

Grandstream Networks, Inc.

**Wave Desktop -
User Guide**



Wave Desktop – User Guide

INTRODUCTION

Overview

Wave desktop is a client application for the Grandstream IP PBX (UCM63xx Series, CloudUCM, SoftwareUCM, and GCC6xxx – PBX Module) users to use a desktop application to participate in video/audio conferences and make calls via WebRTC. With the Wave desktop client, users can easily create, schedule, manage, and join video conference calls, share presentations, chat during conference calls, register an IP PBX extension, and make point-to-point calls. Wave desktop helps enterprise users to join meetings and communicate efficiently. It is an ideal product for enterprises looking for tools for users to communicate and work productively.

Feature Highlights

- Supported on Windows 10 or higher / macOS High Sierra 10.13 or higher.
- Native integration with Grandstream IP PBXs, including contacts and the ability to display SIP users' online status
- Supports LDAP to access contacts in the IP PBX LDAP server.
- Supports call display, voicemail, and call encryption.
- Supports call history.
- High-quality point-to-point audio and video calling.
- Full integration with Grandstream IP PBXs, including creation of a QR code for automatic login, call transfer, call recording from the server, etc.
- Supports Multi-factor authentication for login when integrated with UCM6300/A IP PBX.
- Supports Microsoft login when integrated with Microsoft Entra ID (Azure AD).
- Supports Opus and G.722 for HD audio. Jitter resilience up to 50% audio packet loss and 20% video packet loss.
- Supports H.264.
- Supports joining a meeting via link without logging in.
- Supports schedule meeting and meeting now anywhere, anytime.
- Built-in NAT traversal, including automatic NAT discovery and TURN/ICE.
- Support basic chat functions, including single chat and group chat, sending files and emoticons, starting audio conferences in a group chat, simultaneous group chats, and meeting chats.
- Integrated UCM user portal entry to access personal data, follow me settings, SCA, wakeup calls, etc.

Specifications

Specifications and limitations of WebRTC change from one model to another. Please find below a table showing the specifications for the features on each model.

UCM630x series	Video feeds	Screen Share Feed	Concurrent user registration	Participant limit (Audio Conference)	Participant limit (Video Conference)
UCM6301	4 or 9	1	500	75	20
UCM6302	4 or 9	1	1000	150	30
UCM6304	4 or 9	1	2000	200	60
UCM6308	4 or 9	1	3000	300	80

Below are the rest of the technical specifications for all the models:

Protocols/Standards	SIP RFC3261, TCP/IP/UDP, RTP/RTCP, HTTP/HTTPS, DNS (A record, SRV, NAPTR), STUN/TURN/ICE, SIMPLE, LDAP, TLS, SRTP, IPv6
Voice Codecs and Capabilities	Opus, G.711 A-law/U-law, G722, NetEQ
DTMF	In-audio, RFC2833, SIP INFO
Video Codecs and Capabilities	H.264 1080P HD video supports displaying multiple videos, screen sharing, camera block, GS-FEC
Telephony Features	Call hold/unhold, mute/unmute, call transfer, audio meeting room, call history, scheduling meeting, voicemail, call recording, etc. User portal entries allow access to personal data, wakeup call settings, SCA, follow me settings, call queue, CDR, CRM user settings, etc.
UCM Applications	Supports UCM feature codes (transfer, call park, recording, meeting control options, etc.)
QoS	Layer 3 QoS (ToS, DiffServ, MPLS)
Security	SIP over TLS, SRTP (128-bit and 256-bit), HTTPS
Multi-language Support	English, Simplified Chinese, French, Spanish (Latin America), Spanish (Spain), Italian, Greek, Arabic, Russian, German, Polish, Portuguese and Vietnamese.
Login	• Supports login with extension and user password. • Supports joining meetings via link without logging in. • Supports Multi-factor login when integrated with UCM6300/A IP PBX. • Supports Microsoft login when integrated with Microsoft Entra ID (Azure AD).
Upgrade	Wave Desktop can be updated directly from within the application

Wave Desktop Specifications

Please visit our website for more Wave desktop information and product documentation: <https://www.grandstream.com>

GETTING STARTED

System Requirements

- Operating system: Windows 10 or higher / macOS High Sierra 10.13 or higher.
- Web environment: Standby Network connection above 3 Mbps (recommended), UCM needs to be connected to the network.
- Audio and video equipment: to make a call, you need a speaker and microphone, webcam, or high-definition webcam.

Download and Install the Client

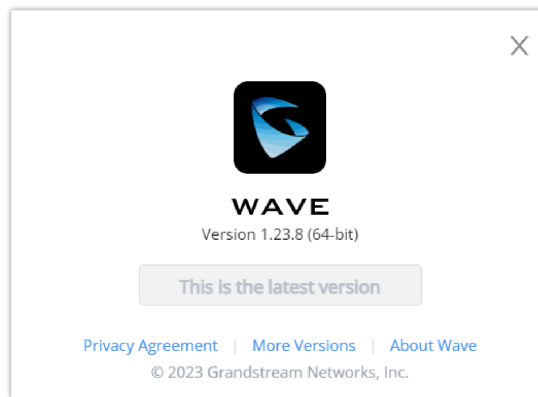
The Wave client can be downloaded from the Grandstream official website:

<https://fw.gdms.cloud/wave/download/>

After the download is complete, you can install it according to the instructions on the interface.

Upgraded Version

On the main page, before or after login, click the upper right corner, and then click the menu item “About”. If there is a newer firmware version, you can click the “Upgrade Firmware” button to upgrade.



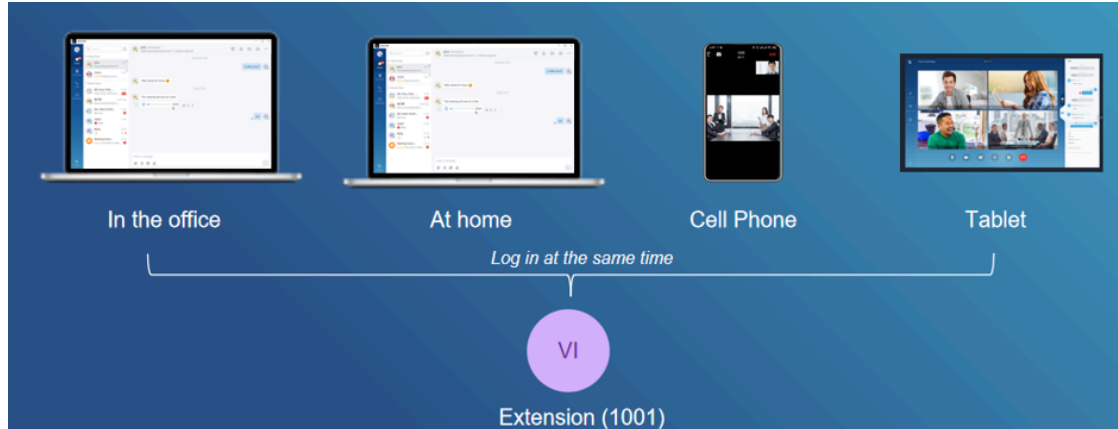
Wave About Interface

LOGGING INTO WAVE DESKTOP

With the IP PBX SIP extension number and user portal password, users could log in to the Wave desktop portal. After logging in successfully, users can host meetings, schedule meetings, manage contacts, make calls, transfer calls, chat during meetings, etc.

Users can sign in on different platforms at the same time and use different methods:

- [Log In Using Credentials](#)
- [Log In by Scanning QR Code](#)

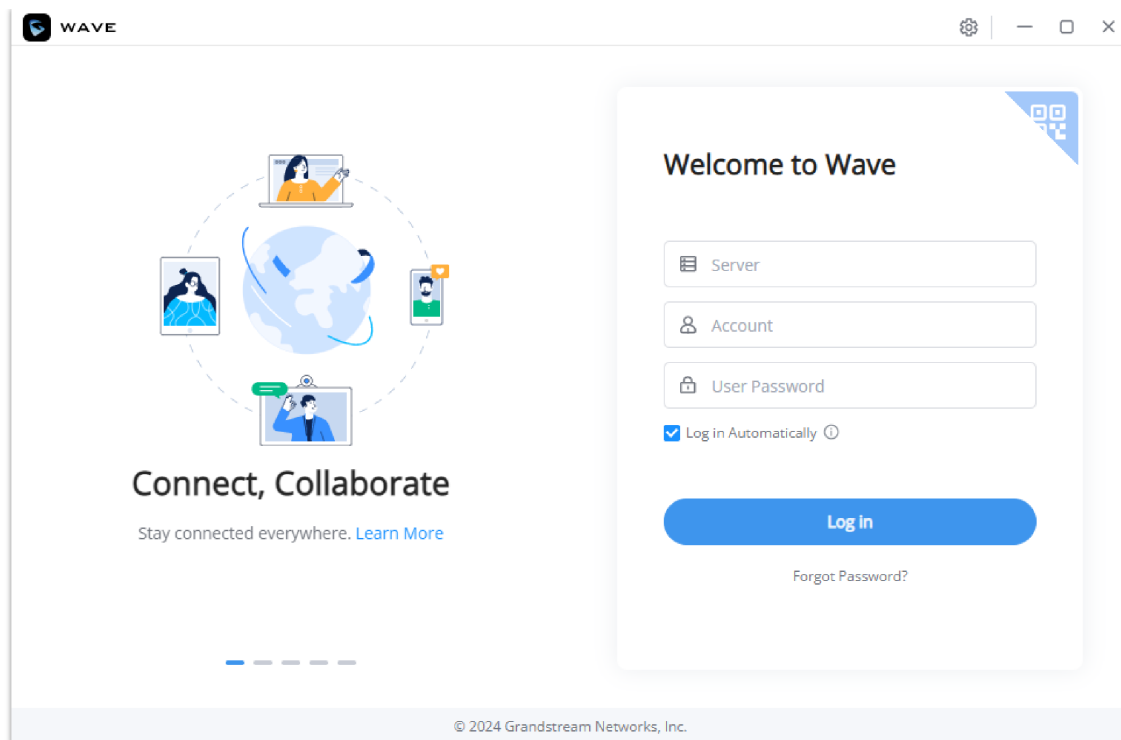


Wave Simultaneous Sessions

To manage the open login sessions, please refer to the [\[Login Device Management\]](#) section.

Log In Using Credentials

1. Click on to open the Wave Desktop application. The following login page will be displayed.



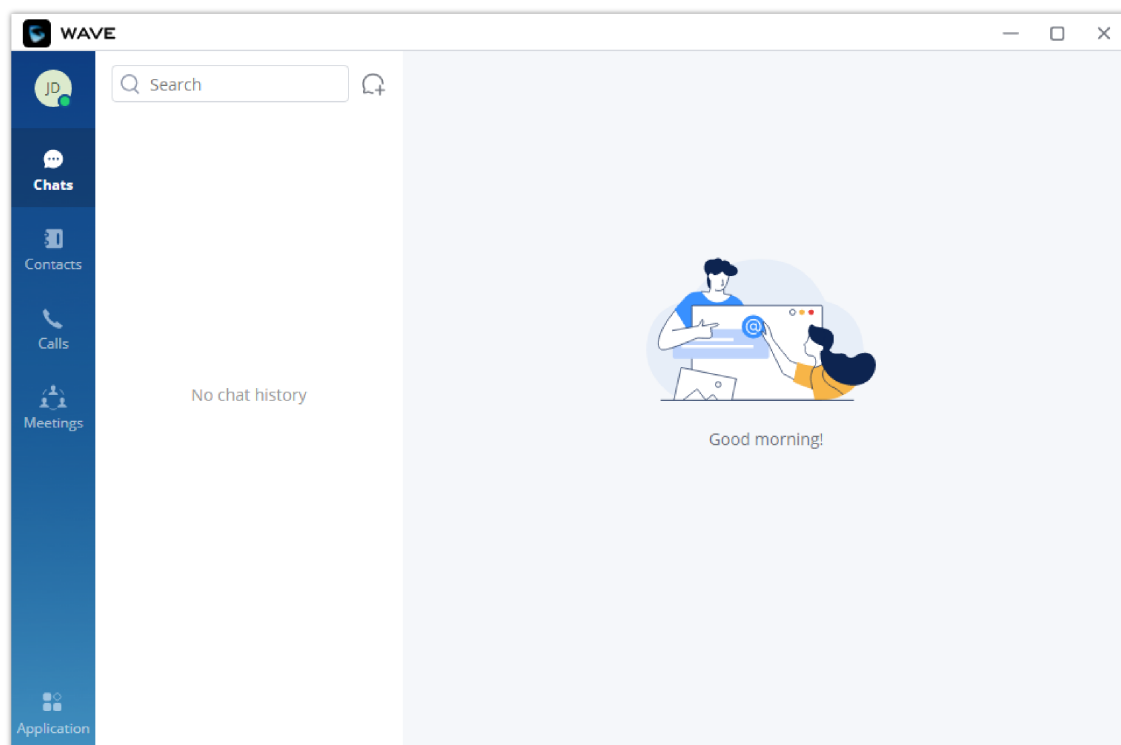
Wave Desktop Portal

2. Enter an extension number and its user portal password in the Wave desktop login page. Make sure to set the correct server address.

Note

The server address field has a character limit of 64 characters.

3. Click on the “**Log In Automatically**” option, and the application will store the username and password. The user can auto-log in to the Wave application when clicking the application icon.

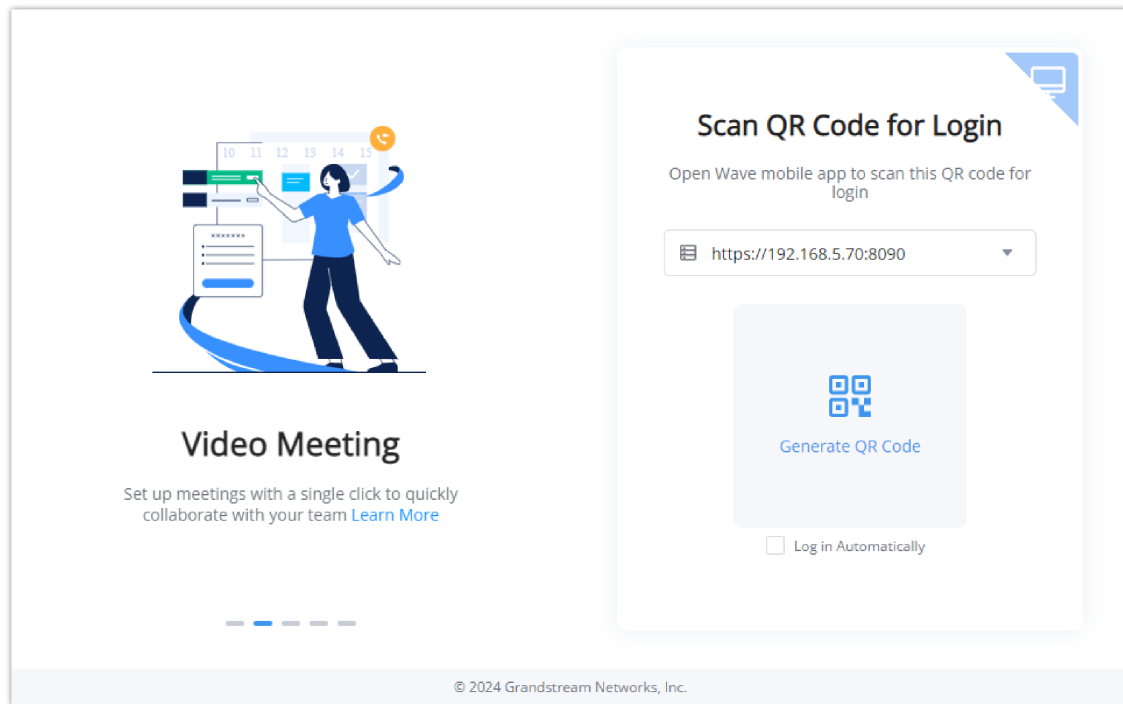


Wave Desktop Default Page after Login

Log In by Scanning QR Code

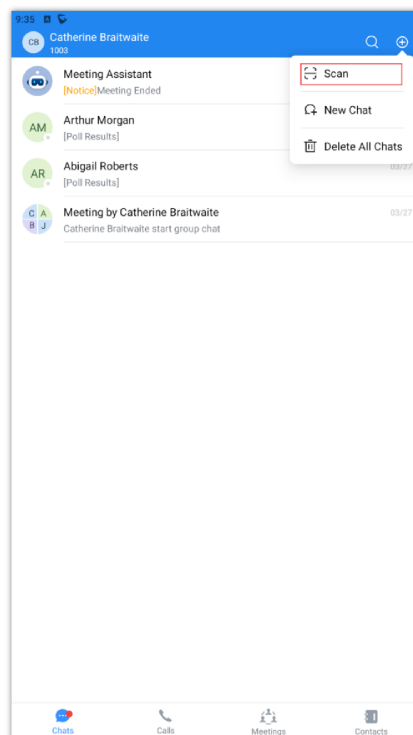
This feature allows you to log in quickly to the Wave Desktop client if you are already logged into Wave on your smartphone. To log in using this method, please follow the steps below:

1. On Wave Desktop, click on the top right corner highlighted in blue to change the login method.



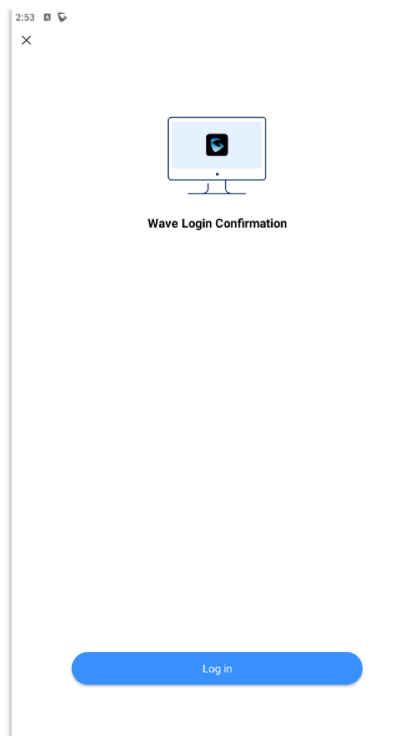
Wave Desktop QR Login

2. Enter the address of the UCM on which your extension will be registered.
3. On the Wave mobile application, click on the plus icon in the top right corner, and select "Scan".



Wave Mobile Scan QR Code

4. Once the QR is scanned, press "Login".



Wave Mobile Approve Login

Log In with Microsoft Account

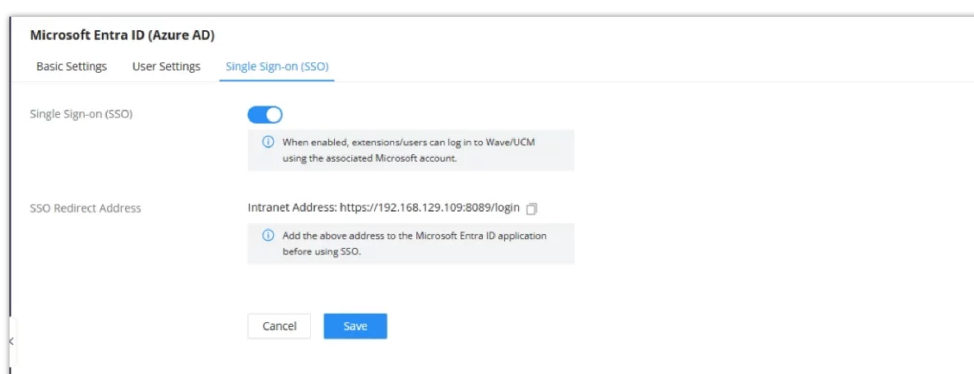
Wave Desktop supports Single Sign-On (SSO) via Microsoft accounts (Microsoft Entra ID/Azure AD), when enabled by the UCM administrator. This allows users to log in using their Microsoft 365 credentials.

Prerequisites:

- The UCM administrator must complete Microsoft Entra ID integration (see [Microsoft Entra ID Configuration Guide](#)).
- The extension must be associated with a Microsoft account by the administrator.
- This feature is only supported on UCM6300/A series firmware 1.0.29.6 or later.

Once Microsoft Entra ID is integrated, follow these steps to enable SSO on the UCM:

1. Log in to the UCM web interface as an administrator.
2. Navigate to **Integrations** → **Microsoft Entra ID (Azure AD)**.
3. Under the Single Sign-On (SSO) section:
 - Enable "Single Sign-on (SSO)".
 - Add the UCM's SSO redirect URI to Microsoft Entra ID application settings.

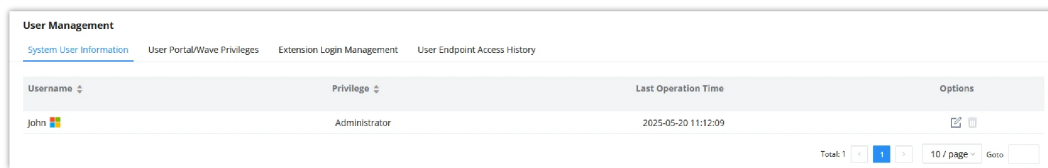


UCM SSO Configuration Page

Note:

SSO cannot be activated unless at least one Microsoft Entra ID user is successfully bound to a UCM user account.

To verify if an extension is bound to a Microsoft account, navigate to **Extensions/Trunk** → **Extensions**. Bound extensions will display a Microsoft logo badge, as shown in the screenshot below.



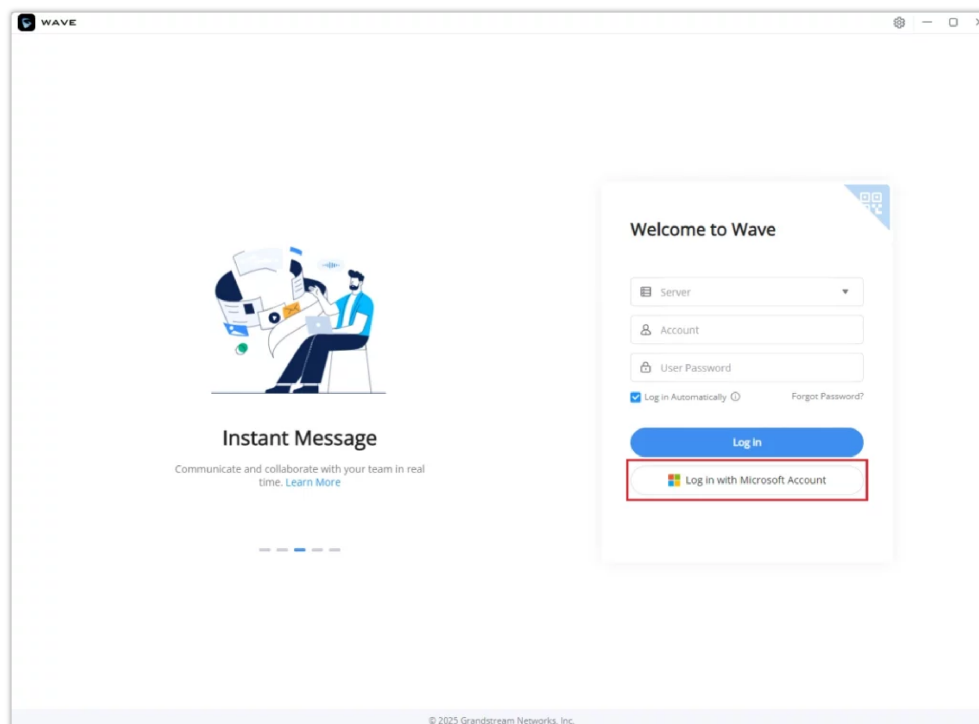
User Management			
System User Information User Portal/Wave Privileges Extension Login Management User Endpoint Access History			
Username	Privilege	Last Operation Time	Options
John 	Administrator	2025-05-20 11:12:09	 

Total: 1   10 / page 

Microsoft bound Extension

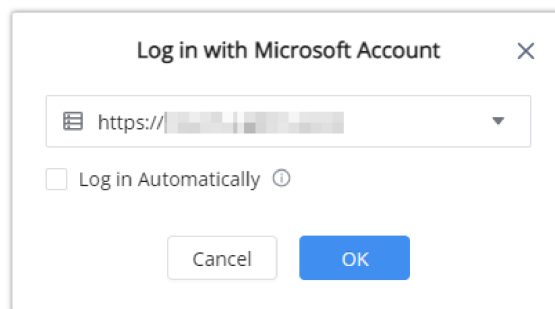
To log in to Wave Desktop with a Microsoft account, please follow the instructions below:

1. Launch the Wave Desktop application.
2. On the login screen, click "Log in with Microsoft Account".



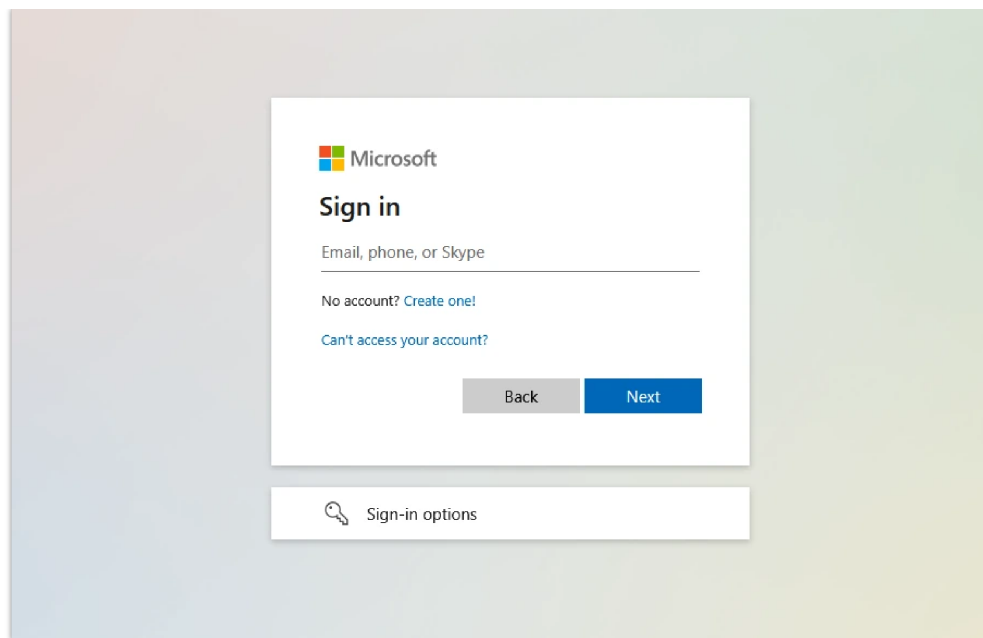
Microsoft Account Login Option

3. Enter the server address to proceed.



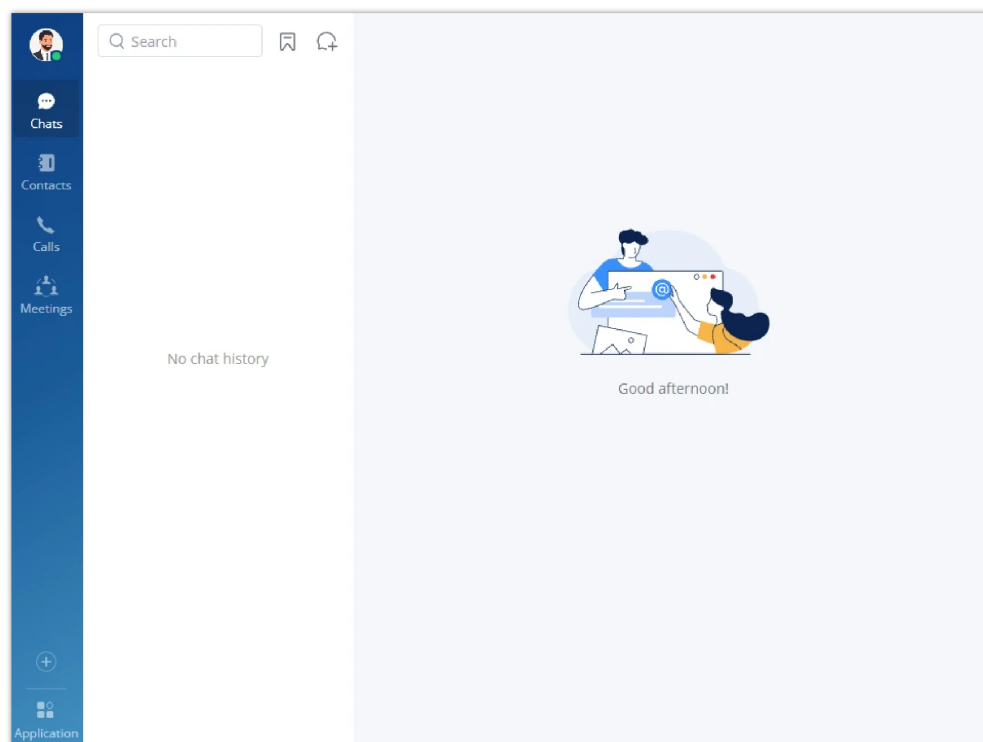
UCM Server Address Entry

4. Once redirected to Microsoft's login page, enter your organizational email address and complete the authentication process.



