODO: incomplete

### SendChatMessageResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
created_event	6	<i>Event</i>	optional	

### ModifyOTRStatusRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
otr_status	3	<i>OffTheRecordStatus</i>	optional	
event_request_header	5	<i>EventRequestHeader</i>	optional	

### ModifyOTRStatusResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
created_event	4	<i>Event</i>	optional	

### SendOffnetworkInvitationRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
invitee_address	2	<i>OffnetworkAddress</i>	optional	

### SendOffnetworkInvitationResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	

### SetActiveClientRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
is_active	2	bool	optional	Whether to set the client as active or inactive.
full_jid	3	string	optional	'email/resource'.
timeout_secs	4	uint64	optional	Timeout in seconds for client to remain active.

### SetActiveClientResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	

**SetConversationLevelRequest**

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	

**SetConversationLevelResponse**

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	

**SetConversationNotificationLevelRequest**

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
level	3	<i>NotificationLevel</i>	optional	

**SetConversationNotificationLevelResponse**

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
timestamp	2	uint64	optional	

**SetFocusRequest**

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
type	3	<i>FocusType</i>	optional	
timeout_secs	4	uint32	optional	

**SetFocusResponse**

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
timestamp	2	uint64	optional	

### SetGroupLinkSharingEnabledRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
event_request_header	2	<i>EventRequestHeader</i>	optional	
group_link_sharing_status	4	<i>GroupLinkSharingStatus</i>	optional	New group link sharing status.

### SetGroupLinkSharingEnabledResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
created_event	2	<i>Event</i>	optional	Created event of type EVENT_TYPE_GROUP_LINK_SHARING_MODIFICATION.
updated_conversation	3	<i>Conversation</i>	optional	Updated conversation.

### SetPresenceRequest

Allows setting one or more of the included presence-related settings.

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
presence_state_setting	2	<i>PresenceStateSetting</i>	optional	
dnd_setting	3	<i>DndSetting</i>	optional	
desktop_off_setting	5	<i>DesktopOffSetting</i>	optional	
mood_setting	8	<i>MoodSetting</i>	optional	

### SetPresenceResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	

### SetTypingRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
type	3	<i>TypingType</i>	optional	

## SetTypingResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
timestamp	2	uint64	optional	

## SyncAllNewEventsRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
last_sync_timestamp	2	uint64	optional	Timestamp after which to return all new events.
max_response_size_bytes	3	uint64	optional	

## SyncAllNewEventsResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
sync_timestamp	2	uint64	optional	
conversation_state	3	<i>ConversationState</i>	repeated	

## SyncRecentConversationsRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
last_event_timestamp	2	uint64	optional	Timestamp used for pagination, returns most recent conversations if not given.
max_conversations	3	uint64	optional	
max_events_per_conversation	4	uint64	optional	
sync_filter	5	<i>SyncFilter</i>	repeated	

## SyncRecentConversationsResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	
sync_timestamp	2	uint64	optional	
conversation_state	3	<i>ConversationState</i>	repeated	
continuation_end_timestamp	4	uint64	optional	

## UpdateWatermarkRequest

Field	Number	Type	Label	Description
request_header	1	<i>RequestHeader</i>	optional	
conversation_id	2	<i>ConversationId</i>	optional	
last_read_timestamp	3	uint64	optional	

## UpdateWatermarkResponse

Field	Number	Type	Label	Description
response_header	1	<i>ResponseHeader</i>	optional	

## ActiveClientState

Describes which Hangouts client is active.

Name	Number	Description
ACTIVE_CLIENT_STATE_NO_ACTIVE	0	No client is active.
ACTIVE_CLIENT_STATE_IS_ACTIVE	1	This is the active client.
ACTIVE_CLIENT_STATE_OTHER_ACTIVE	2	Other client is active.