Microsoft Organizational Login

5. Upon successful authentication, you'll be automatically logged into Wave Desktop.



Extension Successful Login

Wave Password Recovery

Users can reset the Wave login password by following the steps below:

1. Click on Forgot Password, and the window below will be displayed. Then, enter the username

Reset Password Username

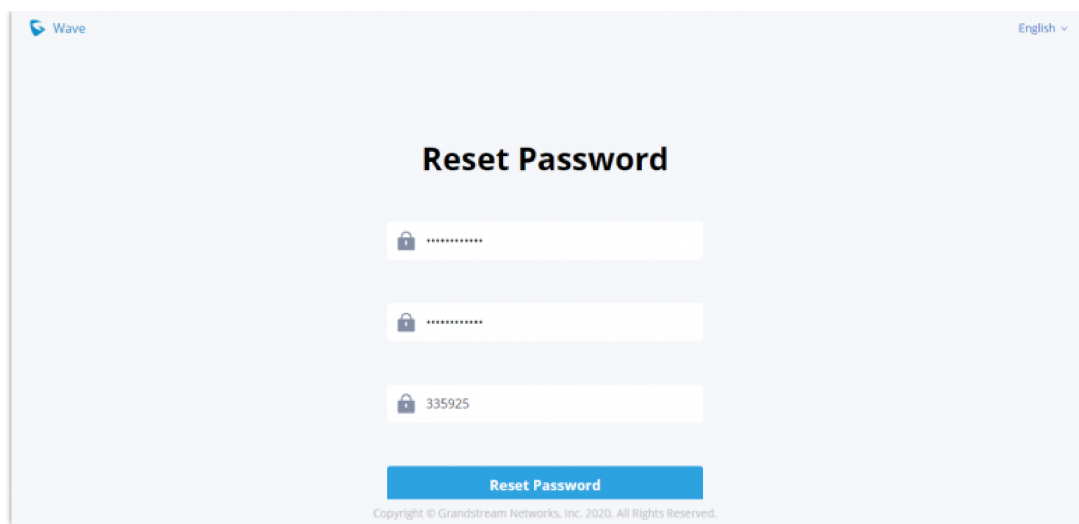
2. After clicking on Send Email, a verification code will be given.

Reset Password Verification Password

3. An email will be sent to the email address configured under the extension.

Reset Password Email

4. On the received email, click on the link to confirm to change your password, and you will be redirected to the page below, where you will need to enter a new password, re-enter it, and the provided verification code, as shown below:



The image shows the 'Reset Password' interface in the Wave web UI. At the top left is the 'Wave' logo and at the top right is a language dropdown set to 'English'. The main heading is 'Reset Password'. Below it are three input fields: the first two are for the new password (indicated by dots), and the third is for the confirmation password (containing '335925'). A blue 'Reset Password' button is at the bottom. A copyright notice for Grandstream Networks, Inc. 2020 is at the very bottom.

Reset Password

5. And you will be jumped to the login page after the password is reset correctly.

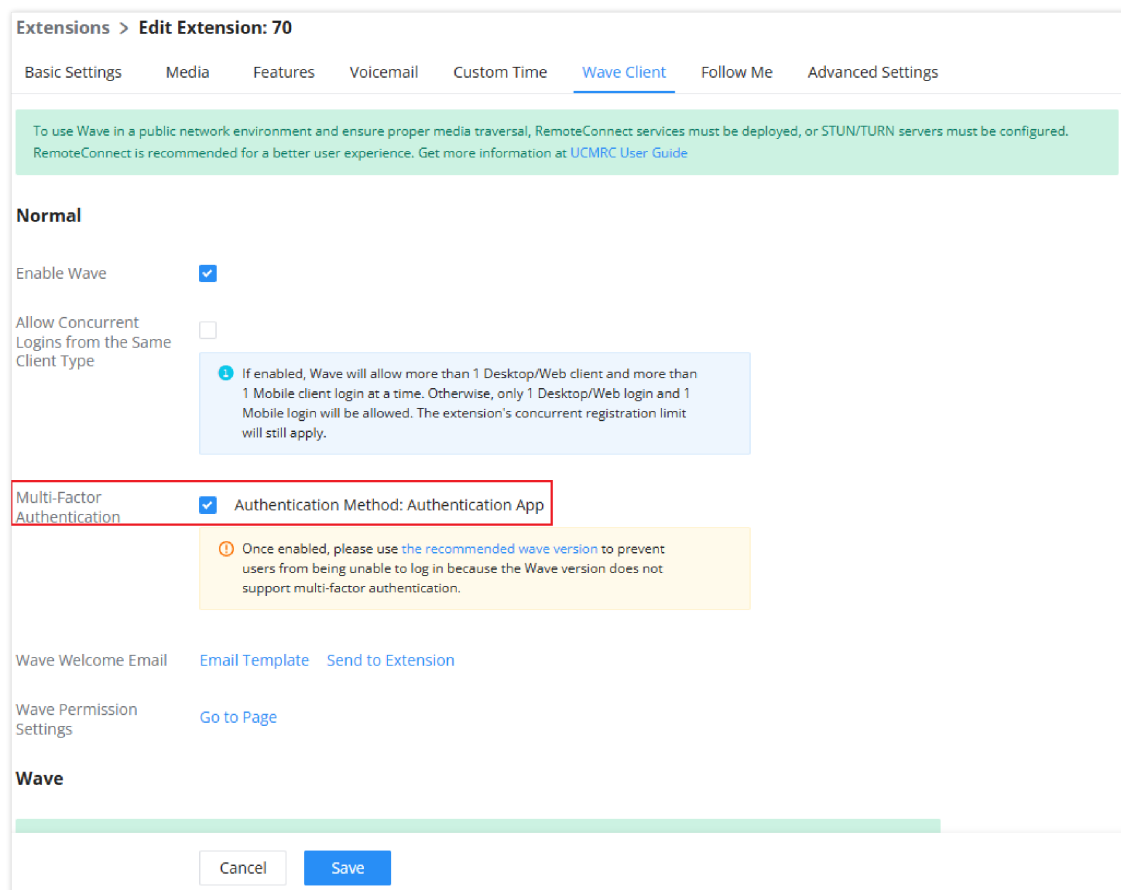
Note

Users can reset the Wave login password, not the extension SIP password, which means when you reset the Wave's password, the Endpoint phone's SIP account's password will not be reset.

Multi-factor Authentication

Wave supports multi-factor authentication which adds a layer of security to your account. To provide the highest security level, Wave offers adding multi-factor authentication using a TOTP device.

Multi-factor authentication is, first, enabled by the administrator on the IPPBX.

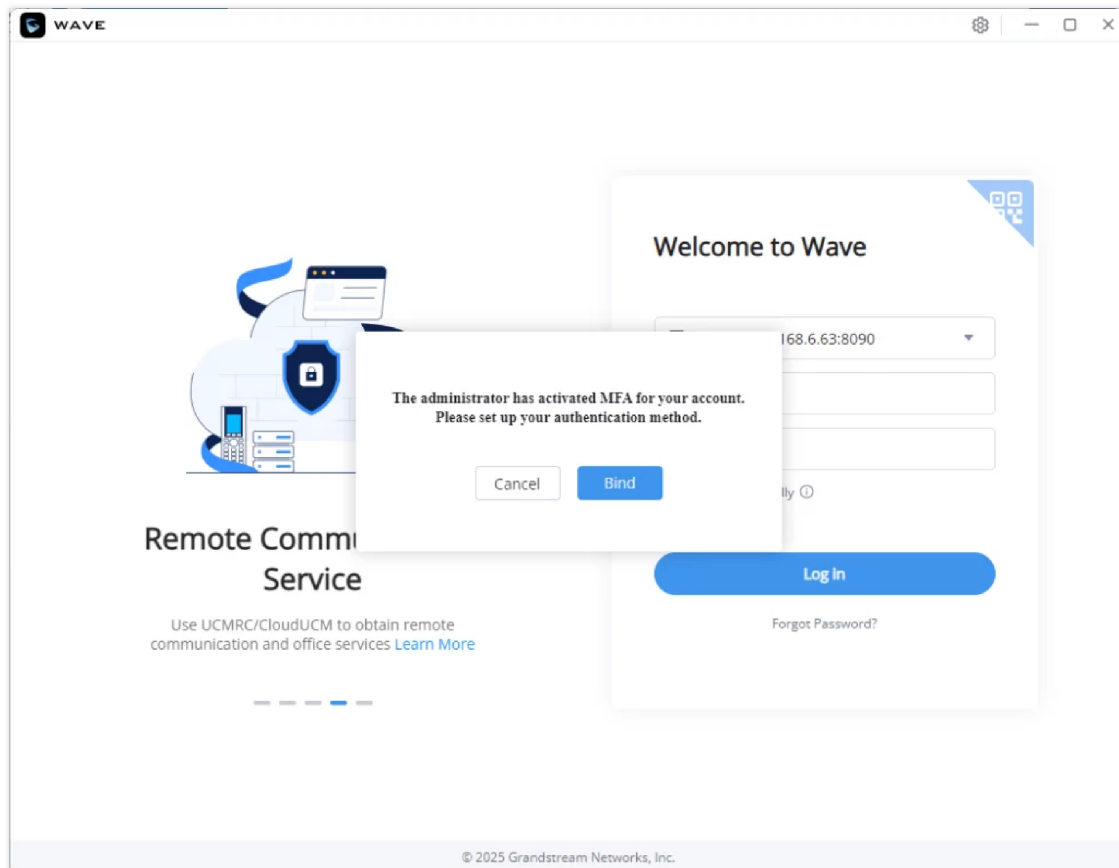


The image shows the 'Edit Extension: 70' page in the UCM6300 Web UI, specifically the 'Wave Client' tab. The page has a breadcrumb 'Extensions > Edit Extension: 70' and a navigation bar with tabs: Basic Settings, Media, Features, Voicemail, Custom Time, Wave Client (active), Follow Me, and Advanced Settings. A green banner at the top states: 'To use Wave in a public network environment and ensure proper media traversal, RemoteConnect services must be deployed, or STUN/TURN servers must be configured. RemoteConnect is recommended for a better user experience. Get more information at UCMRC User Guide'. Under the 'Normal' section, 'Enable Wave' is checked, and 'Allow Concurrent Logins from the Same Client Type' is unchecked. A tooltip explains the concurrent login limits. The 'Multi-Factor Authentication' section is highlighted with a red box; it is checked and set to 'Authentication Method: Authentication App'. A yellow tooltip below it says: 'Once enabled, please use the recommended wave version to prevent users from being unable to log in because the Wave version does not support multi-factor authentication.' At the bottom, there are links for 'Wave Welcome Email' (Email Template, Send to Extension), 'Wave Permission Settings' (Go to Page), and a 'Wave' section. At the very bottom are 'Cancel' and 'Save' buttons.

UCM6300 Web UI

When the user logs in, they will be prompted to configure multi-factor authentication.

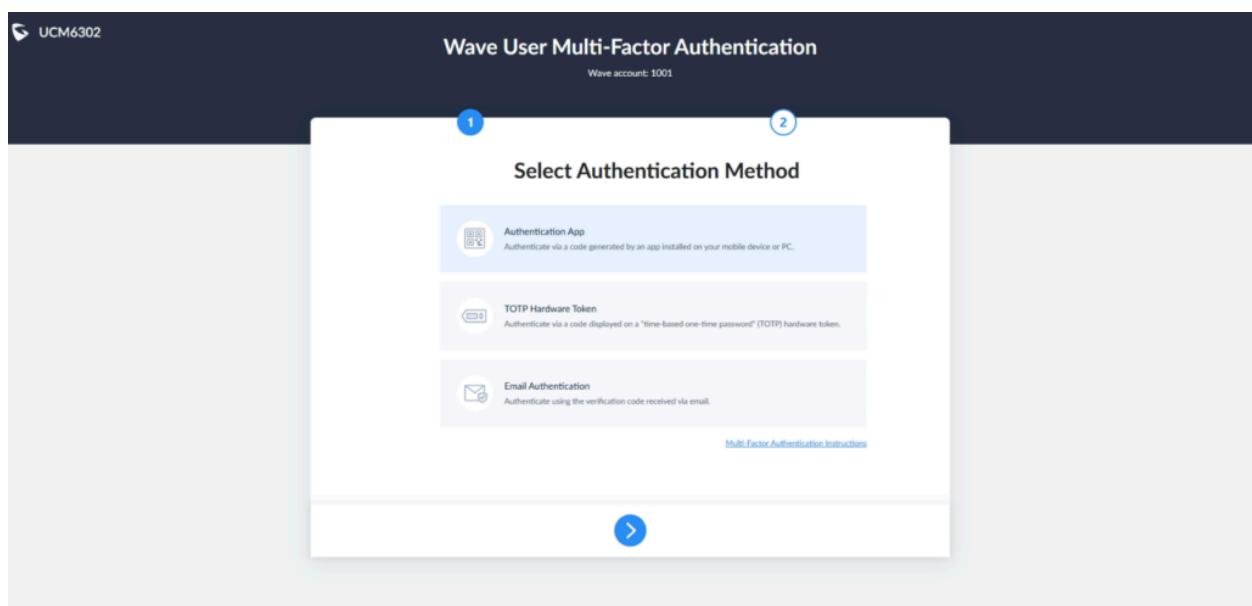
Click on **Bind** to configure your multi-factor authentication device.



Wave Login MFA Prompt

Choose the Authentication method:

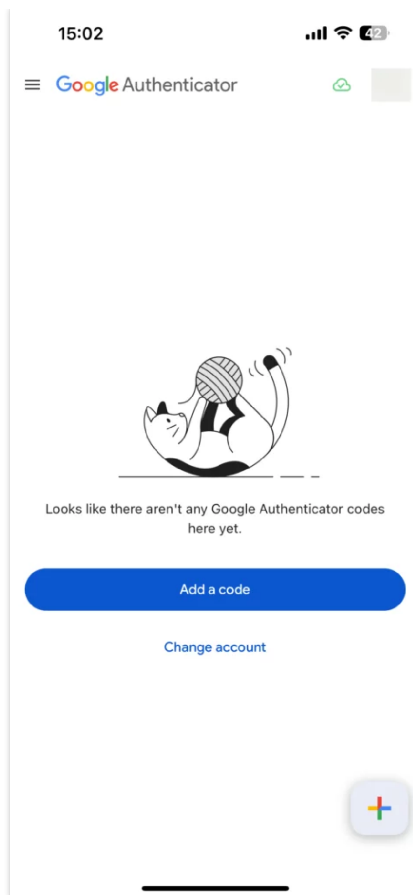
- **Authentication App:** Uses a mobile or desktop authenticator app (like Google Authenticator or Microsoft Authenticator) to generate a **time-based verification code**. You open the app, get the code, and enter it to log in.
- **TOTP Hardware Token:** Uses a **physical hardware device** that displays a “time-based one-time password” (TOTP). The device generates a new numeric code every few seconds, and you enter that code to authenticate.
- **Email Authentication:** Sends a **verification code to your email**. You check your inbox, copy the code, and enter it to complete the login.



Select Authentication Method

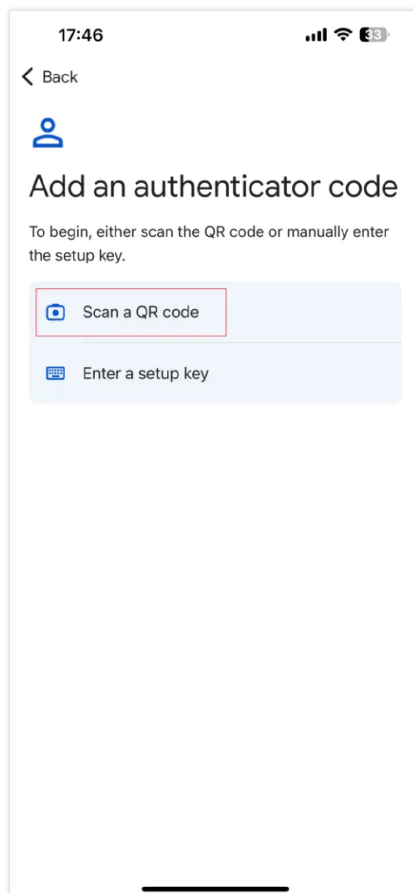
We're going to use Google Authenticator app for this example.

On the Google Authenticator application, tap the " Add a code " button.



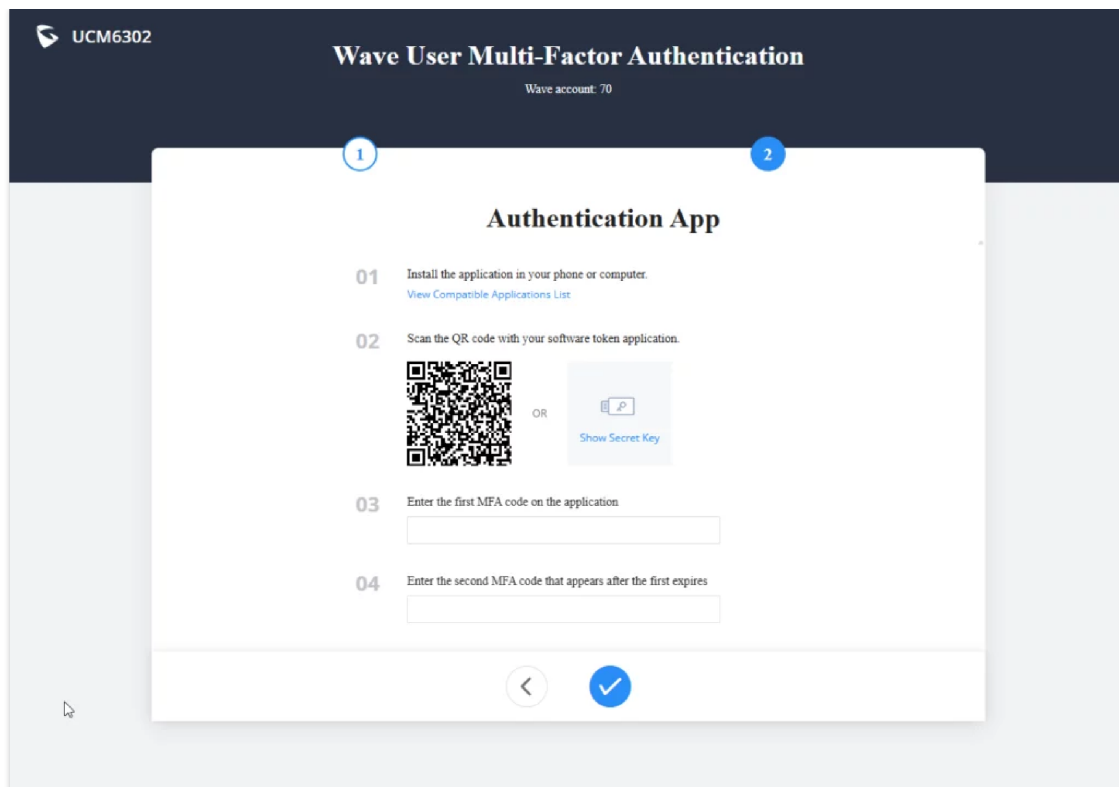
Add a Code

For ease of configuration, select "Scan a QR code".

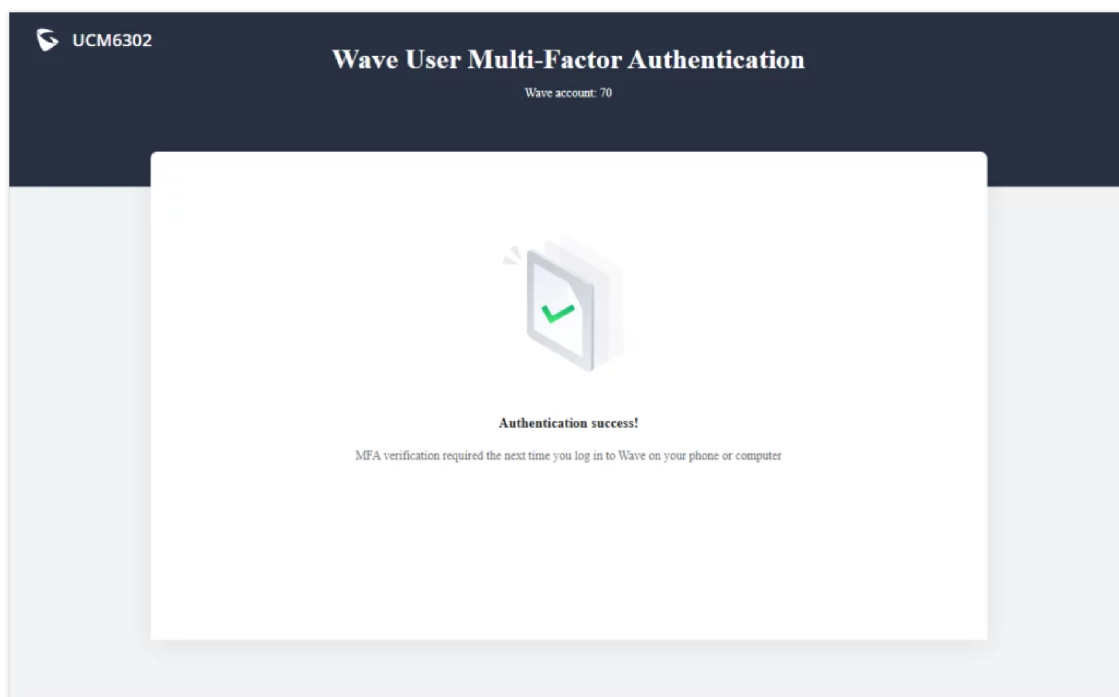


Add an Authenticator Code

Scan the QR code displayed on the configuration page using the QR code scanner on the authentication application on your phone. Once the account is added, enter the first code, wait until it expires then enter the second code.



Click on the check mark button to validate the parameters. The page below will be displayed if the codes are correct and will indicate that the multi-factor authentication has been activated successfully.



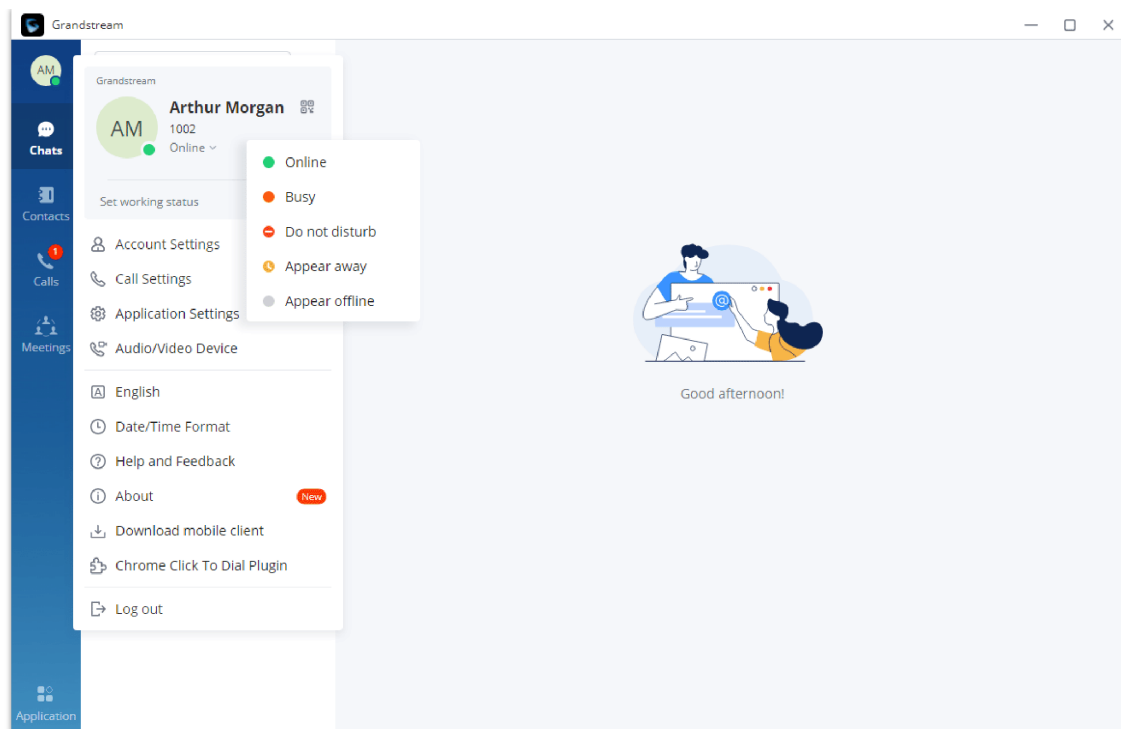
Multi factor Authentication Activated

Custom Status

Wave users can customize the status in the application. It is divided into account status and working status, and it is displayed in the contacts book and chat module.

◦ Account Status:

The user can click the user icon to enter the configuration interface, then click the status below the account at the top to customize the status of the account, as the screenshot shows below:



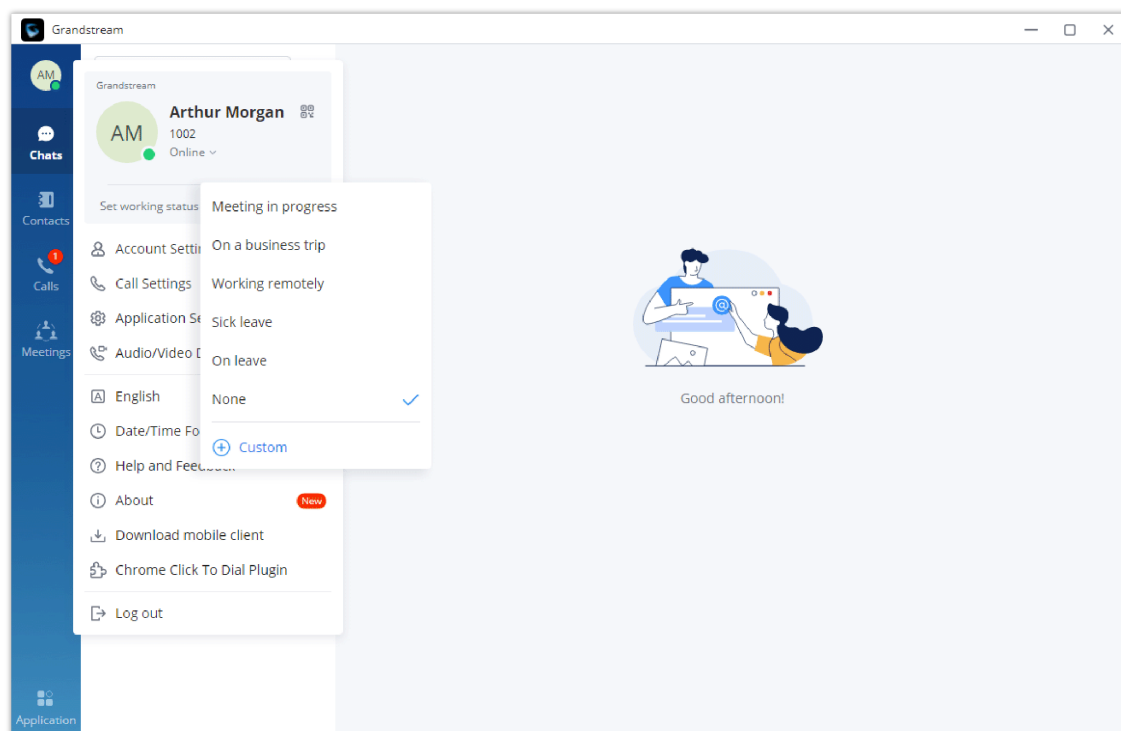
Account Status

- 10 **Online:** This is the default account status. The new calls and messages will prompt users.
- 10 **Busy:** The user is busy now, and the user can send/receive new calls and messages normally.
- 10 **Do not disturb:** The new incoming calls and messages will be prompted without any sounds, and there is no push notification. The new incoming calls will be ignored, and the new missed call history will be generated.
- 10 **Offline:** The account status will be displayed as offline, but the user can still send/receive calls and messages normally.
- 10 **Away:** The account status will be displayed as away, but the user can still send/receive calls and messages normally.

o Working Status

The user can click the status bar below the user icon and click “Set Working Status” to select the following working status: Meeting in progress, On a business trip, Working remotely, Sick leave, On leave, None, and Custom.

After setting the working status, it will be displayed in the contacts book and chat module.



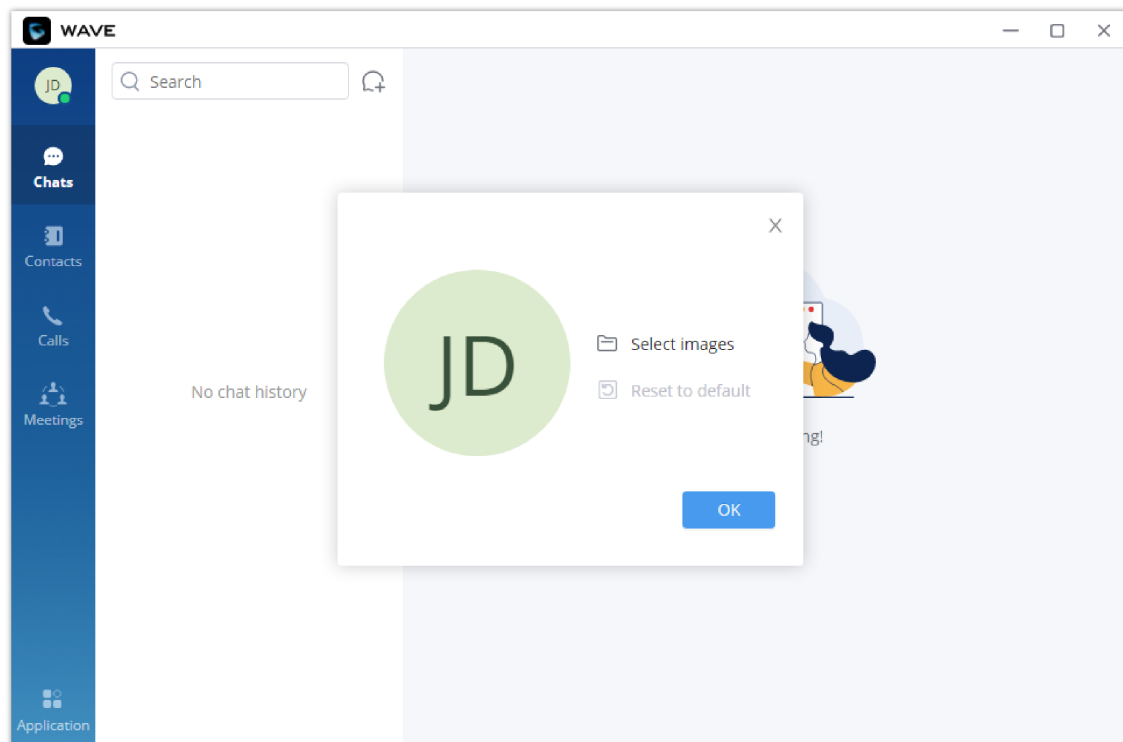
Note

The custom working status allows users to enter up to 64 characters, and emojis are not allowed.

Custom Avatar

Users can customize the profile avatar, and the custom avatar will be displayed in the contacts book, chat interface, and meeting interface.

- **Step 1:** Click on the account icon in the upper left corner, and click "Change profile picture". Users can modify the avatar as the screenshot shows below.
- **Step 2:** Click on "Select images" to open the local file selection window. Users can select the images from local files.
- **Step 3:** Select an image and click "OK" to upload the custom avatar to the application.



Custom Avatar

Users can click "Reset to default" option to restore the avatar to the original avatar.

Note

Custom avatar uploading only supports PNG, JPG, and JPEG files.

General Search

On Wave Desktop, users can perform advanced searches directly within the Chat tab, this allows quicker access to conversation history, participant information, and previously shared documents or files. This improves navigation and productivity, especially in active group conversations.

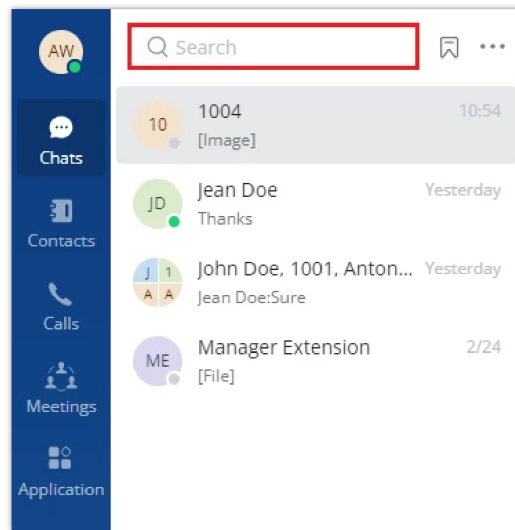
Users can search for:

- Messages containing specific keywords
- Contacts and group members
- Files shared in any conversation

and can choose from the below categories

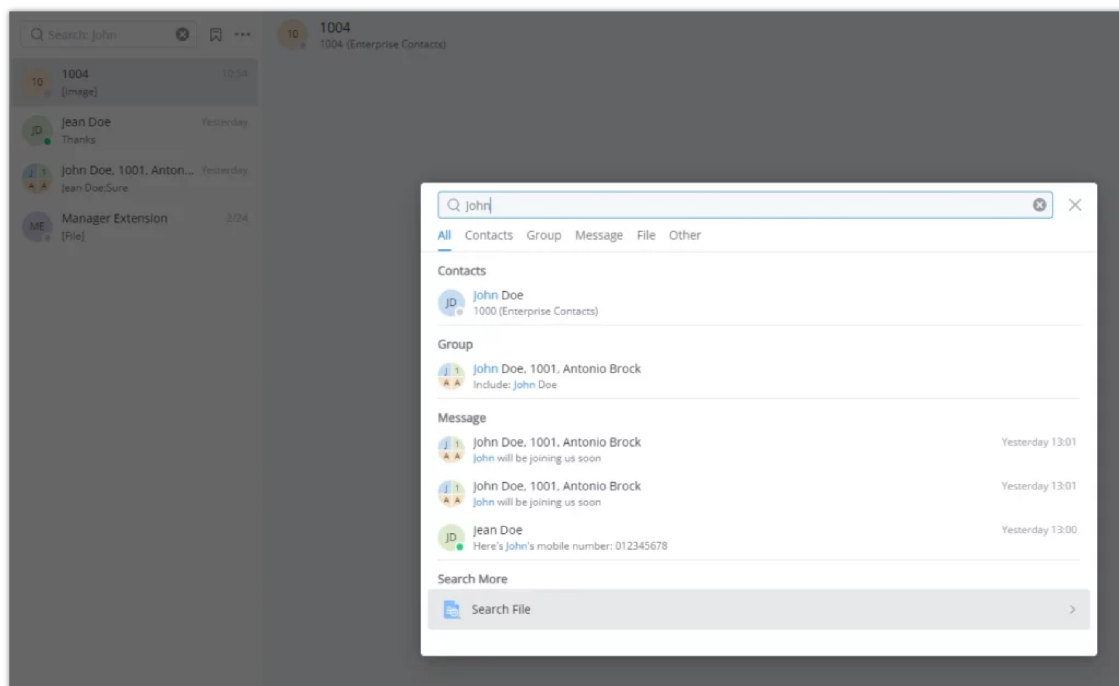
Search results are grouped by type. Users can access each tab to filter matches to a specific type only. To use this feature:

1. Open the Search function from the main chats menu.



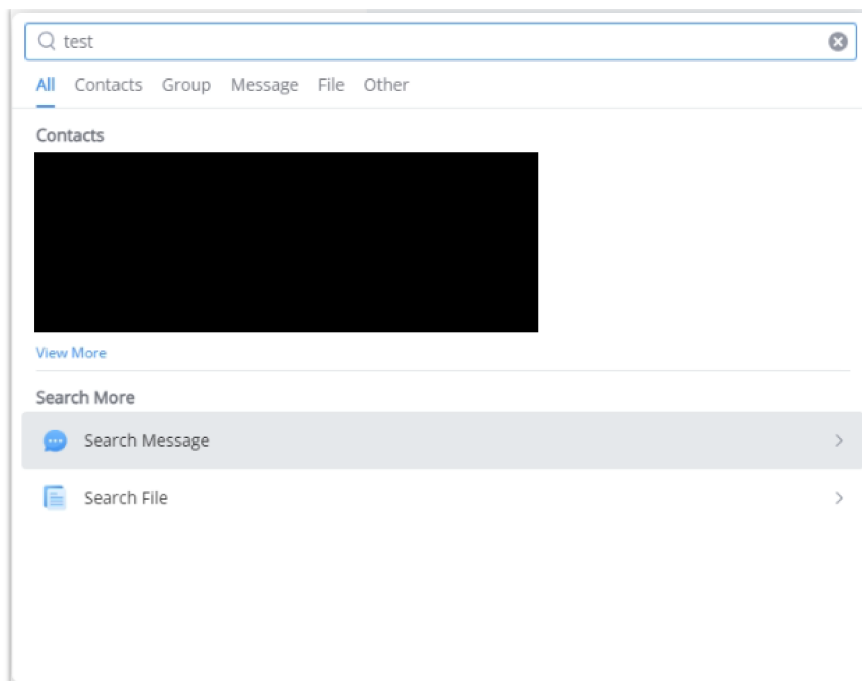
Wave Web Search Bar

2. Enter keywords in the search box.
3. Review results grouped by type (messages, files, contacts, etc).



Search Results

4. Tap a result to navigate directly to the corresponding group, message, file, or contact.
5. For more precise searches targeting a specific message, users can use the **“Search Message”** option.

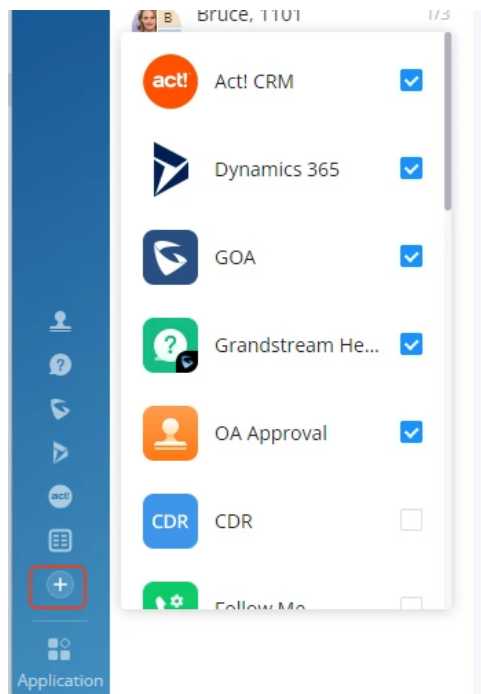


Search Message

Application Quick Access

Wave provides a customizable quick entry area on the left-side navigation bar for easy access to your frequently used applications.

1. On the left-side bar, click the plus (+) icon above the **Applications** button to open the selection menu.
2. You can select any existing application you want to have quick access to from the list.
3. The selected application will be pinned to the left navigation bar, remaining visible for fast, convenient access at any time.



Application Quick Access

CALLS

Making Calls

Users can use Wave desktop for point-to-point audio and video calls.

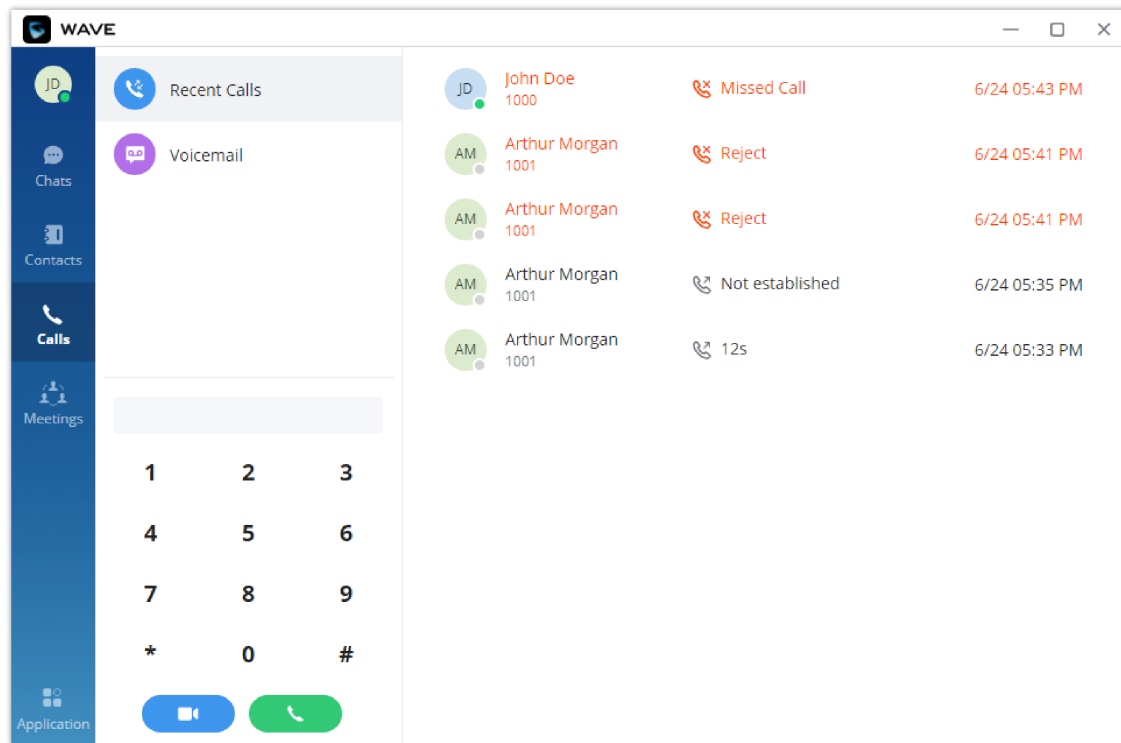
Initiating a Call from Keypad

1. After logging in to the Wave desktop, click on the "Calls" tab



on the bottom left of the page to bring up the

keypad.



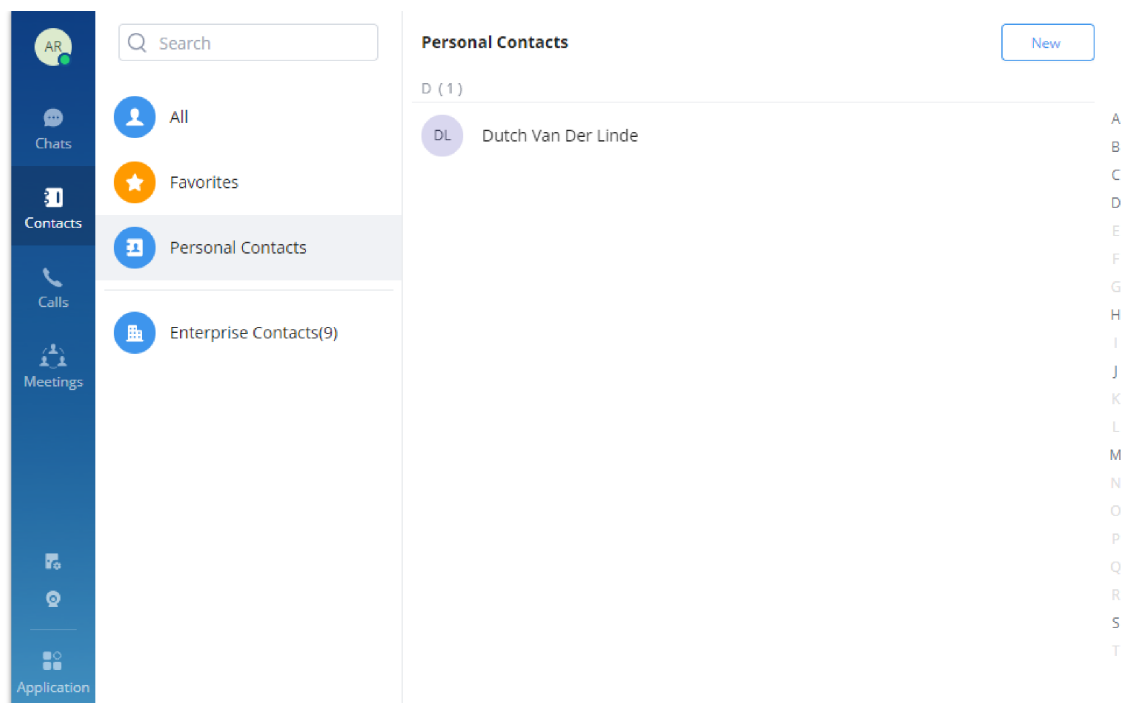
Initiating a Call from Keypad

2. Enter the number to dial. Recent numbers and contacts will appear automatically as you type.
3. Click on  for video call or click on  for audio call. Or press enter to start an audio call.

Info

- When dialing a number, the dial panel supports searching the last 50 call logs.
- All calls are routed via UCM. Users can dial internal extensions, PSTN numbers, and mobile phone numbers as needed.

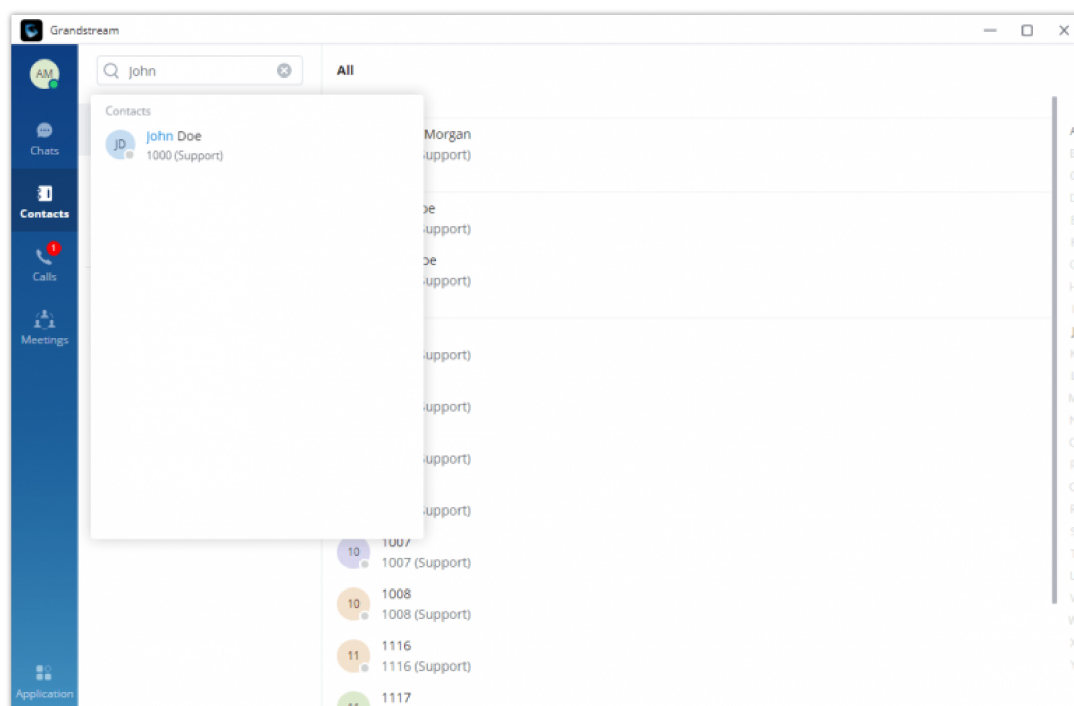
Call a Contact



Personal Contacts

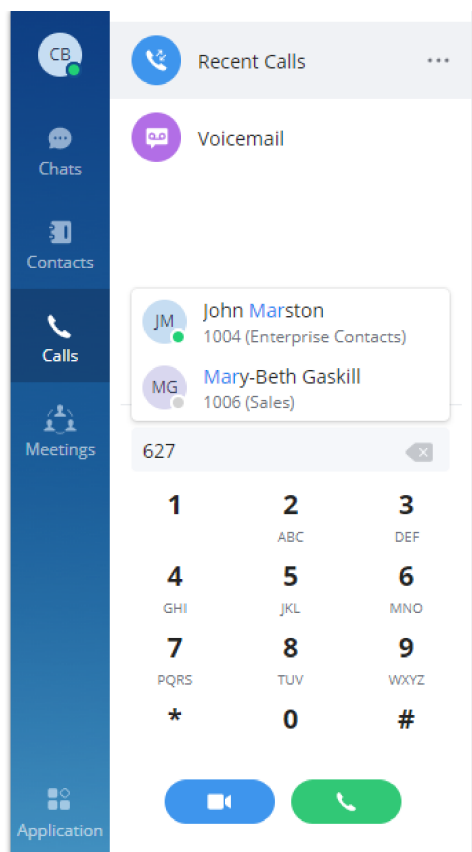
There are two repertoires in Wave: **Enterprise Contacts** and **Personal Contacts**. This helps the user to keep his/her contacts organized and he/she can easily find the information of a certain contact.

Users can search for a specific contact or a specific number to dial under the Contact Tab.



Contact search

The user can also use T9 contact search by entering the numbers which map to the dial pad letters existing in the contact name, as the example below shows.



1. In the search bar, enter the number or username to search.

2. Click on the search result. The details of this contact will show on the right.

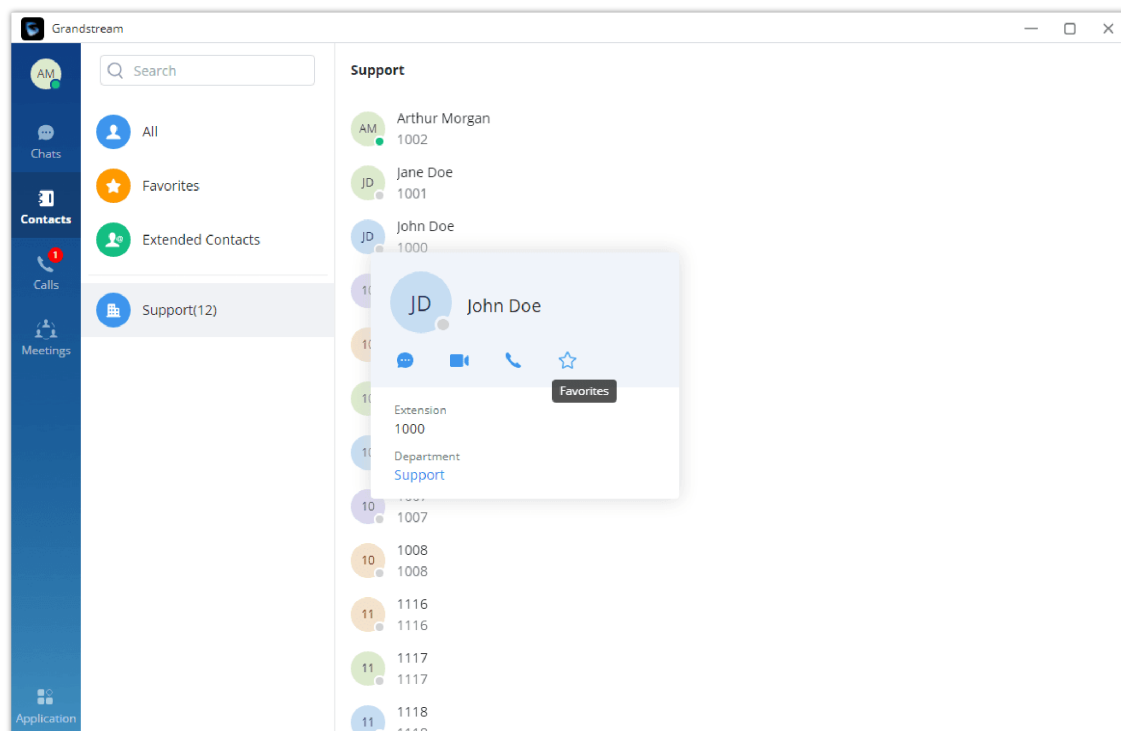
3. For the search result, clicking on



to make a video call and clicking on



4. Also, by hovering the cursor on the contact, you can add it to your favorite contact tab, as shown below:



Favorite Contacts

Note

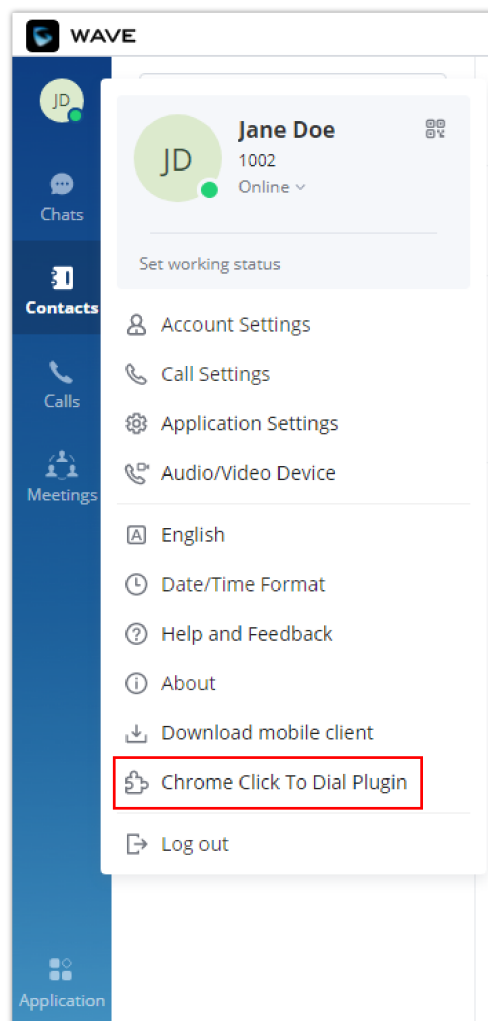
- The contacts displayed in the Wave desktop portal contain all UCM extensions, meeting room extensions, and LDAP contacts.
- The user will be able to see the contacts based on the privileges that have been configured on the UCM. For example, if the UCM administrator configures that a contact group can only view the contacts of their own group, then they will only be able to see the contacts of their own group.