## FocusType

Name	Number	Description
FOCUS_TYPE_UNKNOWN	0	
FOCUS_TYPE_FOCUSED	1	
FOCUS_TYPE_UNFOCUSED	2	

## FocusDevice

Name	Number	Description
FOCUS_DEVICE_UNSPECIFIED	0	
FOCUS_DEVICE_DESKTOP	20	
FOCUS_DEVICE_MOBILE	300	

## TypingType

Name	Number	Description
TYPING_TYPE_UNKNOWN	0	
TYPING_TYPE_STARTED	1	Started typing.
TYPING_TYPE_PAUSED	2	Stopped typing with inputted text.
TYPING_TYPE_STOPPED	3	Stopped typing with no inputted text.



### ClientPresenceStateType

Name	Number	Description
CLIENT_PRESENCE_STATE_UNKNOWN	0	
CLIENT_PRESENCE_STATE_NONE	1	
CLIENT_PRESENCE_STATE_DESKTOP_IDLE	30	
CLIENT_PRESENCE_STATE_DESKTOP_ACTIVE	40	

### NotificationLevel

Name	Number	Description
NOTIFICATION_LEVEL_UNKNOWN	0	
NOTIFICATION_LEVEL_QUIET	10	Notifications are disabled.
NOTIFICATION_LEVEL_RING	30	Notifications are enabled.

### SegmentType

Name	Number	Description
SEGMENT_TYPE_TEXT	0	Segment is text.
SEGMENT_TYPE_LINE_BREAK	1	Segment is a line break.
SEGMENT_TYPE_LINK	2	Segment is hyperlinked text.

### ItemType

A type of embedded item.

Name	Number	Description
ITEM_TYPE_THING	0	
ITEM_TYPE_PLUS_PHOTO	249	Google Plus photo.
ITEM_TYPE_PLACE	335	
ITEM_TYPE_PLACE_V2	340	Google Map place.

### MembershipChangeType

Name	Number	Description
MEMBERSHIP_CHANGE_TYPE_JOIN	1	
MEMBERSHIP_CHANGE_TYPE_LEAVE	2	

## HangoutEventType

Name	Number	Description
HANGOUT_EVENT_TYPE_UNKNOWN	0	
HANGOUT_EVENT_TYPE_START	1	
HANGOUT_EVENT_TYPE_END	2	
HANGOUT_EVENT_TYPE_JOIN	3	
HANGOUT_EVENT_TYPE_LEAVE	4	
HANGOUT_EVENT_TYPE_COMING_SOON	5	
HANGOUT_EVENT_TYPE_ONGOING	6	

## OffTheRecordToggle

Whether the OTR toggle is available to the user.

Name	Number	Description
OFF_THE_RECORD_TOGGLE_UNKNOWN	0	
OFF_THE_RECORD_TOGGLE_ENABLED	1	
OFF_THE_RECORD_TOGGLE_DISABLED	2	

## OffTheRecordStatus

Name	Number	Description
OFF_THE_RECORD_STATUS_UNKNOWN	0	
OFF_THE_RECORD_STATUS_OFF_THE_RECORD	1	Conversation is off-the-record (history disabled).
OFF_THE_RECORD_STATUS_ON_THE_RECORD	2	Conversation is on-the-record (history enabled).

## SourceType

Name	Number	Description
SOURCE_TYPE_UNKNOWN	0	

## EventType

Name	Number	Description
EVENT_TYPE_UNKNOWN	0	
EVENT_TYPE_REGULAR_CHAT_MESSAGE	1	
EVENT_TYPE_SMS	2	
EVENT_TYPE_VOICEMAIL	3	
EVENT_TYPE_ADD_USER	4	
EVENT_TYPE_REMOVE_USER	5	
EVENT_TYPE_CONVERSATION_RENAME	6	
EVENT_TYPE_HANGOUT	7	
EVENT_TYPE_PHONE_CALL	8	
EVENT_TYPE_OTR_MODIFICATION	9	
EVENT_TYPE_PLAN_MUTATION	10	
EVENT_TYPE_MMS	11	
EVENT_TYPE_DEPRECATED_12	12	
EVENT_TYPE_OBSERVED_EVENT	13	
EVENT_TYPE_GROUP_LINK_SHARING_MODIFICATION	14	

## ConversationType

Name	Number	Description
CONVERSATION_TYPE_UNKNOWN	0	
CONVERSATION_TYPE_ONE_TO_ONE	1	Conversation is one-to-one (only 2 participants).
CONVERSATION_TYPE_GROUP	2	Conversation is group (any number of participants).