Personal Contacts allow the user to add their own contacts to Wave to initiate calls to those specific contacts.

Click-to-Dial Chrome Plug-in

Click-to-Dial Chrome plug-in is another way to quickly initiate calls from your Chromium-based web browser (Google Chrome, Microsoft Edge, and Opera). To install this plug-in in your browser, please follow the steps below

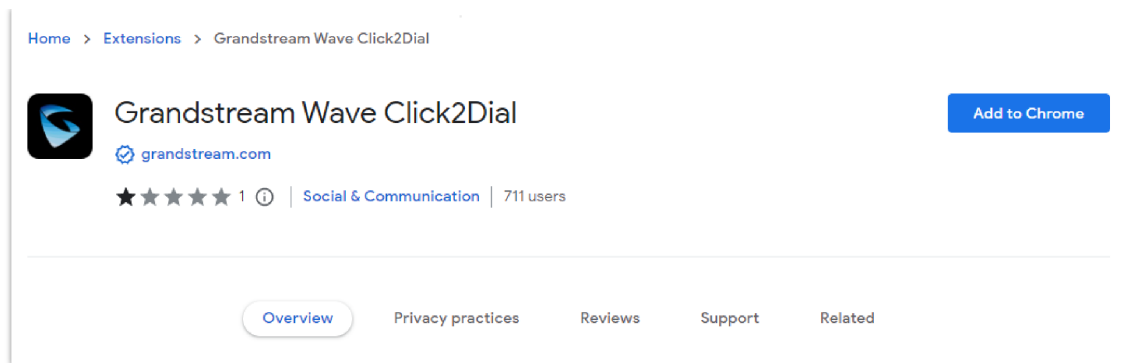
Step 1: Click on your profile picture in Wave Desktop, then select “Chrome Click to Dial Plug-in”.



Chrome Click to Dial Plug in

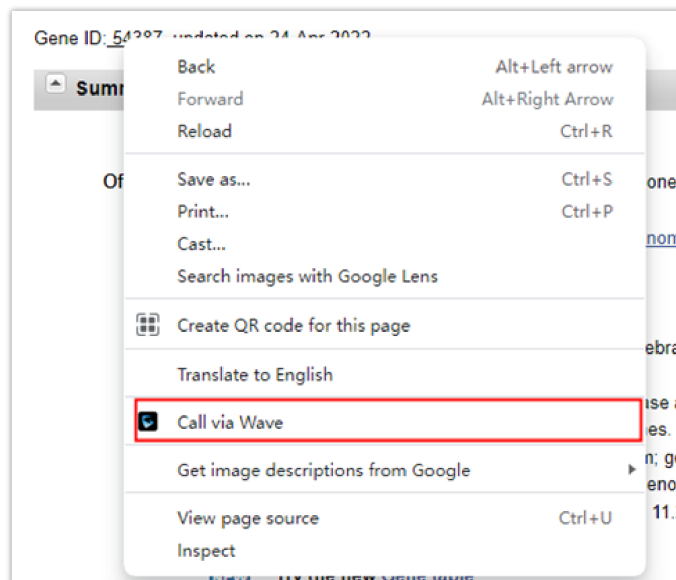
Step 2: A window will pop up showing the plug-in. If you are using Microsoft Edge or Opera, you might have a prompt that will ask if you want to allow installing plug-ins from Chrome Web Store. Please go ahead and click allow. Then click

Add to Chrome

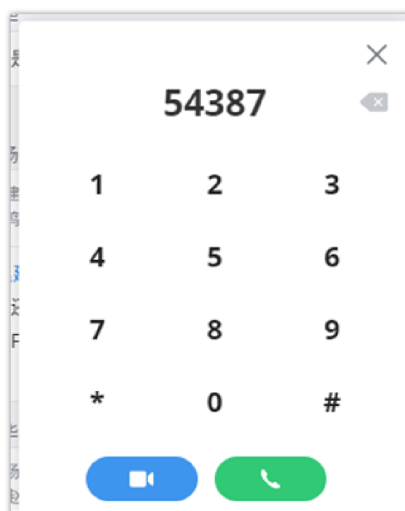


Wave Click to Dial Chrome Add in

Now that the plug-in has been installed, it will be detecting the numbers on the web page, and by right-clicking on the number, you can quickly have it dialed in Wave. Please see the figures below.



Click to Call via Wave



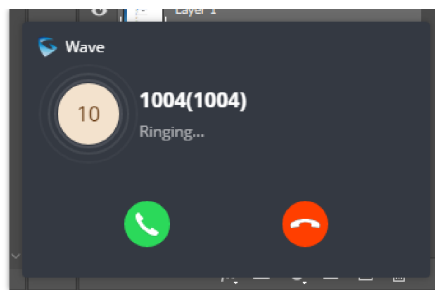
Wave Click to Call Number

Note

Please note that the Click-to-Dial Wave plug-in will only take into consideration numbers that consist of 5 digits or more.

Answering Calls

If the user has logged in to the Wave desktop, when there is an incoming call, the desktop will prompt an incoming call notification in the bottom right corner. Clicking on the notification will bring up the Wave desktop page.

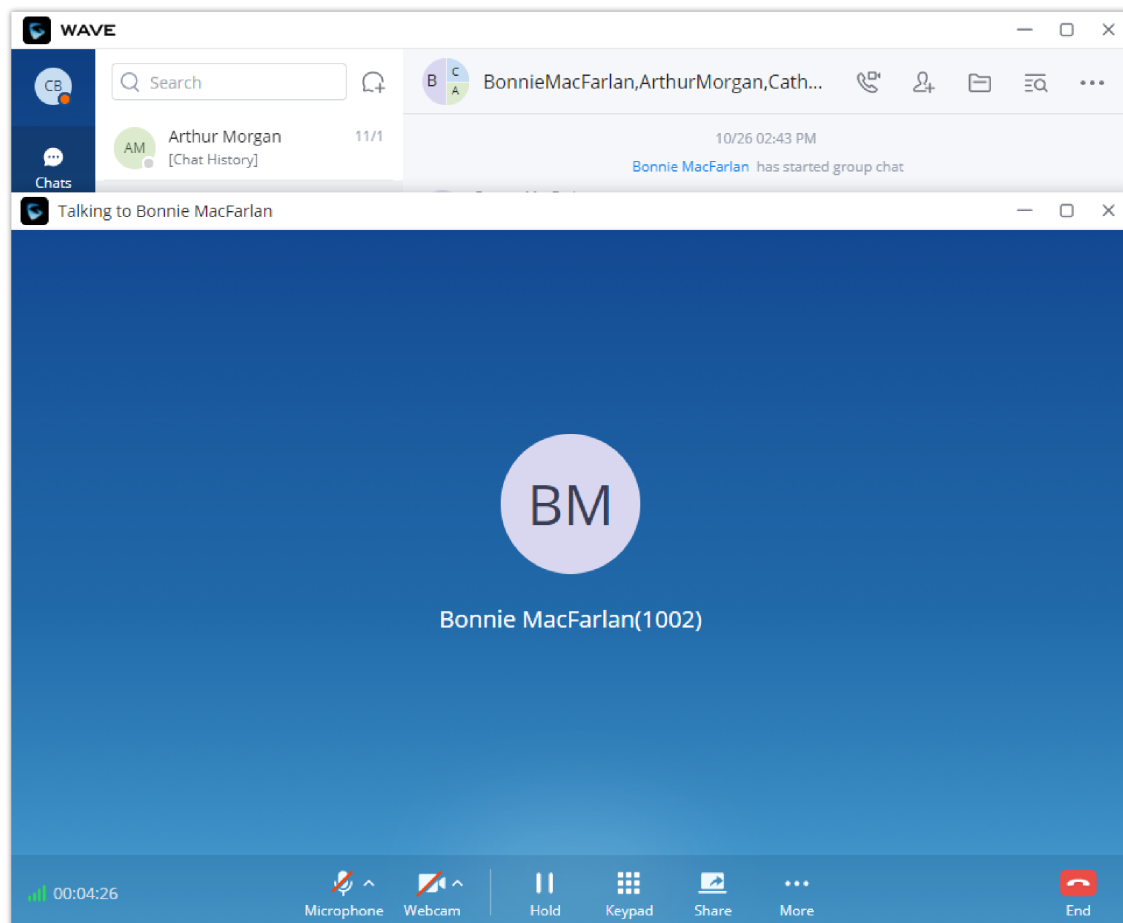


Incoming Call Notification on the Desktop

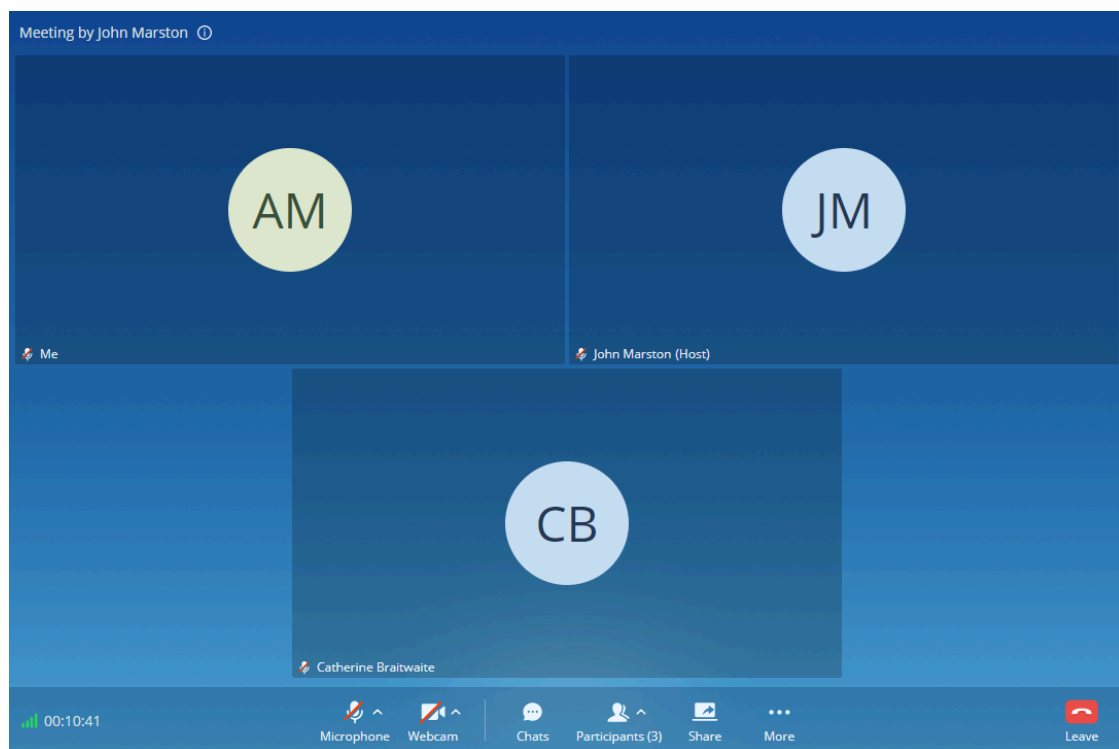
- If it is an audio call, the user can select  to answer the call, or select  to hang up.
- If it is a video call, the user can select  to answer with video, select to answer with audio only, or select to hang up.

During a Call

Once the call is established, a new window will open which you will have the call controls, as well as the video feed if it's a video call. The users can use the call controls to mute/unmute themselves, enable and disable their video feed, screen share (video calls only), hold/unhold the call, and transfer the current call.



One to One Call



Meeting Call

-  : View current network connection status including audio and video packet loss.
-  : End call.
-  : Mute/unmute. Users can click "**More**" button to enter the alternative ringing speaker settings interface.
-  : Video on/off. Users can click "**More**" button to enter the virtual background settings interface.
-  : Share screen, whiteboard or pdf file
-  : Click to open more functions such as transfer.
-  : After clicking on for more functions, click on this icon to hold the call.
-  : After clicking on  for more functions, click on this icon to transfer the call.
-  Click on this icon to enter DTMF.
-  After clicking on  for more functions, click the button to transfer both parties' calls to the conference room for the call, so that more people can be added to the conference.

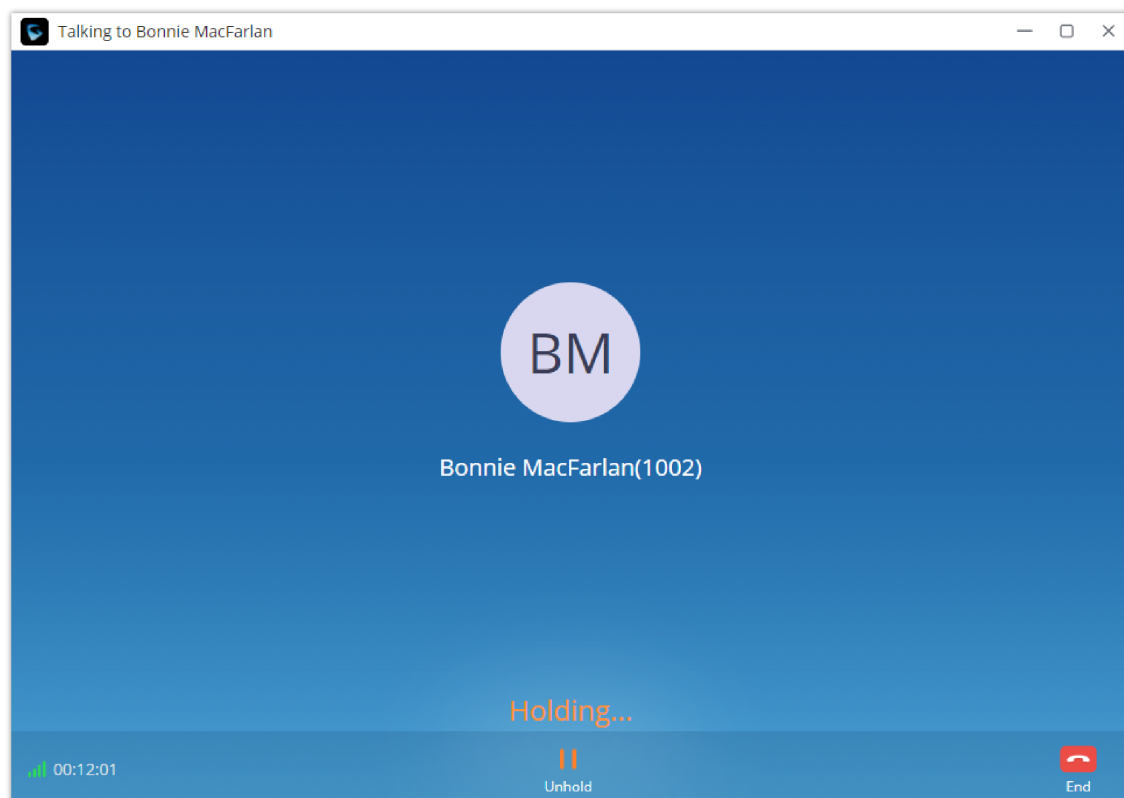
During a video call or screen-sharing, when the user minimizes the call screen, a small window with the toolbar will appear on the top right corner of the screen showing a small video of the camera feed or the screen-sharing.



Minimized Call Window

Hold/unhold

1. During call, click on Hold  to put the current call on hold.
2. To resume the call, click on .



Call On Hold

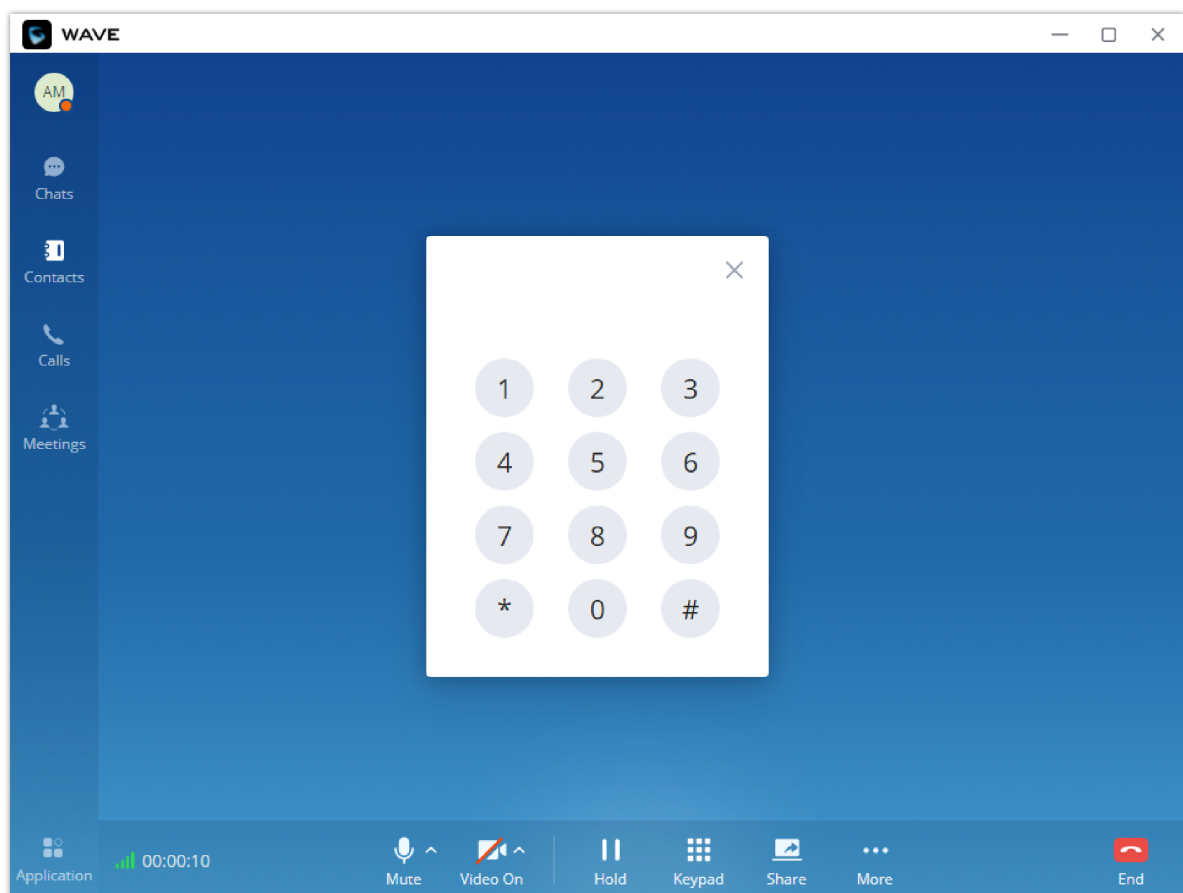
Mute/unmute

1. During call, click on  to mute the call. The user will not be heard by other parties anymore.
2. To unmute the call, click on .

Mute during a Call

DTMF

1. During the call, press the more button to open the menu page, and click the DTMF  button and a soft keyboard will be opened, as shown in the figure below.

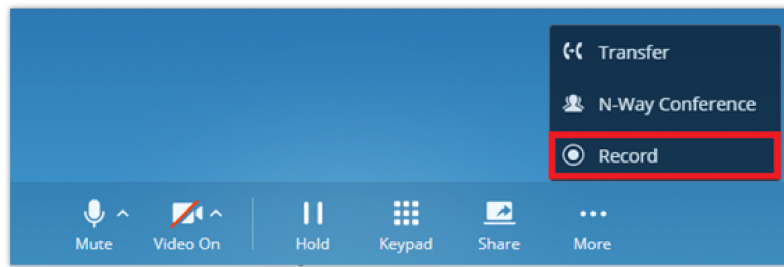


Open the DTMF Keyboard Interface during a Call

2. Click on the numbers that needs to be entered.

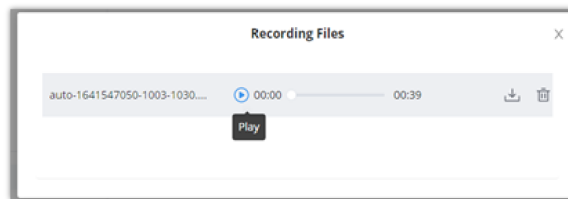
Record one-to-one Call

Users can start the audio recording function during the one-to-one call. Users can click the More button → Recording button to record the current call. Please see the screenshot below:



Record a call

When the call is ended, users can click the button on the call history interface following the specific call log to listen to the call recording, and download/delete the recording files. Please see the screenshot below:



Call Recordings

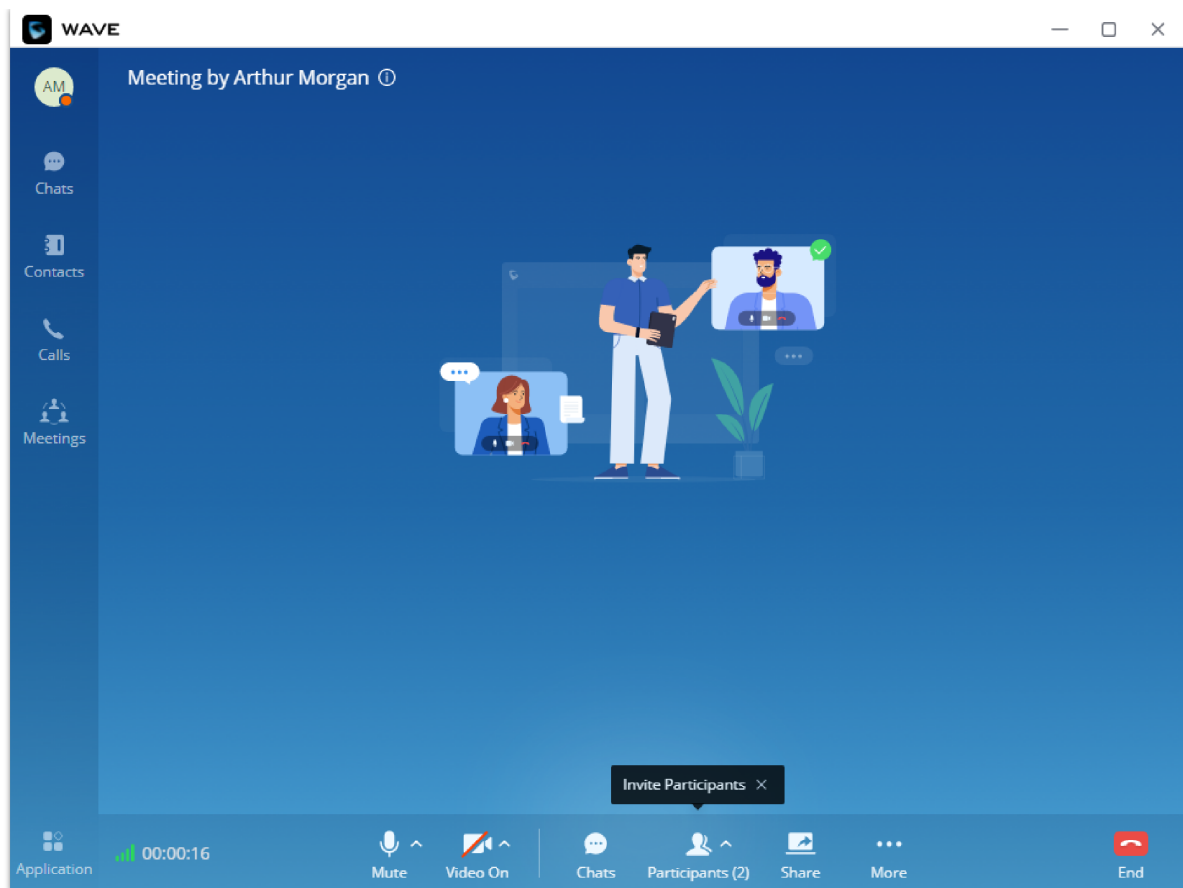
Note

In the UCM settings (Maintenance → User Management → Edit User → Portal Wave Privileges), you can disable the recording status. When this option is turned off, calls may still be recorded, but the recording icon will no longer be displayed to the user.

Transfer to Meeting Room

1. During the call, the user can click “...” button to open the menu and click the “**N-way Conference**” button to transfer the current call to the random video meeting room. As the figure shows below:

2. When the call has been transferred to the video meeting room, the operator will become the meeting host.

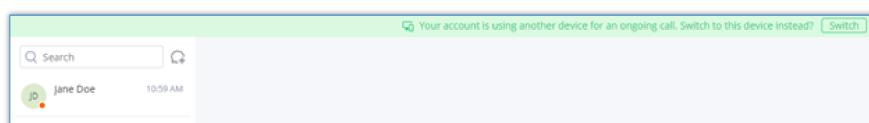


Transfer to Video Meeting Room

Call Flip Function

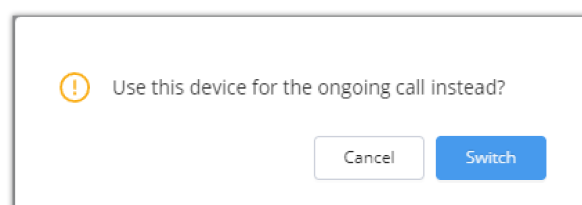
Let's say you initiated a call on your GS Wave softphone app, but when you arrived to your office, you wanted to continue the call on your Grandstream desk phone or on Wave Web client. Call flip function allows to do that seamlessly. Without any interruption, you can switch between calls from device to another without having to hang up the call. Also, the callee won't notice that you have switched devices. In order to be able to use the call flip function, make sure that both devices have the same account configured on them.

On the device you want to switch to, a green bar will appear notifying you that there is already a call ongoing on a different device. In our example, if you open Wave Web App you'll see the green bar on top side of the screen and if you wish to continue that call on the Wave Web app, click on [Switch](#).



The Call Ongoing on a Different Device

After you click on "Switch" this prompt will appear:



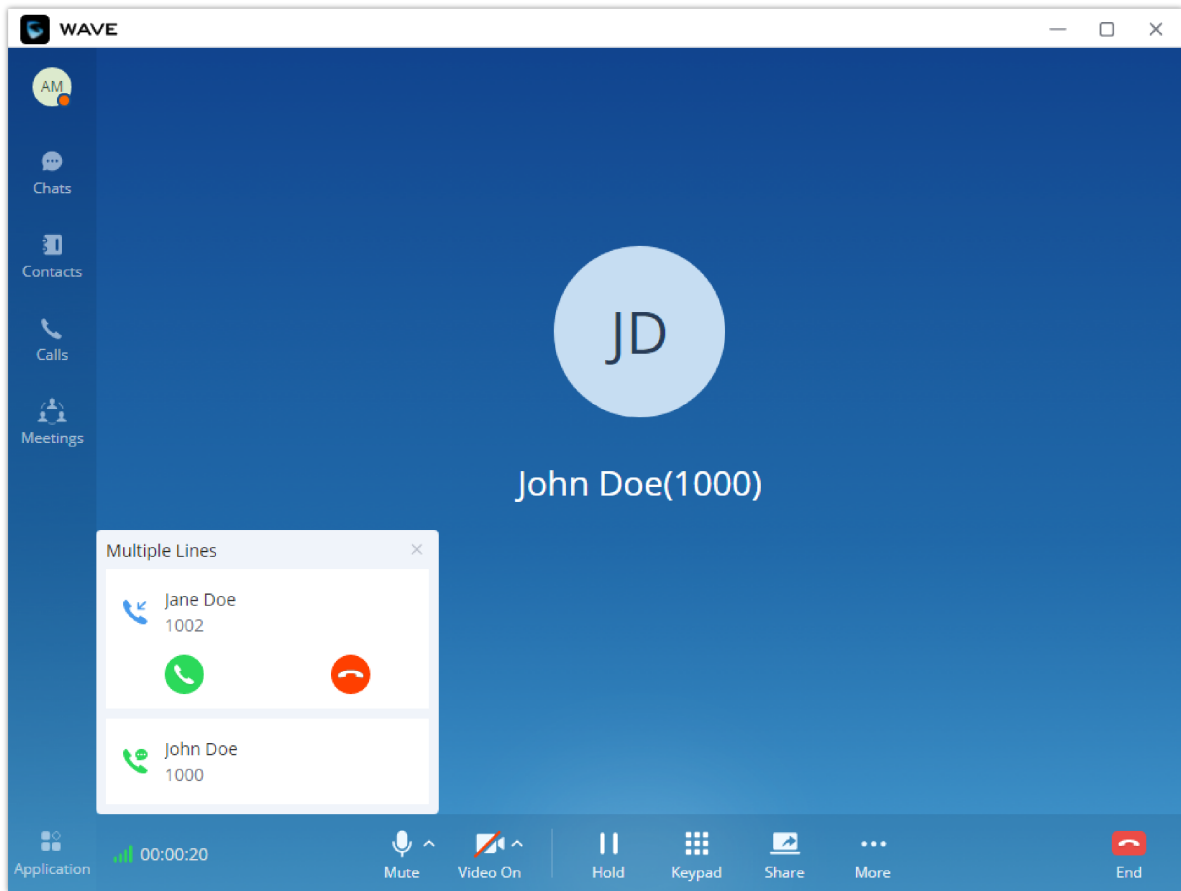
Confirm Your Choice

Confirm your choice by clicking on [Switch](#)

The call will be switched to the Wave Web App without any interruption.

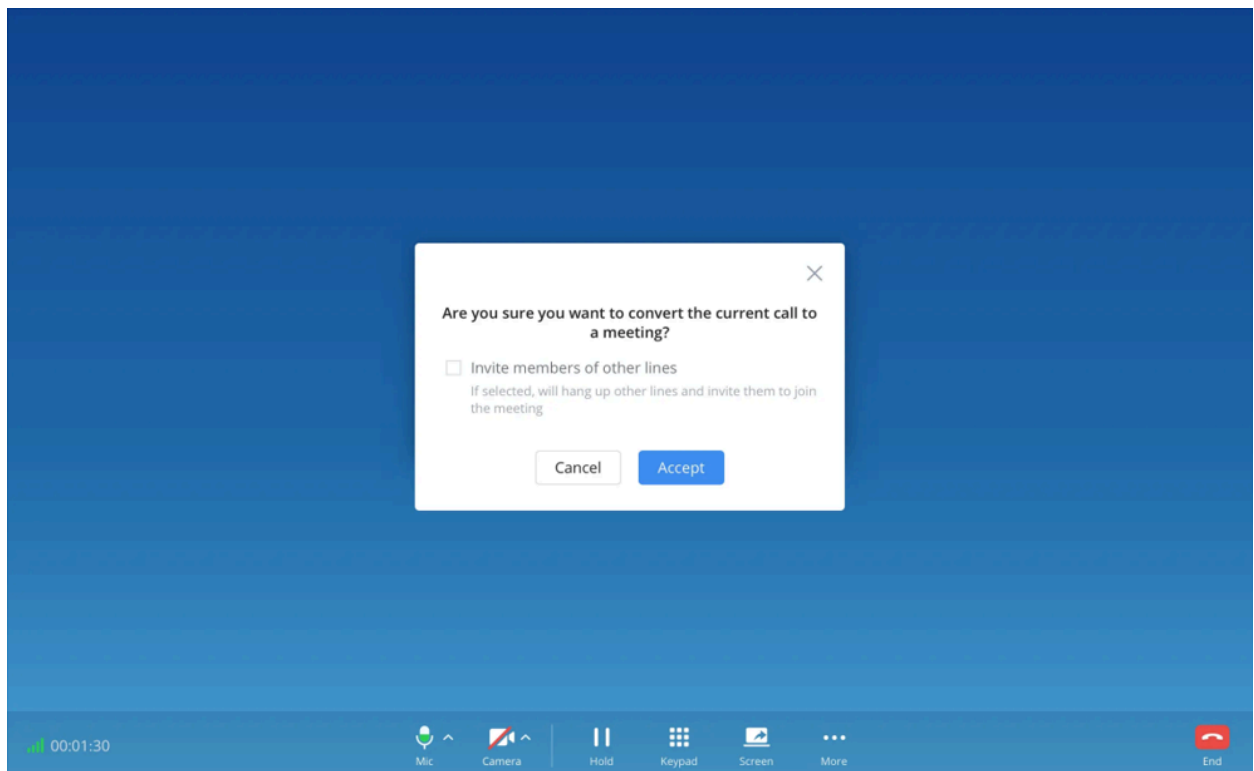
Multiple Lines

It supports two-line calls at the same time. The user can quickly switch between lines in the lower left corner. The user can click button  to answer the call and click button  to hang up the call.



Multiple Lines

If the user wants to convert all the calls received on the lines into a meeting, he/she can click on "More" and then choose "N-way conference" then check "Invite members of other lines", then click "Accept".



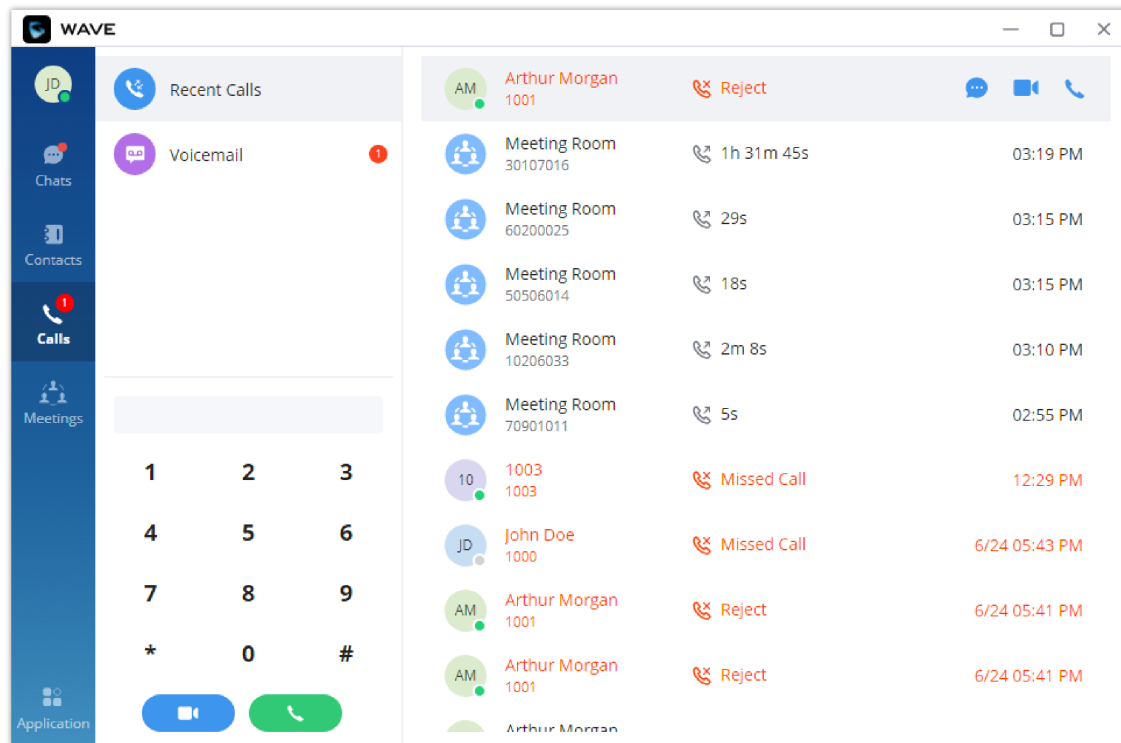
Convert the Ongoing Call Into a Meeting

Call History

Users can click on “Calls” menu on the left side of the application UI and click “Calls” menu to view all call history of the current Wave account. Users can view call history, search in call history, view details or initiate calls from there.

Note:

In Call Queue and Ring Group scenarios, the call history displays the name and number of the person who actually answered the call.



Recent calls

- The user can enter the number or username to search in call history.
- Scroll up and down to view more call history if existed.
- For the call history entry, click on



to make a video call and click on

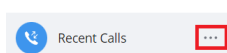


to make an audio call or



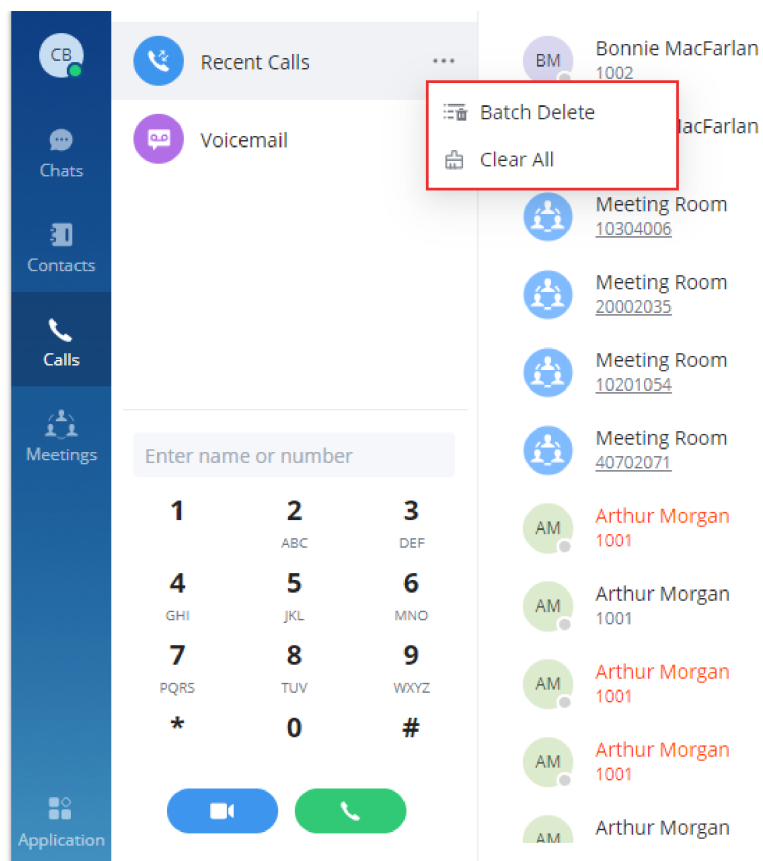
for a chat.

- When a call history entry is selected, the details of this entry are displayed on the right side.
- Click on



for more options:

- “**Batch Delete**”: To select multiple entries and delete them.
- “**Clear All**”: To delete all the call history entries at once.



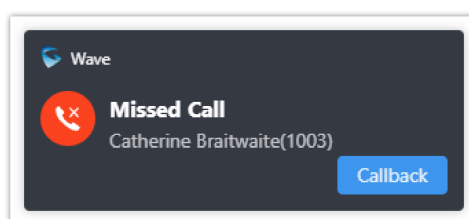
Call History Batch Delete Clear All

Call history can have the following type of calls:

 : Incoming audio calls
  : Outgoing audio calls
  : Missed audio/video calls and rejected calls
  : Incoming video calls
  : Outgoing video calls

Missed Calls

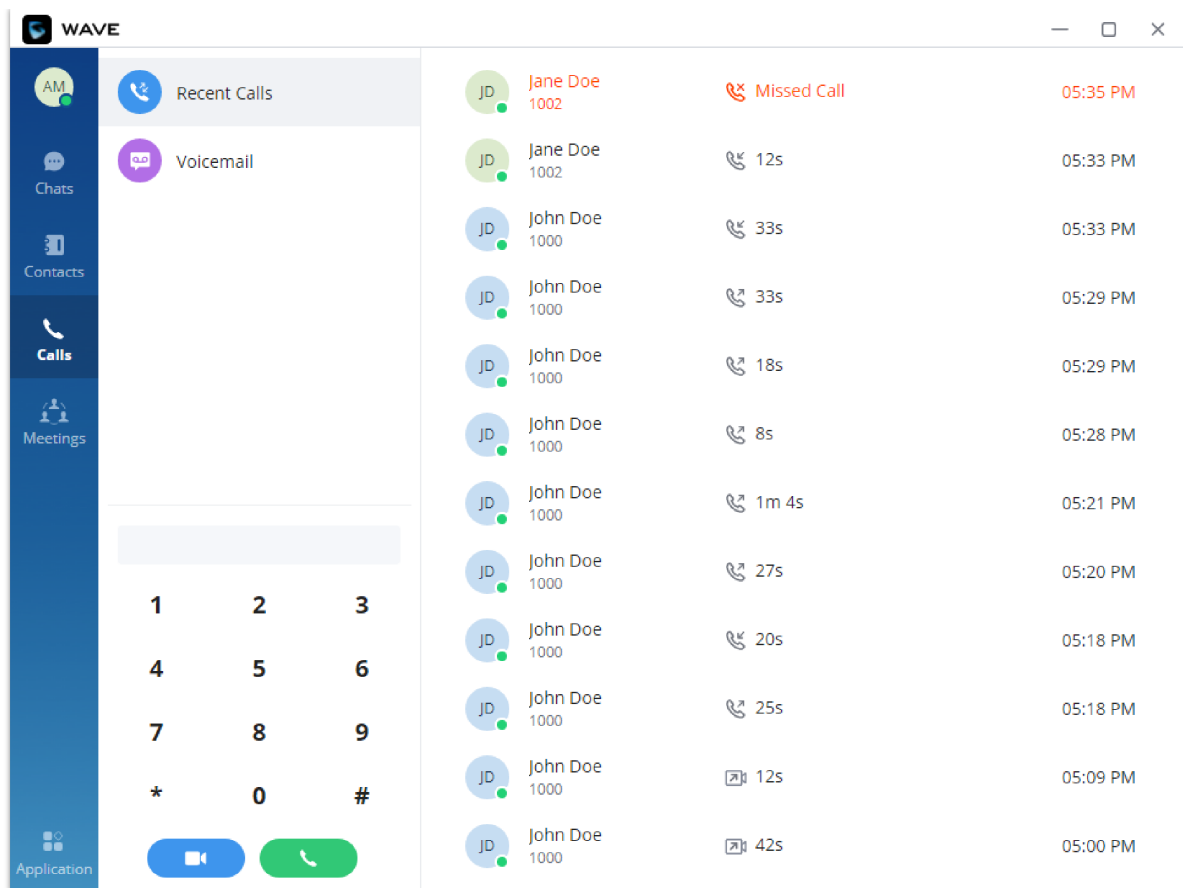
If there is a missed call, there is a notification on the lower right corner of the desktop, as the screenshot shows below:



Missed Call Notification

The user can quickly call the extension back by clicking on 

Users can check missed calls under **Calls** Tab.



Recent Calls

CALL TRANSFER

Wave desktop users can transfer current call to another party via blind transfer or attended transfer.

Blind Transfer

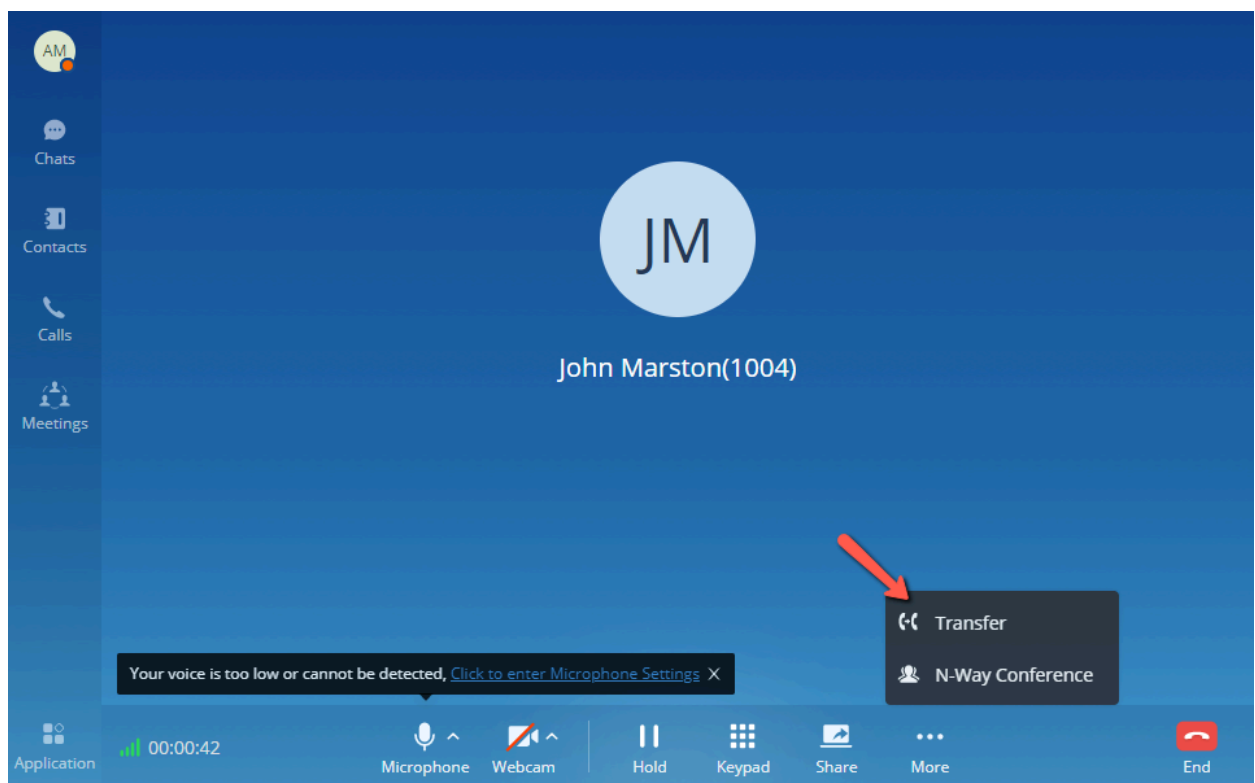
1. User A is using Wave desktop. Establish call between User A and User B.
2. On User A Wave desktop call screen, click on  icon and select transfer .
3. Enter User C's number as the number to transfer the call to. The number will be listed in the search result.
4. Click on "Blind" to perform blind transfer.
5. User C rings. User A hangs up automatically. When User C answers, the call between User B and User C will be established.

Blind Transfer

Attended Transfer

Step 1: There is a call which is in progress between extension John and Arthur.

Step 2: Arthur clicks on  **Transfer** button then select the contact to which he wants to initiate the transfer to.



Transfer Call

Step 3: Arthur selects to start an attended transfer to Catherine.

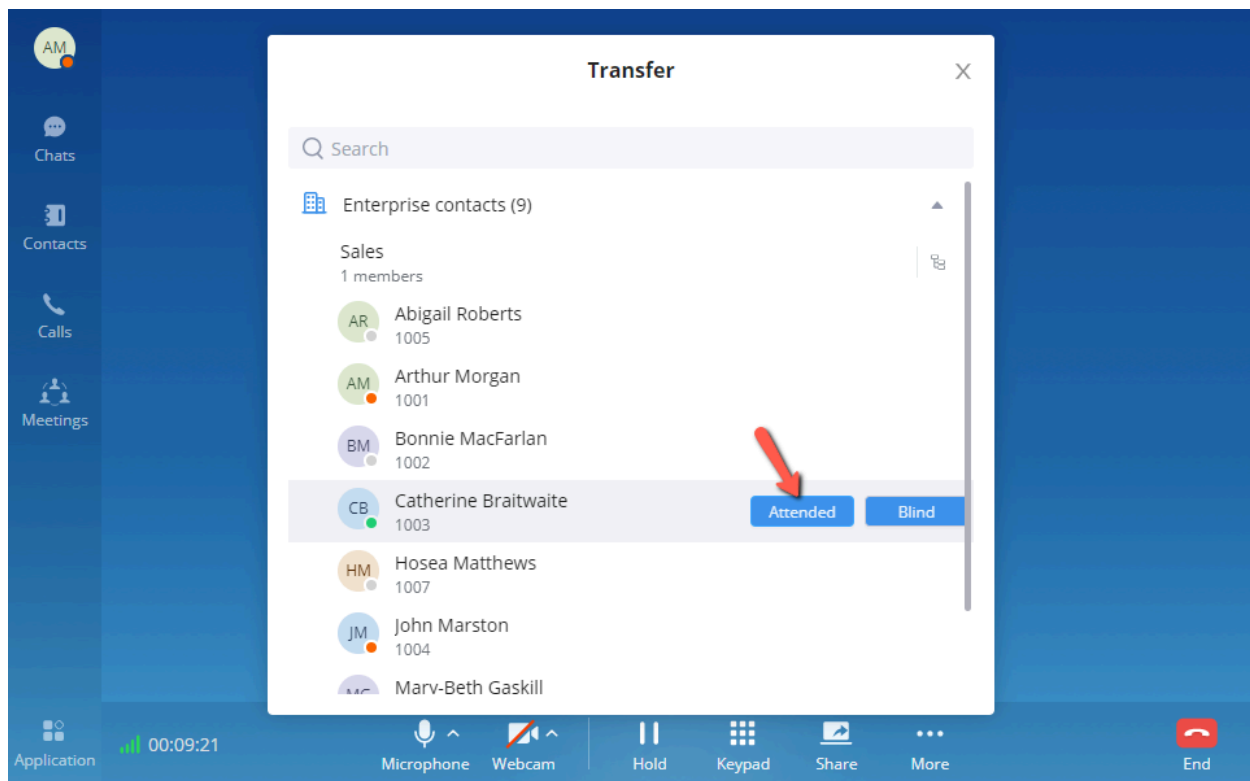
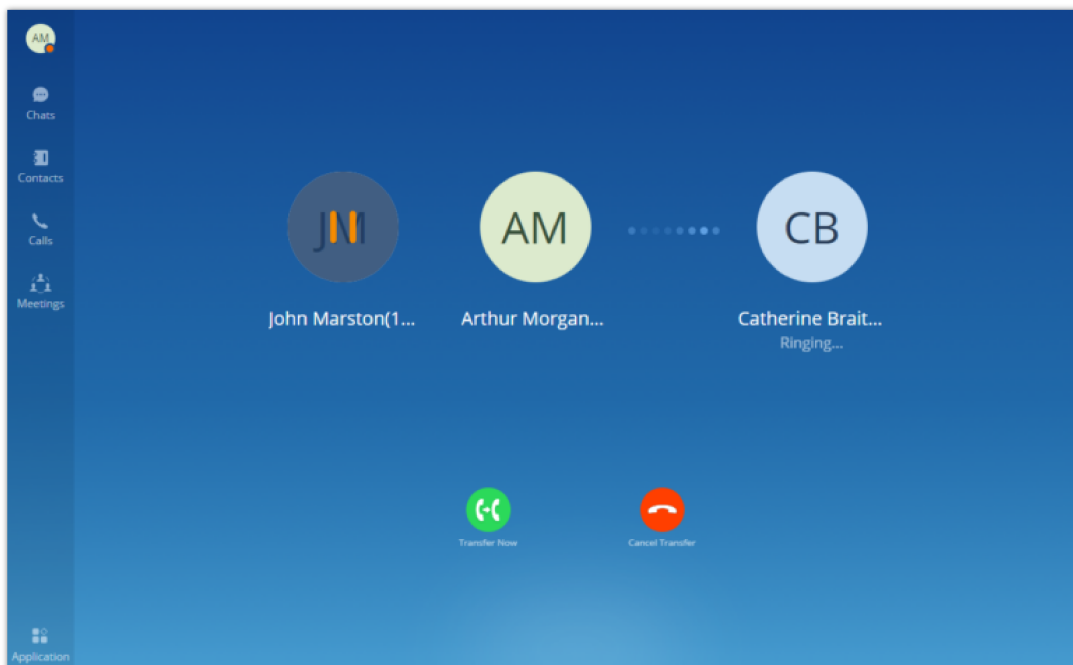


Figure 104 Attended Transfer

Step 4: Once the attended transfer has been initiated, the call between John and Arthur will be put on hold, and Catherine's extension will start ringing. John will be hearing the On-Hold music.

- **Transfer Now:** The call between Arthur and John will hang up and the transfer will be performed, regardless if Catherine answered or not.
- **Cancel Transfer:** The call between Arthur and Catherine will hang up, and the call between Arthur and John will be resumed.