## ConversationStatus

Name	Number	Description
CONVERSATION_STATUS_UNKNOWN	0	
CONVERSATION_STATUS_INVITED	1	User is invited to conversation.
CONVERSATION_STATUS_ACTIVE	2	User is participating in conversation.
CONVERSATION_STATUS_LEFT	3	User has left conversation.

## ConversationView

Name	Number	Description
CONVERSATION_VIEW_UNKNOWN	0	
CONVERSATION_VIEW_INBOX	1	Conversation is in inbox.
CONVERSATION_VIEW_ARCHIVED	2	Conversation has been archived.

**DeliveryMediumType**

Name	Number	Description
DELIVERY_MEDIUM_UNKNOWN	0	
DELIVERY_MEDIUM_BABEL	1	
DELIVERY_MEDIUM_GOOGLE_VOICE	2	
DELIVERY_MEDIUM_LOCAL_SMS	3	

**InvitationAffinity**

Name	Number	Description
INVITE_AFFINITY_UNKNOWN	0	
INVITE_AFFINITY_HIGH	1	
INVITE_AFFINITY_LOW	2	

**ParticipantType**

Name	Number	Description
PARTICIPANT_TYPE_UNKNOWN	0	
PARTICIPANT_TYPE_GAIA	2	
PARTICIPANT_TYPE_GOOGLE_VOICE	3	

**InvitationStatus**

Name	Number	Description
INVITATION_STATUS_UNKNOWN	0	
INVITATION_STATUS_PENDING	1	
INVITATION_STATUS_ACCEPTED	2	

**ForceHistory**

Name	Number	Description
FORCE_HISTORY_UNKNOWN	0	
FORCE_HISTORY_NO	1	

**NetworkType**

Name	Number	Description
NETWORK_TYPE_UNKNOWN	0	
NETWORK_TYPE_BABEL	1	
NETWORK_TYPE_GOOGLE_VOICE	2	

## BlockState

Name	Number	Description
BLOCK_STATE_UNKNOWN	0	
BLOCK_STATE_BLOCK	1	
BLOCK_STATE_UNBLOCK	2	

## ReplyToInviteType

Name	Number	Description
REPLY_TO_INVITE_TYPE_UNKNOWN	0	
REPLY_TO_INVITE_TYPE_ACCEPT	1	
REPLY_TO_INVITE_TYPE_DECLINE	2	

## ClientId

Identifies the client.

Name	Number	Description
CLIENT_ID_UNKNOWN	0	
CLIENT_ID_ANDROID	1	Hangouts app for Android.
CLIENT_ID_IOS	2	Hangouts app for iOS.
CLIENT_ID_CHROME	3	Hangouts Chrome extension.
CLIENT_ID_WEB_GPLUS	5	Hangouts web interface in Google Plus.
CLIENT_ID_WEB_GMAIL	6	Hangouts web interface in Gmail.
CLIENT_ID_ULTRAVIOLET	13	Hangouts Chrome app (“ultraviolet”).
CLIENT_ID_WEB_HANGOUTS	44	Hangouts web app ( <a href="https://hangouts.google.com">https://hangouts.google.com</a> ).

## ClientBuildType

Build type of the client.

Name	Number	Description
BUILD_TYPE_UNKNOWN	0	
BUILD_TYPE_PRODUCTION_WEB	1	Web app (not used anymore?).
BUILD_TYPE_PRODUCTION_APP	3	Native app.

## ResponseStatus

Status of the response from the server to the client.

Name	Number	Description
RESPONSE_STATUS_UNKNOWN	0	
RESPONSE_STATUS_OK	1	
RESPONSE_STATUS_UNEXPECTED_ERROR	3	
RESPONSE_STATUS_INVALID_REQUEST	4	

## PhotoUrlStatus

Status of EntityProperties.photo\_url.