Attended Call Transfer

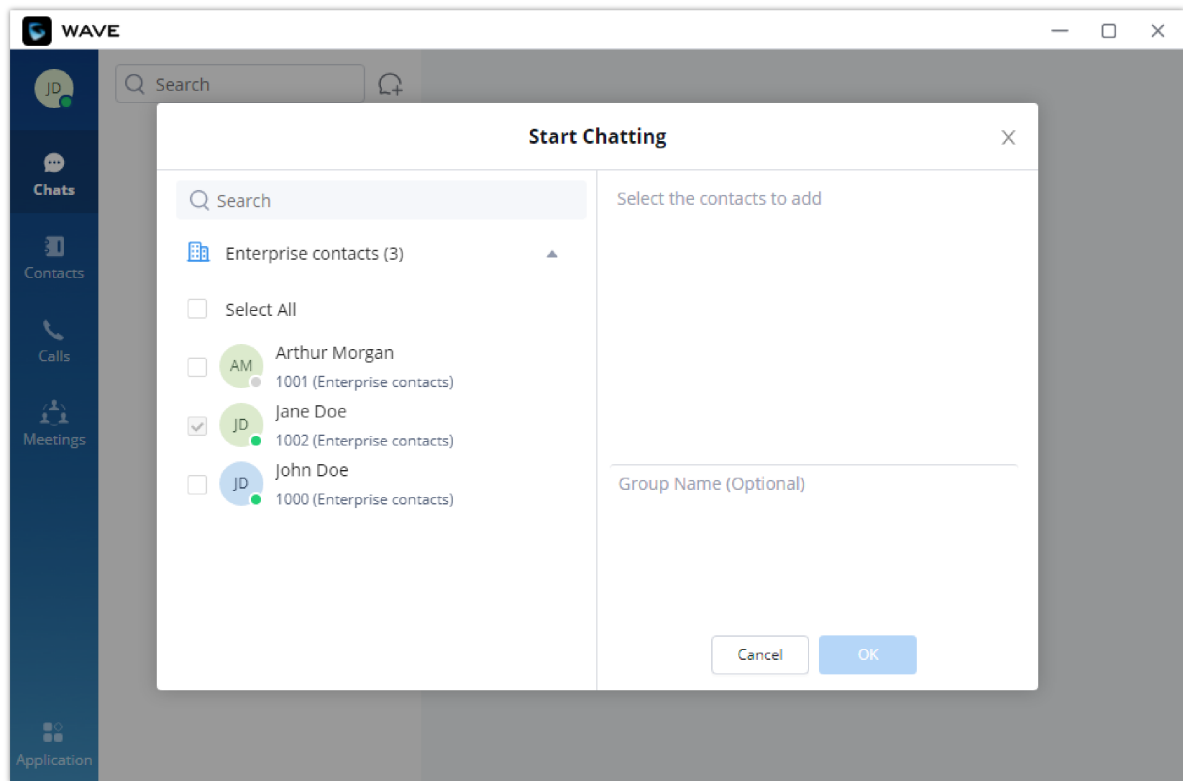
CHATS

Wave desktop allows users to conduct a peer-to-peer chat or a group chat. After logging in Wave desktop, click on "Chat" on the left panel to open the chat page.

If you want to use the cloud IM system, go to the Grandstream official website to learn about the CloudIM package.

Start a single chat

Method 1: After clicking on the “Chat”, the user needs to click on  button, then select the other party he/she wants to chat with and click OK to enter the single chat interface.



Adding Chat Interface

Method 2: User can click on “Contact” tab, find the contact he/she wants to chat with, and click  button, the user will be redirected to the chat section.

Method 3: The user can click on the “Calls” tab, find the contact he/she wants to chat with, and click  button to initiate the chat.

Method 4: The user can click on “Keypad” tab, find the contact he/she wants to chat with among the calls log, and click  button to initiate the chat.

End-to-End Encrypted Chat

Wave supports end to end encryption which encrypts the messages from the terminal which is sending the message and decrypt the message once it reaches the recipient’s terminal. This protects the confidentiality of the messages exchanged; this includes all the types of messages, text messages, images, documents, and files. Waves uses advanced asymmetric encryption technology to ensure that nobody, other than the two parties, can read the messages.

Important Note

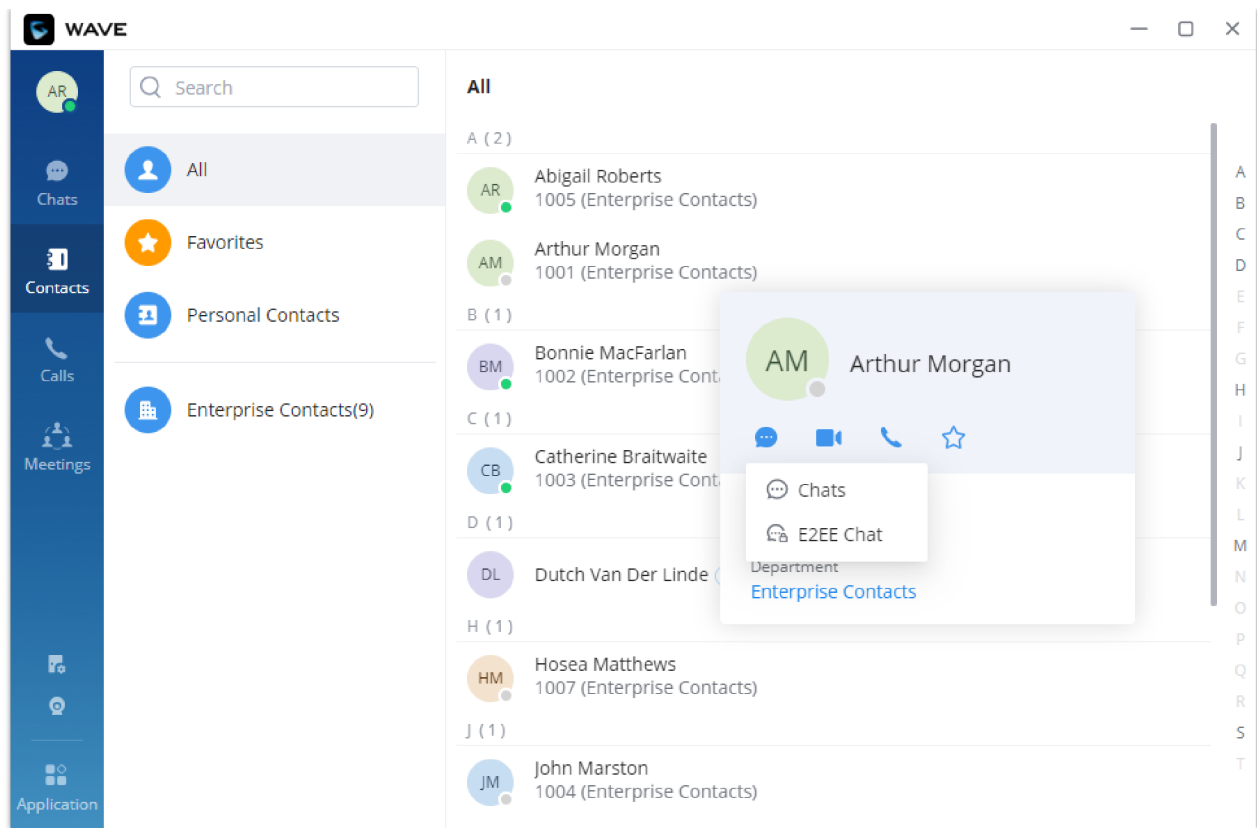
Please note that the end-to-end encryption feature is only available on the paid plans. For more information, please refer to: <https://ucmrc.gdms.cloud/plans>

Important Note

Please note that end-to-end encryption is not supported on group chat and audio/video calls.

Wave point-to-point chat is by default not encrypted, but if the user wants to start an end-to-end encrypted chat, then please follow the steps below.

Navigate to **Contacts**, then select the hover the mouse cursor over the profile picture of the contact, after than click on  and on the menu, click on **E2EE Chat**.



End to End Encryption Chat

Start a Group Chat

Method 1: After clicking on the “Chat”, user need to click on  Button, then select multiple contacts he/she wants to chat with, enter the group name, and click OK to enter the group chat interface.

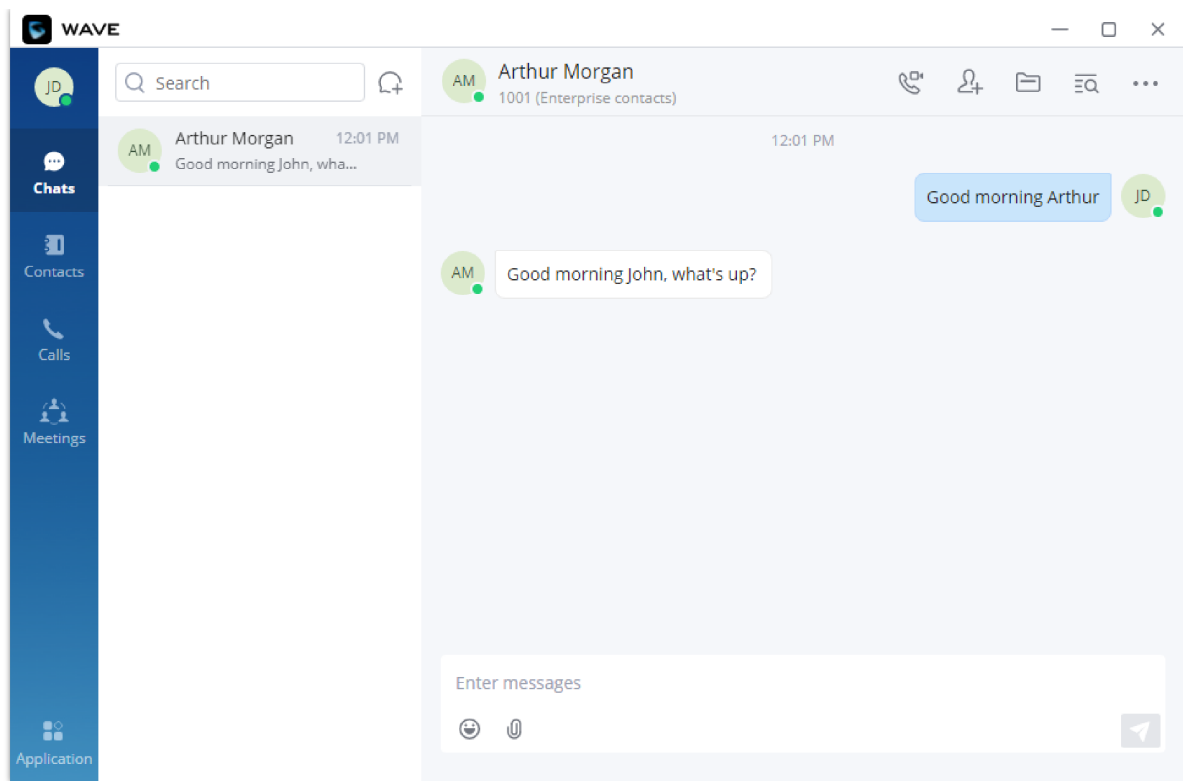
Method 2: In the single chat window, user need to click on , then on  to invite more contacts to form a group chat.

Note

Up to 500 users can be selected when creating a group chat.

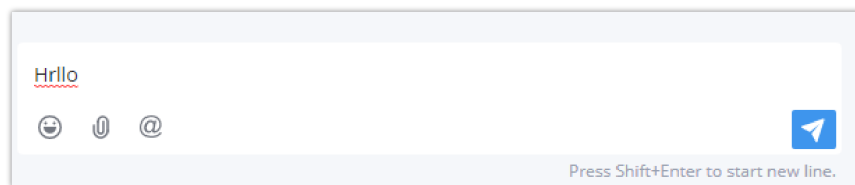
Send Messages

In the chat interface, sending text, emoticons, files/pictures are supported.



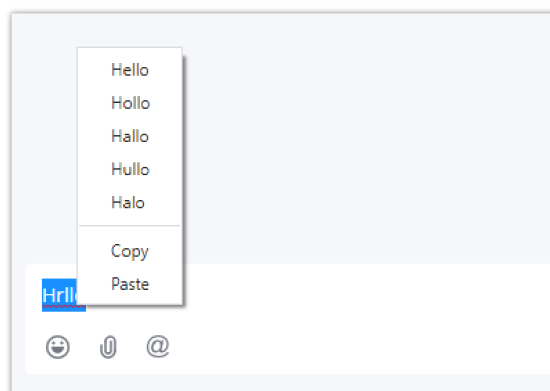
Chat Interface

While typing a message in the chat box, Wave will underline any misspelled words if **Spell Check** is enabled.



Misspelled words detection

By right-clicking on the misspelled words, a list of similar words will pop up to help the user choose which word they want to type.



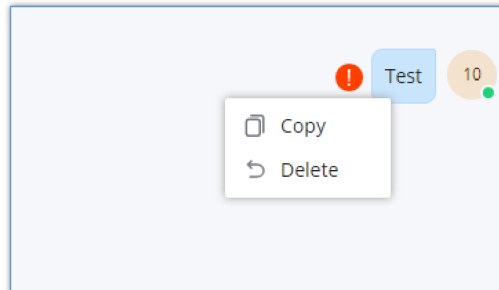
Dictionary suggestions

Notes

- Text: Support sending any characters within 5000 characters.
- For a new line, press Shift + Enter to wrap.
- For emoticons, click on , to select one or more emoticons to send.
- For a file/picture, click on , or drag a file to this window. You can select a file/picture to send from the local computer, and the file size is limited to 50 MB.
- For call, if it is a single chat interface, click on  to call the other party, select  Audio call button to call the other party in audio. If it is a group chat page, click on the same button to initiate a group conference call; all group members will be called by default, and group chat messages will be brought into the chat box in the conference call.

- For video call, only the single chat interface can initiate a video call; click on , then select  Video call button to initiate a video call to the other party.
- @Everyone/someone: Only supported in group chats. Enter @ in the input box or click on "@" button to send messages from @all or someone, and the other party will remind you of @Message.
- **Send Excel Content:** Copy the contents in the Excel file and paste the contents to the chat window. The user can select to paste the contents in text (Paste text) or image (Paste image), and then send out the contents.

When a message fails to send, a red exclamation mark will appear right next to it as shown in the screenshot below:



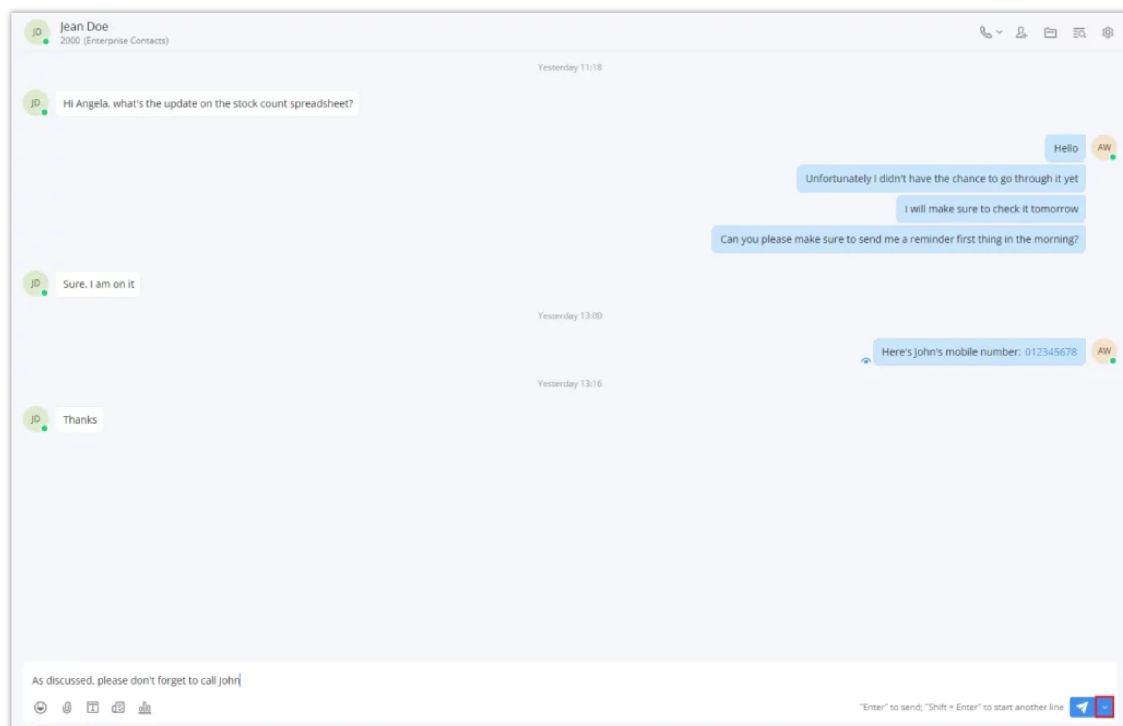
Message Failed to Send

You can click on the exclamation mark to try to send it. Or, you can delete it by right-clicking on it and choose "Delete".

Schedule Messages

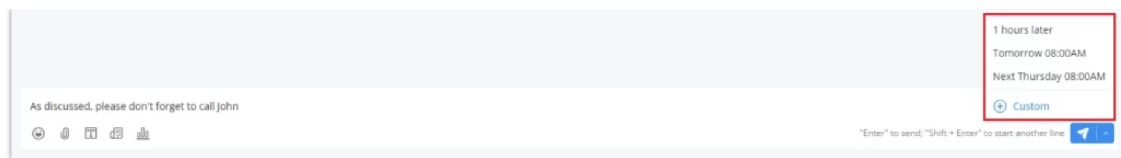
The Scheduled Message feature allows users to compose a message and schedule it to be sent automatically at a specific date and time. Messages can be created directly from the chat interface using the following steps:

1. Navigate to the Chats tab and open the desired conversation.
2. Enter the message in the text input field.
3. Click the arrow icon next to the Send button to open the scheduling options instead of sending the message immediately.



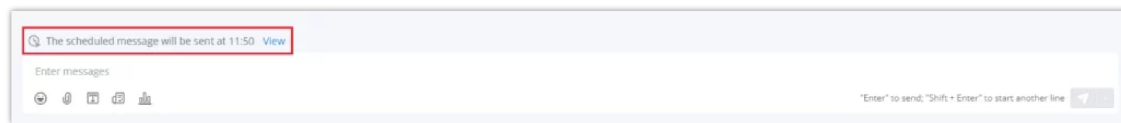
Schedule Message Icon

4. Choose the delivery time for the message. Users can select from predefined options or set a custom date and time.



Select Time for Scheduled Message

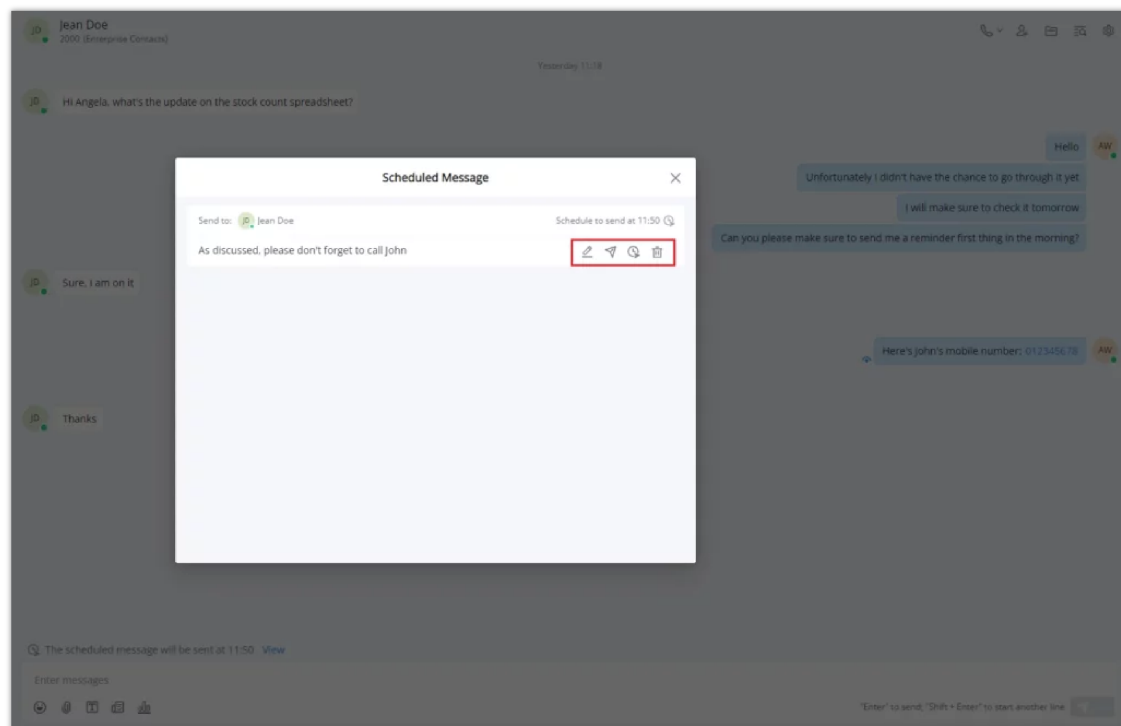
5. The message will be queued and delivered automatically at the scheduled time.



Queued Scheduled Message

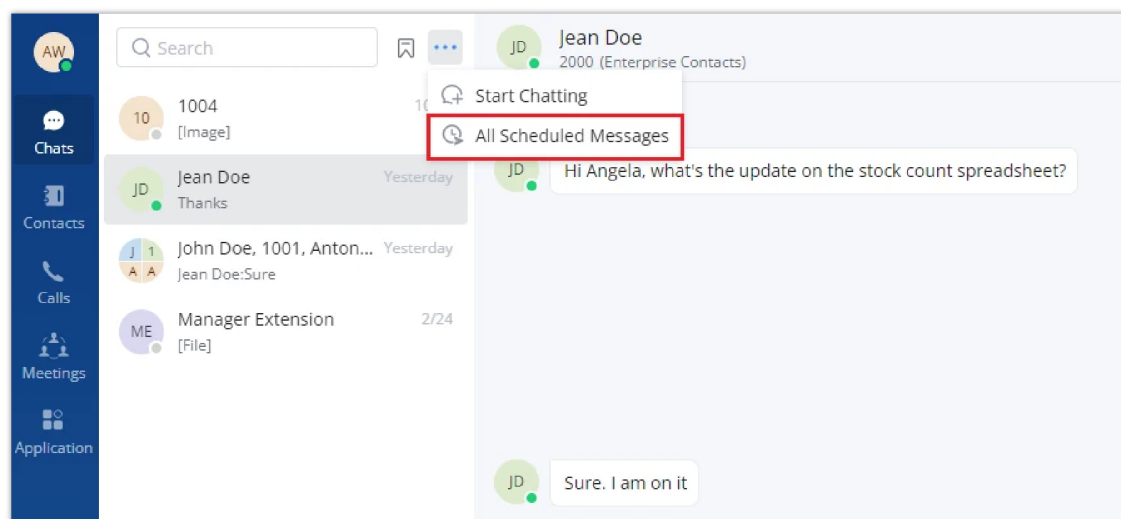
6. To manage a scheduled message within the chat, click View next to the message to open the detailed window. From here, users can:

- Edit the message content
- Send the message immediately
- Modify the scheduled time
- Delete the message entirely

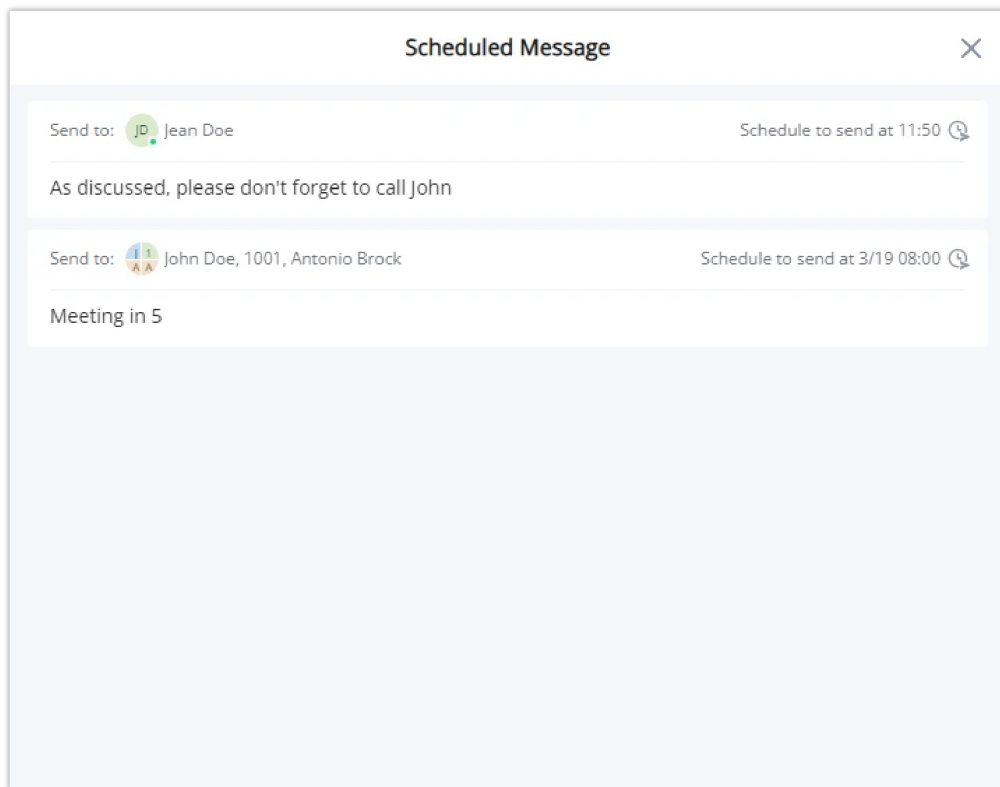


Scheduled Message Actions

7. The general messages tab provides an *All Scheduled Messages* list where all pending messages can be reviewed.



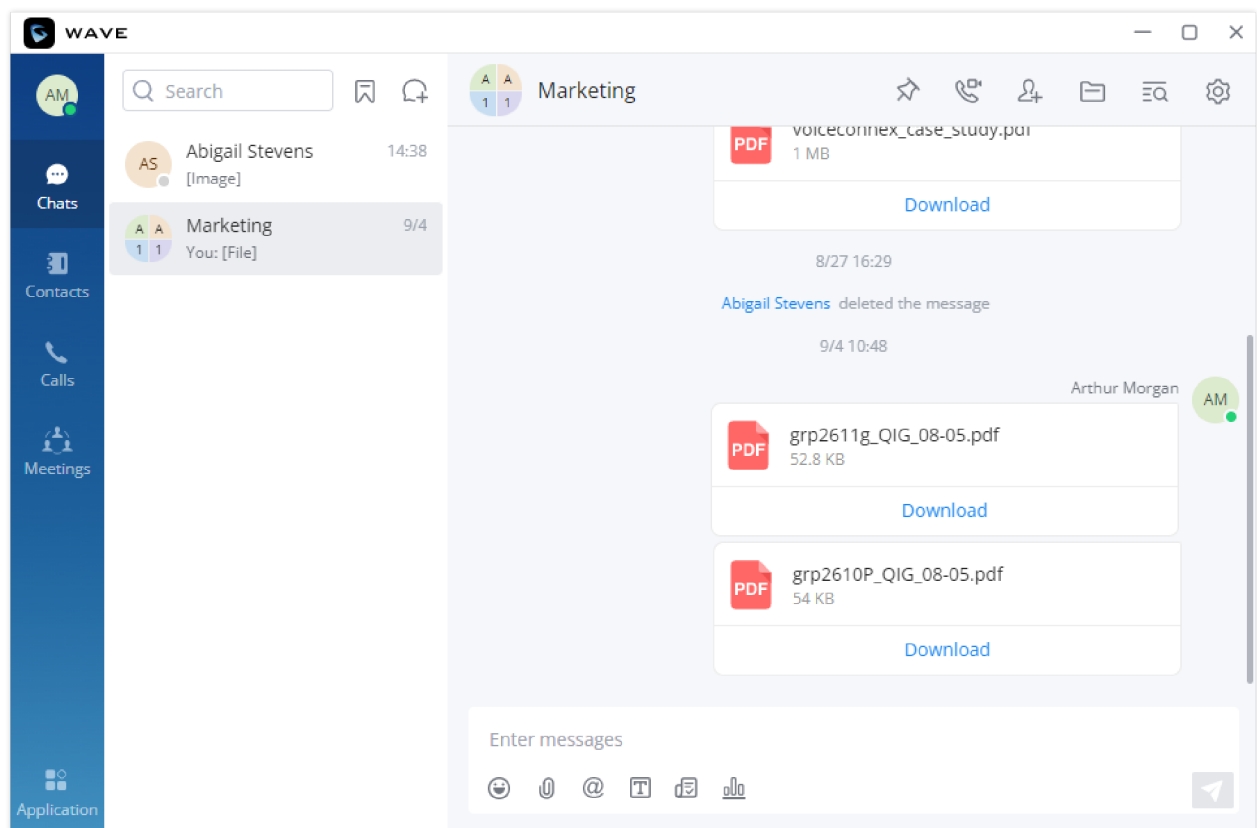
Show All Scheduled Messages



List of Scheduled Messages

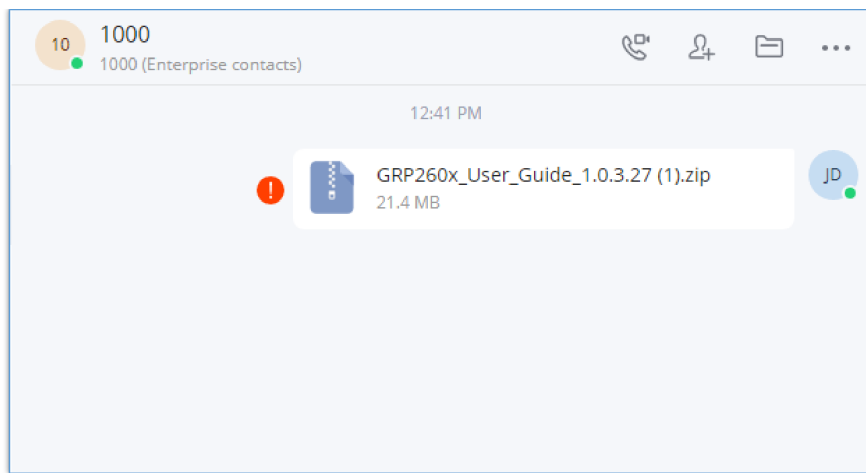
Send Files

With the Wave Desktop app, you can send one or multiple files to a contact or a group of contacts. To do that, click on  under the chat box, then select the file you want to send. When more than one file has been chosen, they will be sent consecutively.



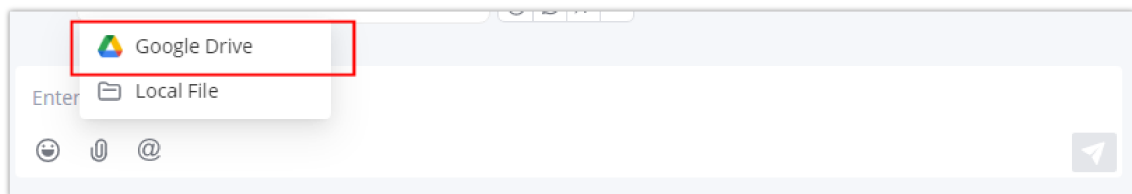
Sent Files

In case a file fails to upload, you will get an exclamation mark that indicates that the file has not been sent.



File Failed to Send

The user can also send the link to a file stored on Google Drive. To do that, the user must install the Google Drive integration module from the App Store menu in Wave Desktop. After the integration has been installed, the user needs to log in to her/his account. After that, the user will be able to send Google Drive files in the form of links, please refer to the screenshot below.



Send a Google Drive file

In case the user sent an image in point-to-point chat or in a group chat, the users can directly see the images and will be also able to rotate, share or download the image.

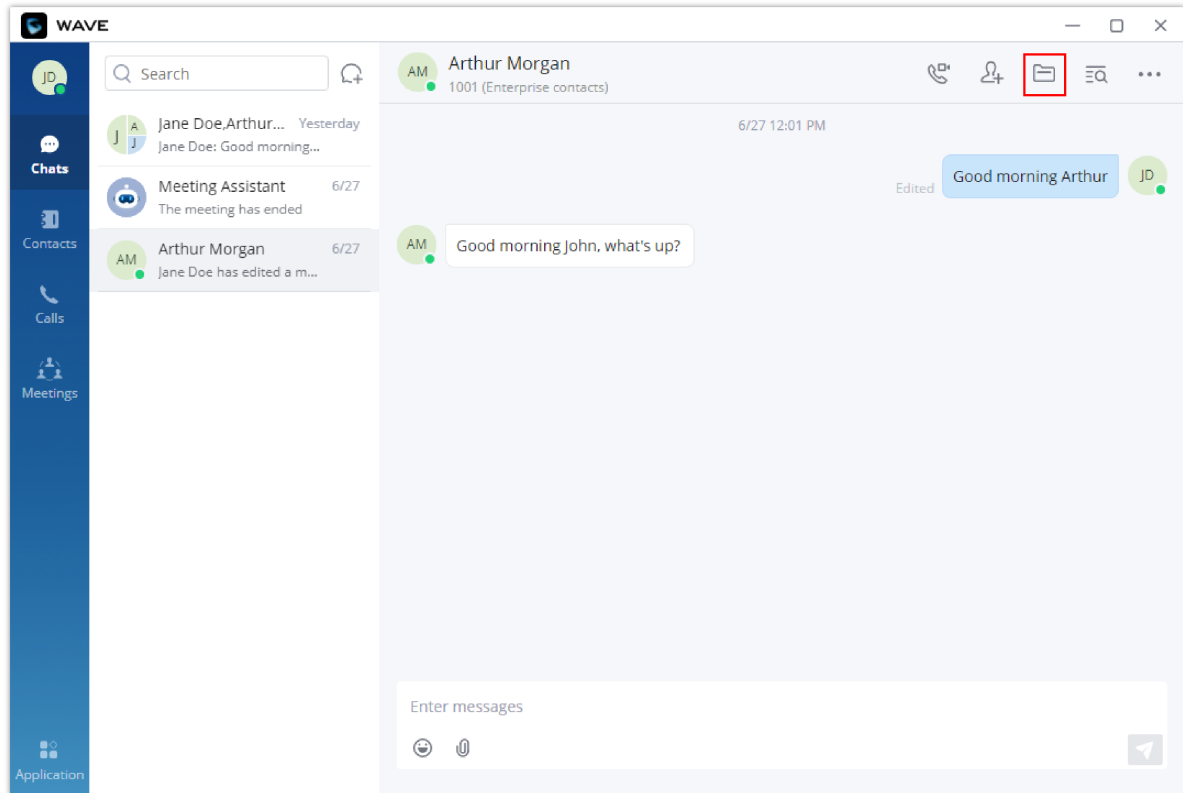
Image Gallery on Wave

- **1:** Rotate the image clockwise.
- **2:** Share the image in another chat.
- **3:** Download the image.

File List

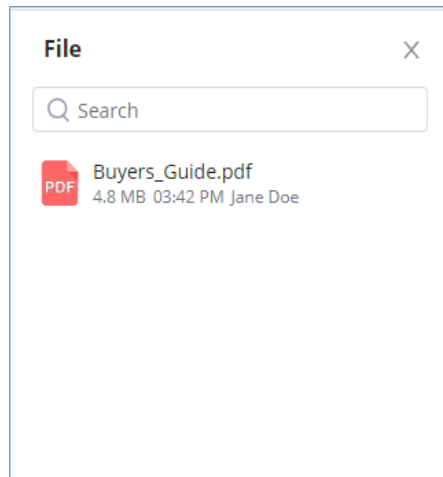
All the files that have been exchanged in a point-to-point chat or a group chat can be viewed in one list.

To access this list, the user needs to click on the folder icon  in the top right-hand corner of the screen of the chat, then the list will appear as shown in the image below:



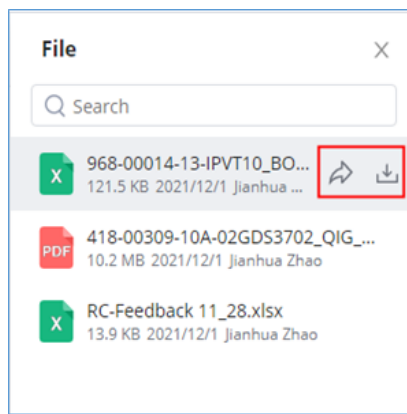
Chat Interface File

The files list will be displayed, and "Search" bar is available to quickly find the needed file.



Files List

Users can forward/download or open the files as shown in the screenshot below:



Download/Forward a File

Audio Message

The users can receive voice messages from other users. Upon receiving a voice message, it will be shown on the chat window and can be played by clicking on the play button. Please see the screenshot below:

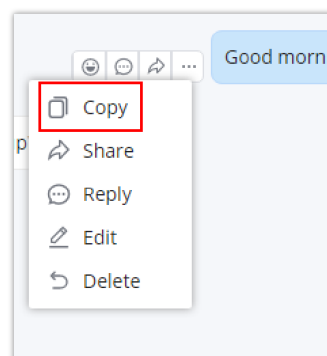
Audio Message

Note

Voice messages can only be sent from the Wave Mobile app.

Copy Message

In the chat interface, select a message, with right-click select "Copy" to copy the content of the message. Currently, files and pictures do not support copying.



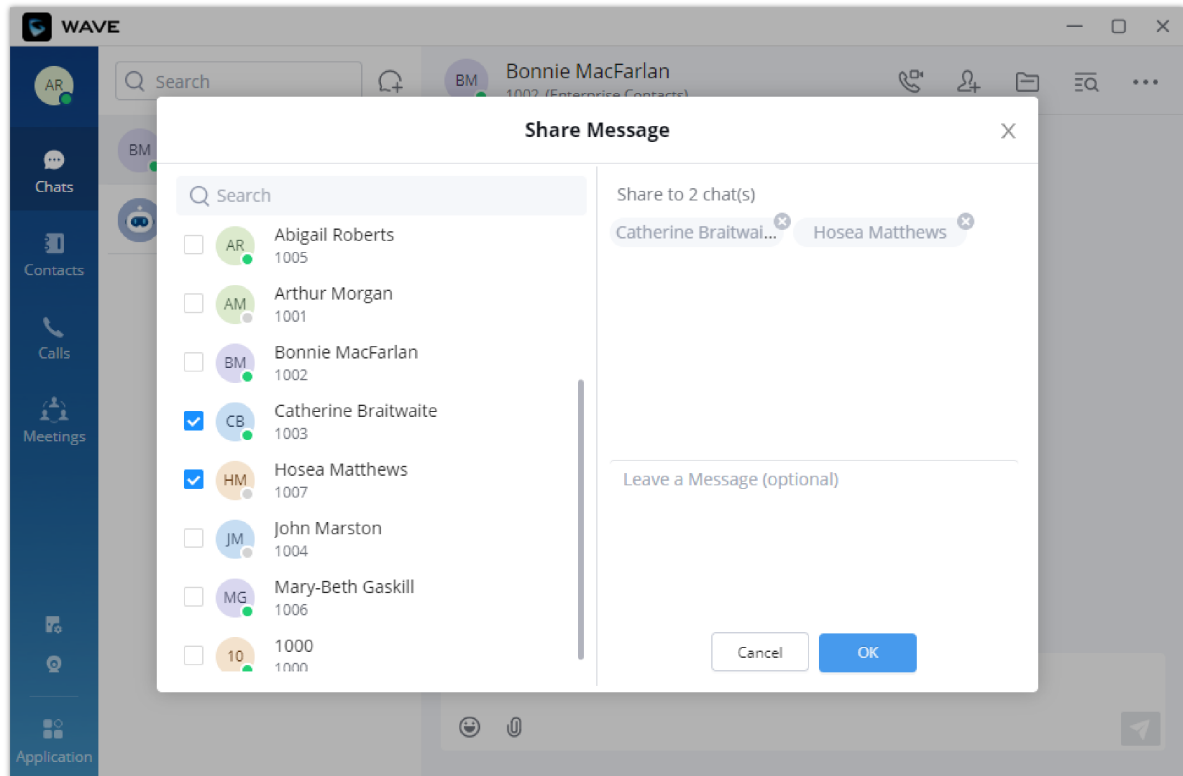
Copy Message

Forward Message

Wave users can forward one or multiple messages using **Share** option to one or multiple recipients. These recipients can be a single chat or a group chat.

Step 1: In the chat interface, select a message, and right-click select "Share".

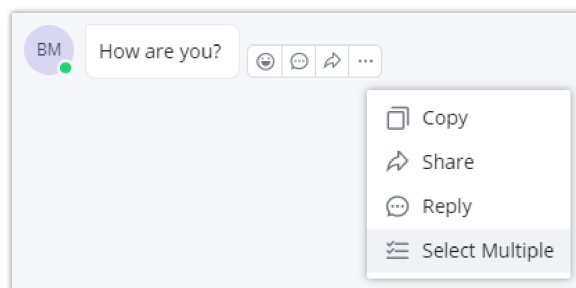
Step 2: The user can select the contacts/groups and forward the message to the contacts/groups. It supports forwarding the message to multiple contacts/groups.



Forward message

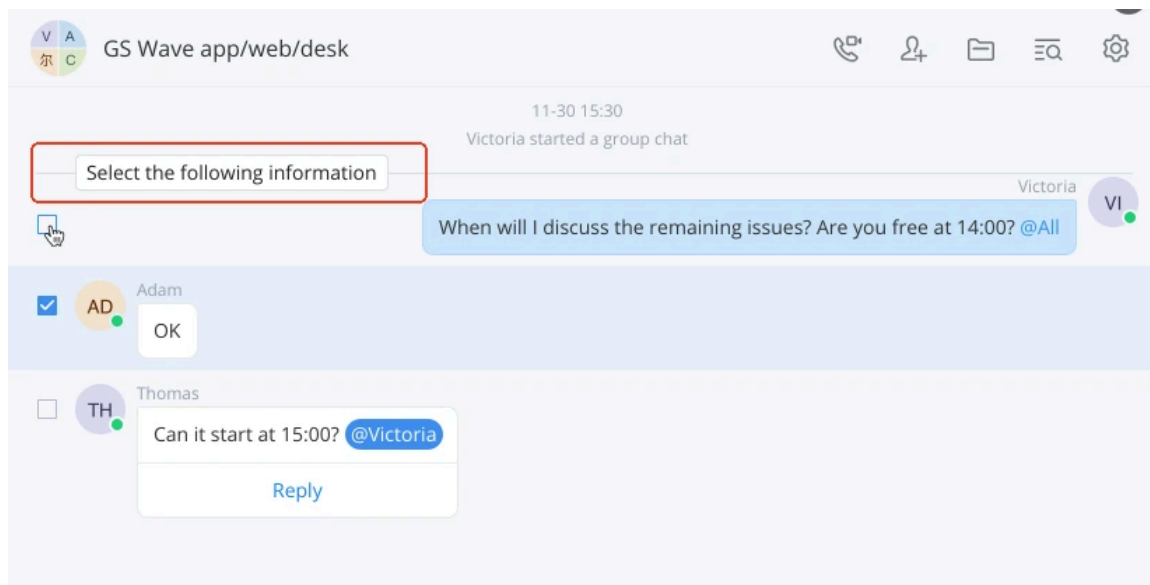
Step 3: (Optional) Write a message and click the "OK" button to forward the content of this message to the selected person or group.

To send multiple messages, please click on **More** then click select the messages that you want to forward.

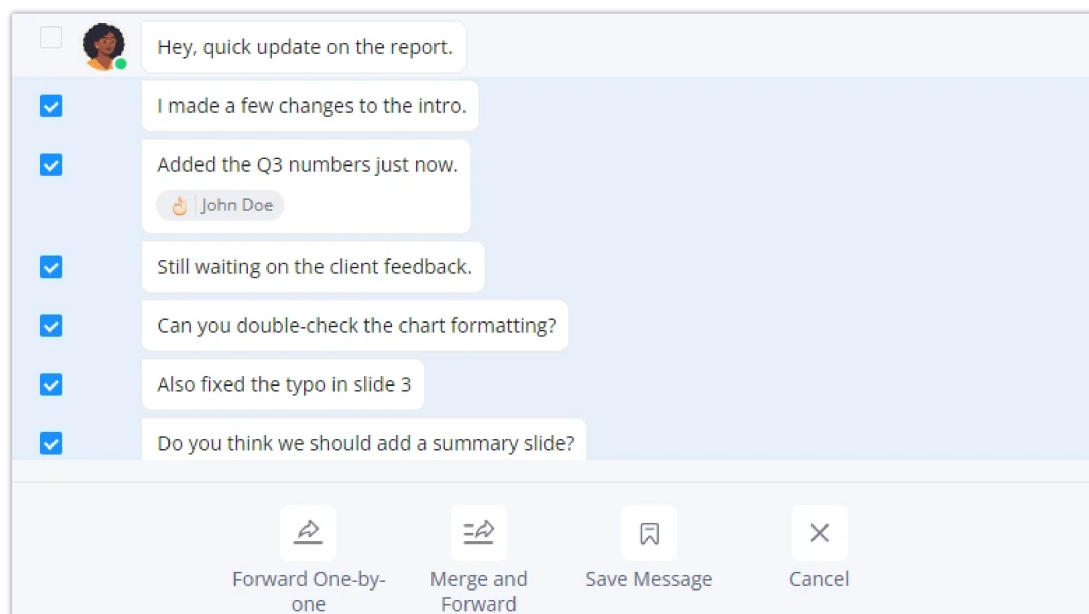


Select Multiple Messages

When multiple messages are selected, you can check the option **"Select the following information"** to automatically select all following messages after the selection.



Select the Following Information Option

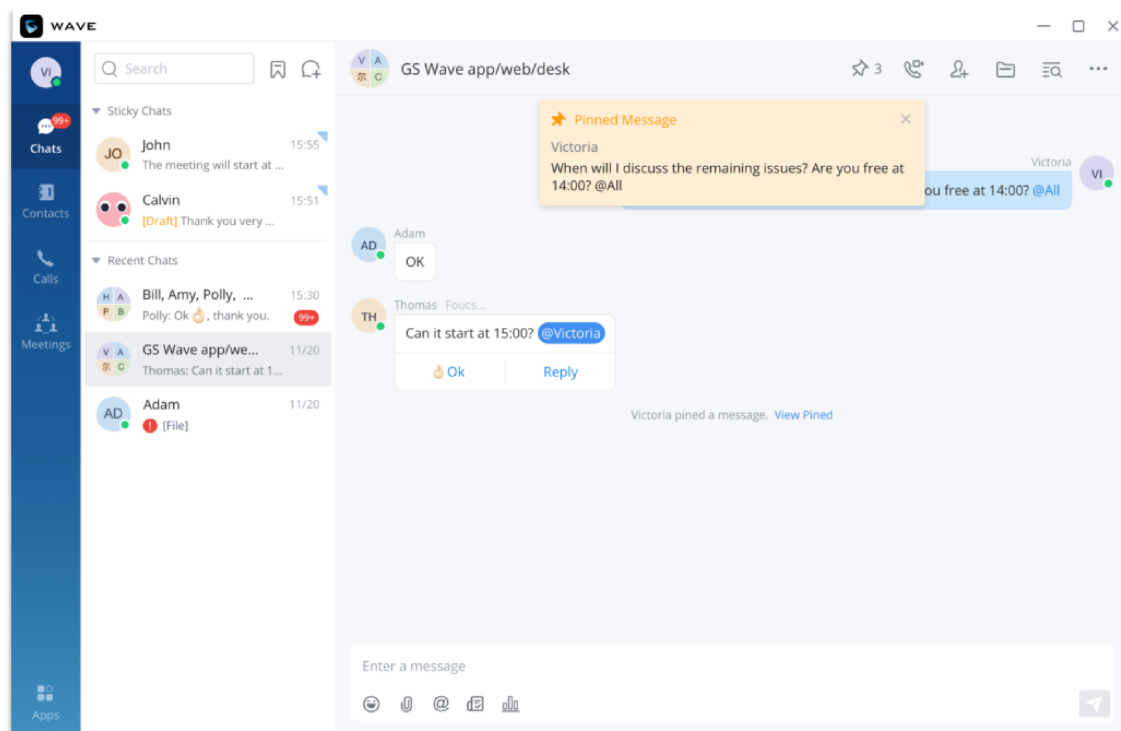


Forward Multiple Messages

- Use **Forward One-by-One** if you want the messages to be forwarded separately.
- Use **Merge and Forward** to have the messages forwarded in one message.
- You can also click **Save Message** to save the selected messages for later reference.
- To exit without forwarding, click **Cancel**.

Pin Messages

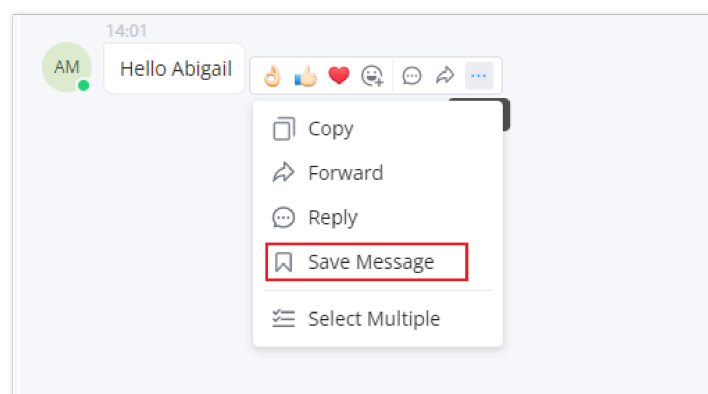
The user can pin important messages in group chats, the pinned messages will be displayed separately on the top of the chat box so all the users can see the message or announcement when they open the chat window of the group. The user can select a message that has been resent to pin on the top of the conversation. If many messages have been pinned in the conversation, the user can click on the pin symbol to see all the messages which are pinned.



Pinned Message

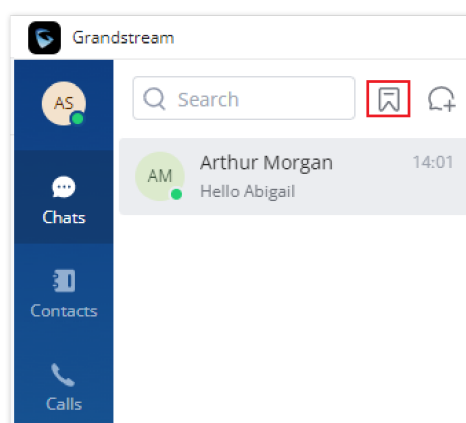
Save Messages

The user can save any messages in one-to-one conversations or group conversations. This allows the user to save important messages, to-do items, important files, etc., which can be easily accessed later. To save a message, hover the mouse cursor over the message and click on the three-dot button to open more options. Then click "Save Message".



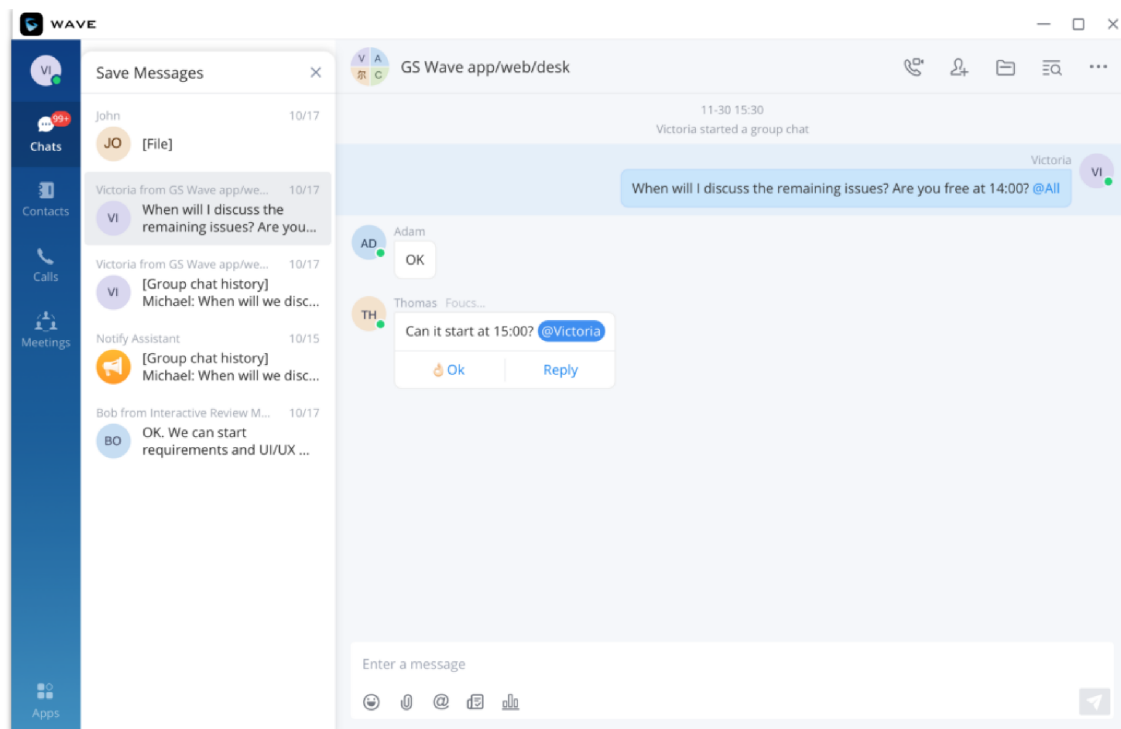
Save Message

To open the saved messages, click on  button.



Wave Chats

The list of the saved messages will be displayed as shown in the screenshot below.