Name	Number	Description
PHOTO_URL_STATUS_UNKNOWN	0	
PHOTO_URL_STATUS_PLACEHOLDER	1	URL is a placeholder.
PHOTO_URL_STATUS_USER_PHOTO	2	URL is a photo set by the user.

## Gender

Name	Number	Description
GENDER_UNKNOWN	0	
GENDER_MALE	1	
GENDER_FEMALE	2	

## ProfileType

Name	Number	Description
PROFILE_TYPE_NONE	0	
PROFILE_TYPE_ES_USER	1	

## ConfigurationBitType

A type of binary configuration option.

Name	Number	Description
CONFIGURATION_BIT_TYPE_UNKNOWN	0	
CONFIGURATION_BIT_TYPE_UNKNOWN_1	1	
CONFIGURATION_BIT_TYPE_UNKNOWN_2	2	
CONFIGURATION_BIT_TYPE_UNKNOWN_3	3	
CONFIGURATION_BIT_TYPE_UNKNOWN_4	4	
CONFIGURATION_BIT_TYPE_UNKNOWN_5	5	
CONFIGURATION_BIT_TYPE_UNKNOWN_6	6	
CONFIGURATION_BIT_TYPE_UNKNOWN_7	7	
CONFIGURATION_BIT_TYPE_UNKNOWN_8	8	
CONFIGURATION_BIT_TYPE_UNKNOWN_9	9	
CONFIGURATION_BIT_TYPE_UNKNOWN_10	10	
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Name	Number	Description
RICH_PRESENCE_TYPE_UNKNOWN	0	
RICH_PRESENCE_TYPE_IN_CALL_STATE	1	
RICH_PRESENCE_TYPE_UNKNOWN_3	3	
RICH_PRESENCE_TYPE_UNKNOWN_4	4	
RICH_PRESENCE_TYPE_UNKNOWN_5	5	
RICH_PRESENCE_TYPE_DEVICE	2	
RICH_PRESENCE_TYPE_LAST_SEEN	6	

**FieldMask**

Name	Number	Description
FIELD_MASK_REACHABLE	1	
FIELD_MASK_AVAILABLE	2	
FIELD_MASK_MOOD	3	
FIELD_MASK_IN_CALL	6	
FIELD_MASK_DEVICE	7	
FIELD_MASK_LAST_SEEN	10	

**DeleteType**

Name	Number	Description
DELETE_TYPE_UNKNOWN	0	
DELETE_TYPE_UPPER_BOUND	1	

**SyncFilter**

Name	Number	Description
SYNC_FILTER_UNKNOWN	0	
SYNC_FILTER_INBOX	1	
SYNC_FILTER_ARCHIVED	2	

**SoundState**

Name	Number	Description
SOUND_STATE_UNKNOWN	0	
SOUND_STATE_ON	1	
SOUND_STATE_OFF	2	

**CallerIdSettingsMask**

Name	Number	Description
CALLER_ID_SETTINGS_MASK_UNKNOWN	0	
CALLER_ID_SETTINGS_MASK_PROVIDED	1	

**PhoneVerificationStatus**

Name	Number	Description
PHONE_VERIFICATION_STATUS_UNKNOWN	0	
PHONE_VERIFICATION_STATUS_VERIFIED	1	

**PhoneDiscoverabilityStatus**

Name	Number	Description
PHONE_DISCOVERABILITY_STATUS_UNKNOWN	0	
PHONE_DISCOVERABILITY_STATUS_OPTED_IN_BUT_NOT_DISCOVERABLE	2	

**PhoneValidationResult**

Name	Number	Description
PHONE_VALIDATION_RESULT_IS_POSSIBLE	0	

**OffnetworkAddressType**

Name	Number	Description
OFFNETWORK_ADDRESS_TYPE_UNKNOWN	0	
OFFNETWORK_ADDRESS_TYPE_EMAIL	1	



**GroupLinkSharingStatus**

Name	Number	Description
GROUP_LINK_SHARING_STATUS_UNKNOWN	0	
GROUP_LINK_SHARING_STATUS_ON	1	
GROUP_LINK_SHARING_STATUS_OFF	2	



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