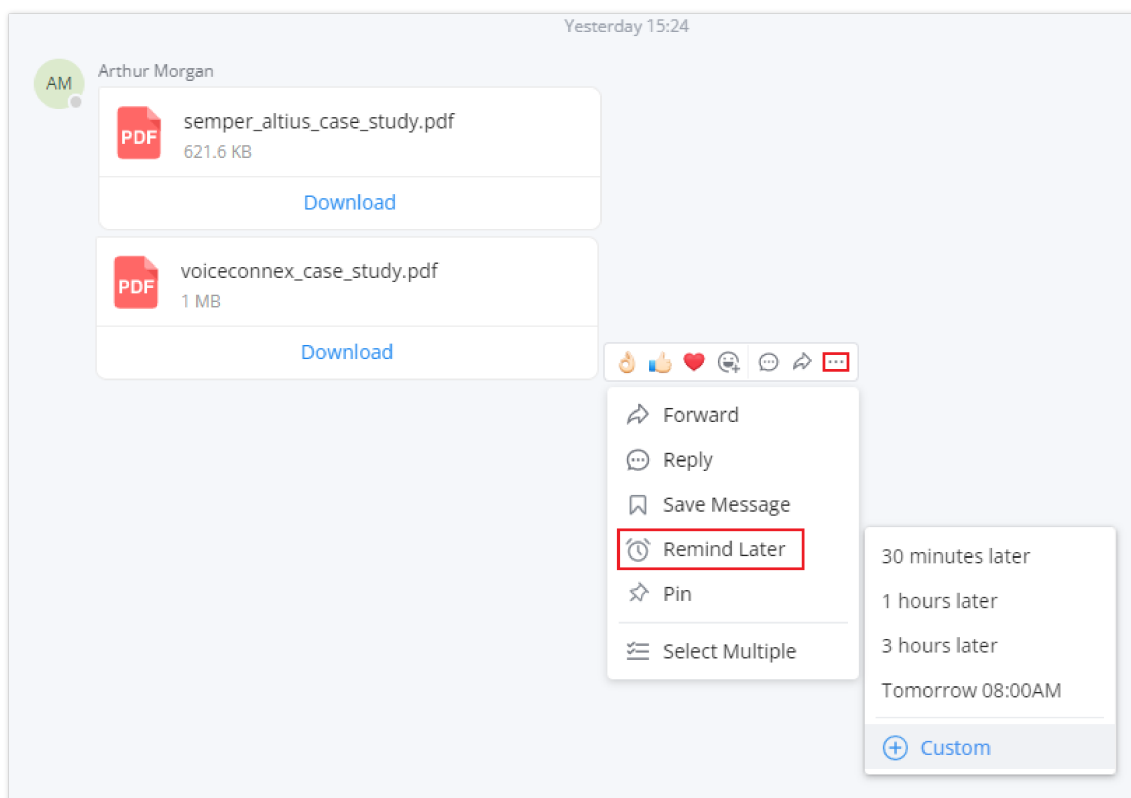


Save Messages

Message Reminder

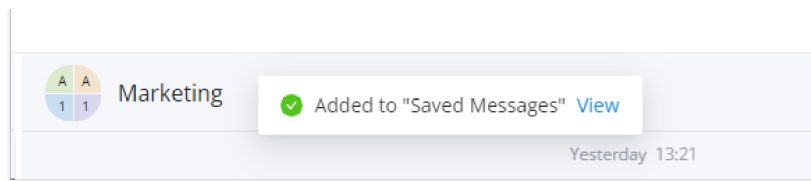
The user can use the feature message reminder to set a scheduled notification which will be prompted when the set time arrives. To set a reminder for a specific please follow the steps below.

1. Hover the cursor on the message and the click on the three-dot button to open more options. Click on "Remind Later" as show in the screenshot below, then select the time of the reminder.



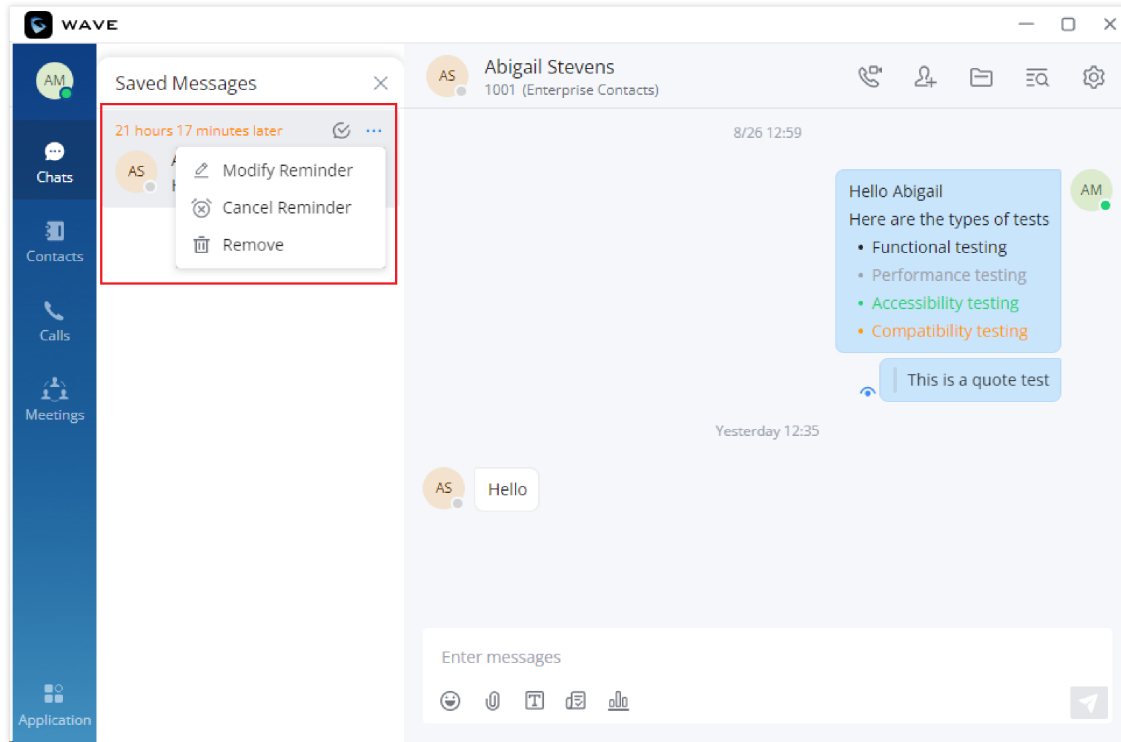
Set a Message Reminder

2. Once the reminder is set, the message will be added to the list of "Saved Messages".



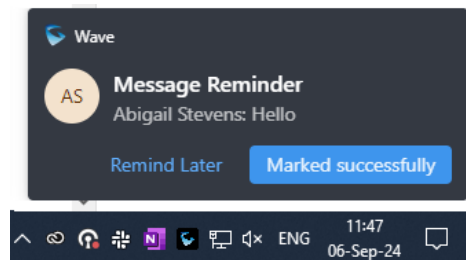
Message Saved

To view the message, click on “View”. This will open all the saved messages, the user can mark the message as resolved before the reminder is triggered, modify the reminder of the message, cancel it, or remove it.



Saved Message

When the time of the reminder arrives, the user will receive a Toast notification with the preview of the message.



Message Reminder Notification

The user can click “Remind Later” to postpone the reminder for 10 minutes, or he/she can click on “Marked Successfully” to resolve the reminder.

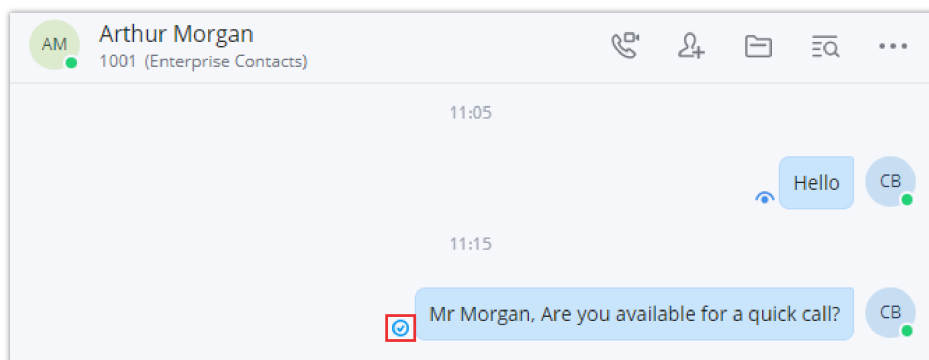
View Unread Messages

In the “Chat” tab, users can view the latest unread messages. Tap to enter the chat interface to view new messages.

Unread Messages

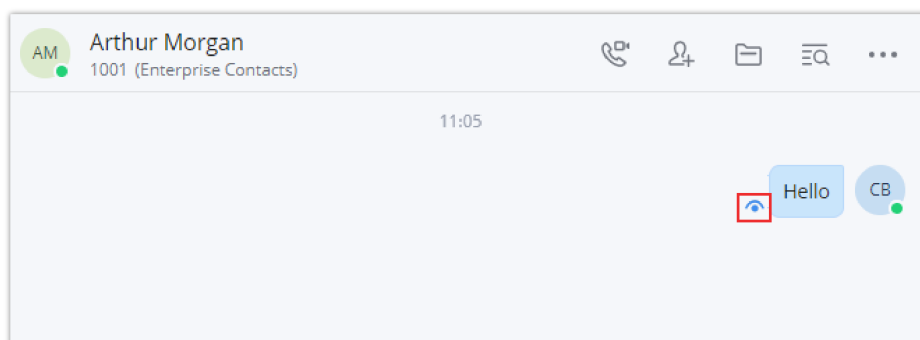
In addition, by clicking on the chat box of a person or a group, users can view the history of chatting.

When a message is sent, Wave will indicate to the sender that the message has been successfully delivered to the contact. This is indicated by a small check mark right next to the latest message sent



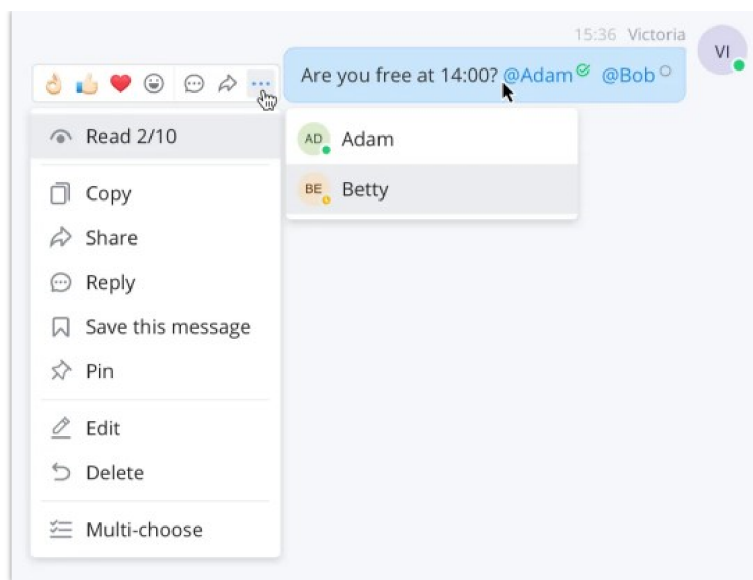
Message Delivered

Once a user has opened an unread message, Wave will indicate to the sender that the message has been read by showing a small eye icon next to the latest message seen.



Wave Message Seen

In a group chat, the user can check the parties who have seen the message by hovering the mouse cursor on the message, then click on the three dots to open the menu, then you can see the read count. If you hover the mouse cursor on the read count number, you can see who has read the message as displayed in the screenshot below.



Group Chat Message Read

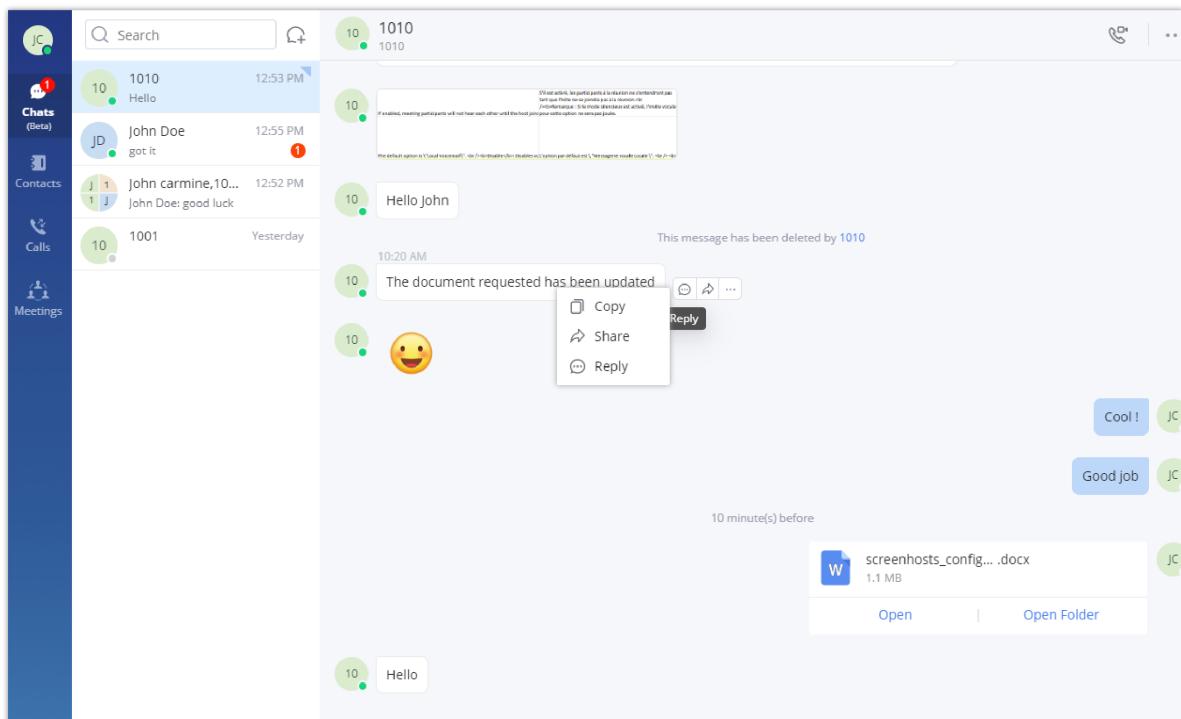
Quote to Reply Message

Step 1: In the chat interface, the user can select a message, right-click it and click “Reply” option or click the button  next to the message.

Step 2: The user can reply to the message in the message box.

Note:

The quoted original message in the reply is clickable, allowing users to jump directly to the position of the original message in the chat history for easy reference.



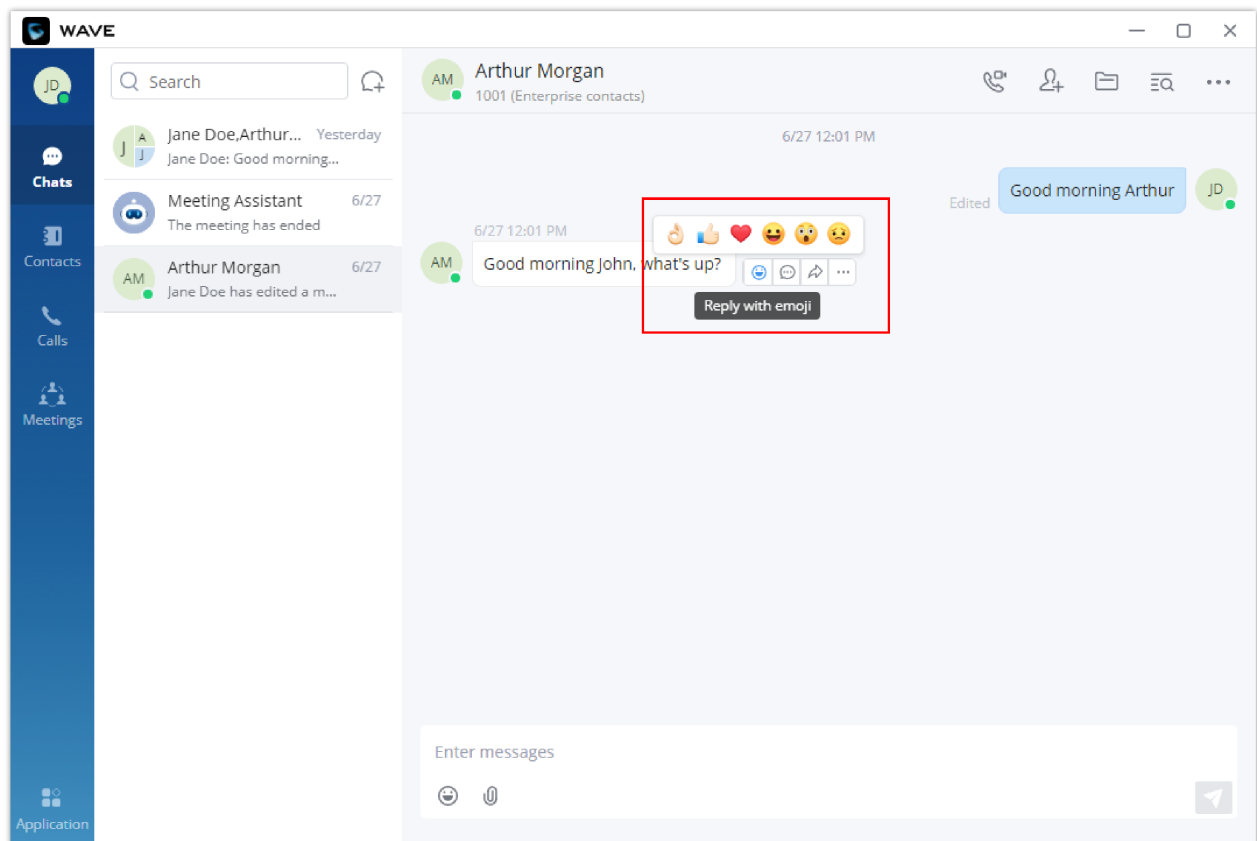
Quote to Reply Message

React with Emoji

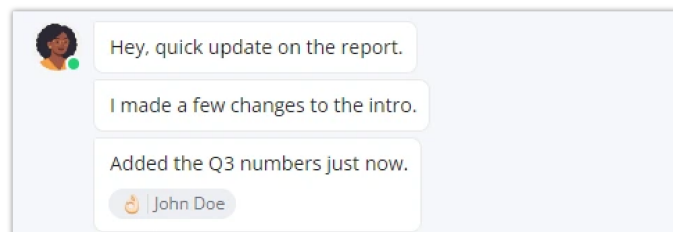
In the chat interface, users can reply to the sent/received messages in the single/group chat, files, and images with emojis.

- Click on  option and select a specific emoji. The replied emoji and the emoji amount will be displayed under the corresponding message, as the screenshot shows below.

- For the same message, each member can only reply with 1 single emoji. If the member replies to the message with another emoji again, the previous replied emoji will be replaced.
- If the member clicks the same emoji as the replied emoji again, the replied emoji will be canceled.
- Each reacted emoji is displayed alongside the name of the member who reacted.



Reply with an emoji



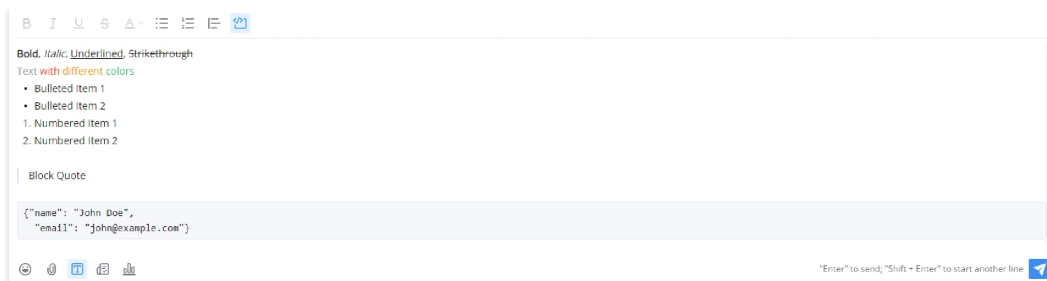
View Emoji Details

Rich Text Formatting

Wave Desktop supports the following **Rich Text Formatting** features in the chat box, allowing users to enhance their messages before sending:

- Text Emphasis Styles
- Colored Text
- Bulleted lists
- Numbered lists
- Block quotes
- Code blocks for formatted text.

To show the controls for rich text formatting in Wave, click on the icon .

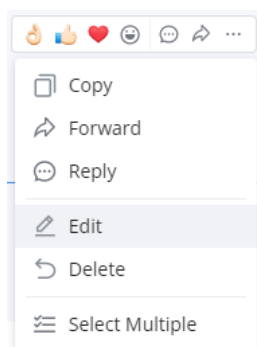


Rich Text Formatting

Edit the Sent Text

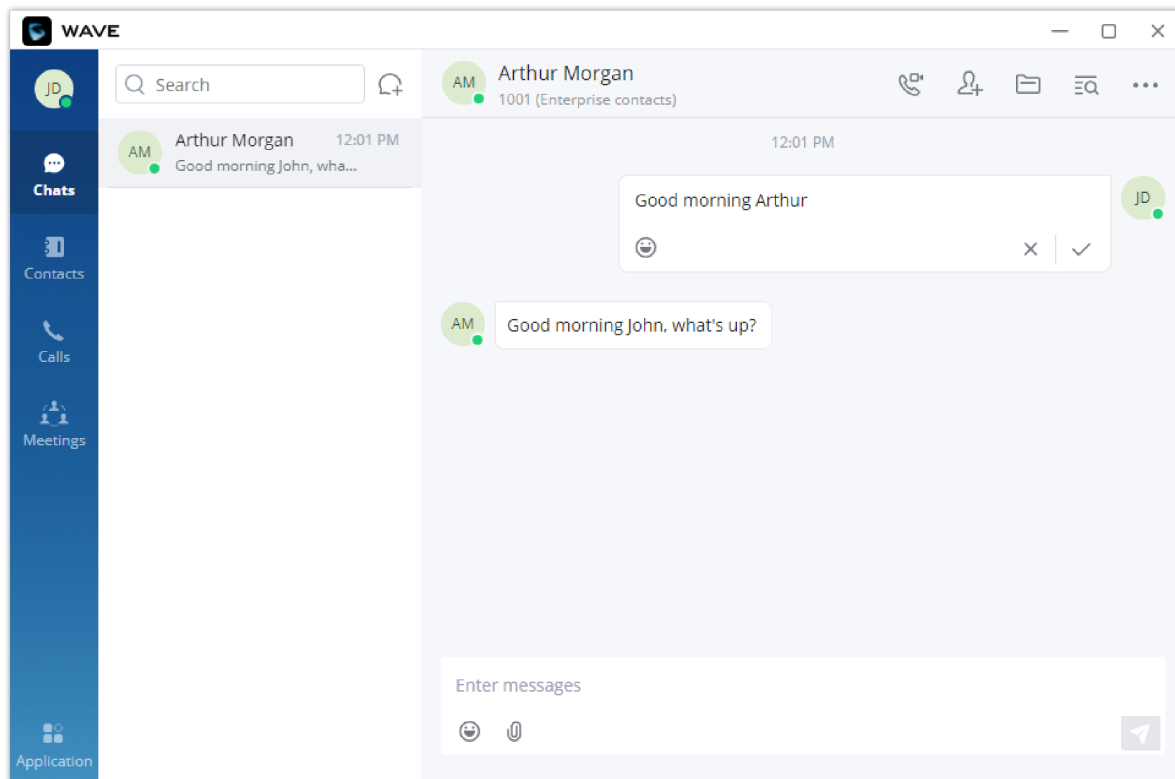
In the chat interface, users can edit the sent text and resend the edited message.

1. In the chat interface, hover the cursor on the message to edit, a menu appear on which the user can click on the three dots button to open a drop down menu.



Edit Message

2. Re-edit the contents in the input box.



Edit the Sent Text

Note

1. Images, videos, and files are not supported to be edited. The re-edited contents can only be added with text and emojis.
2. The re-edited contents are limited to 5000 characters

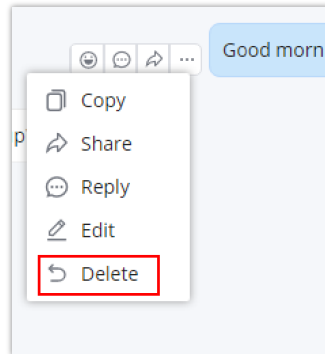
Delete Message

Step 1: In the chat interface, the user can select a message and right click it then click “Delete” button to delete the message.

Step 2: After deleting the message, the remote party will delete the message synchronously.

Step 3: The deleted text can be re-edited by the user.

Note: After deleting the message, it will be deleted permanently, and the message cannot be recovered.

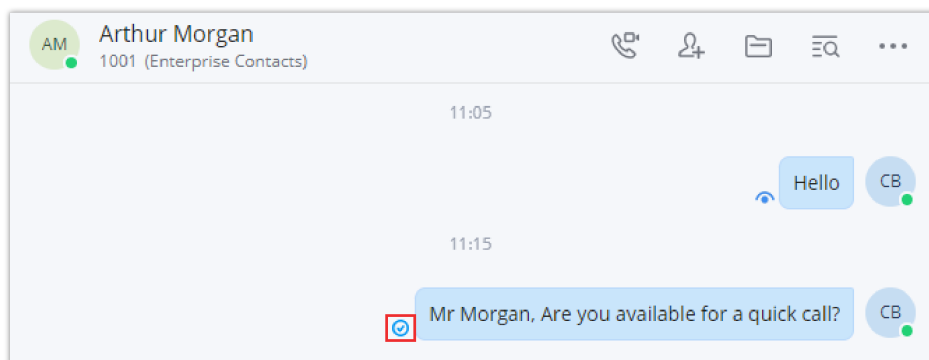


Delete Message

Note:

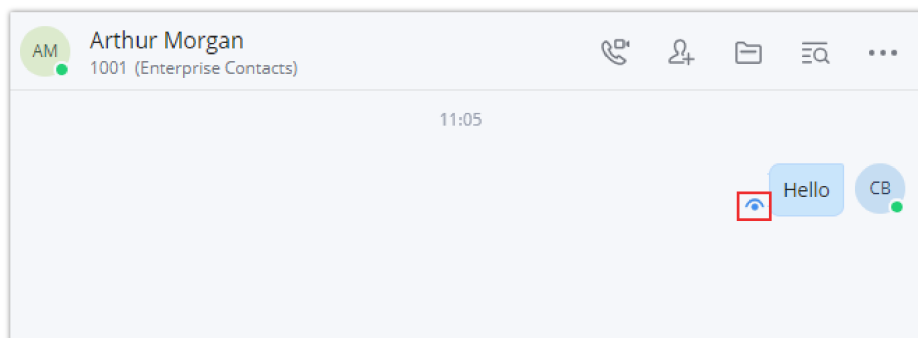
To delete a message, the user must have the “Delete Chat” permission. Please refer to the UCM63xx User Manual for more details.

When a message is sent, Wave will indicate to the sender that the message has been successfully delivered to the contact. This is indicated by a small check mark right next to the latest message sent



Message Delivered

Once a user has opened an unread message, Wave will indicate to the sender that the message has been read by showing a small eye icon next to the latest message seen.



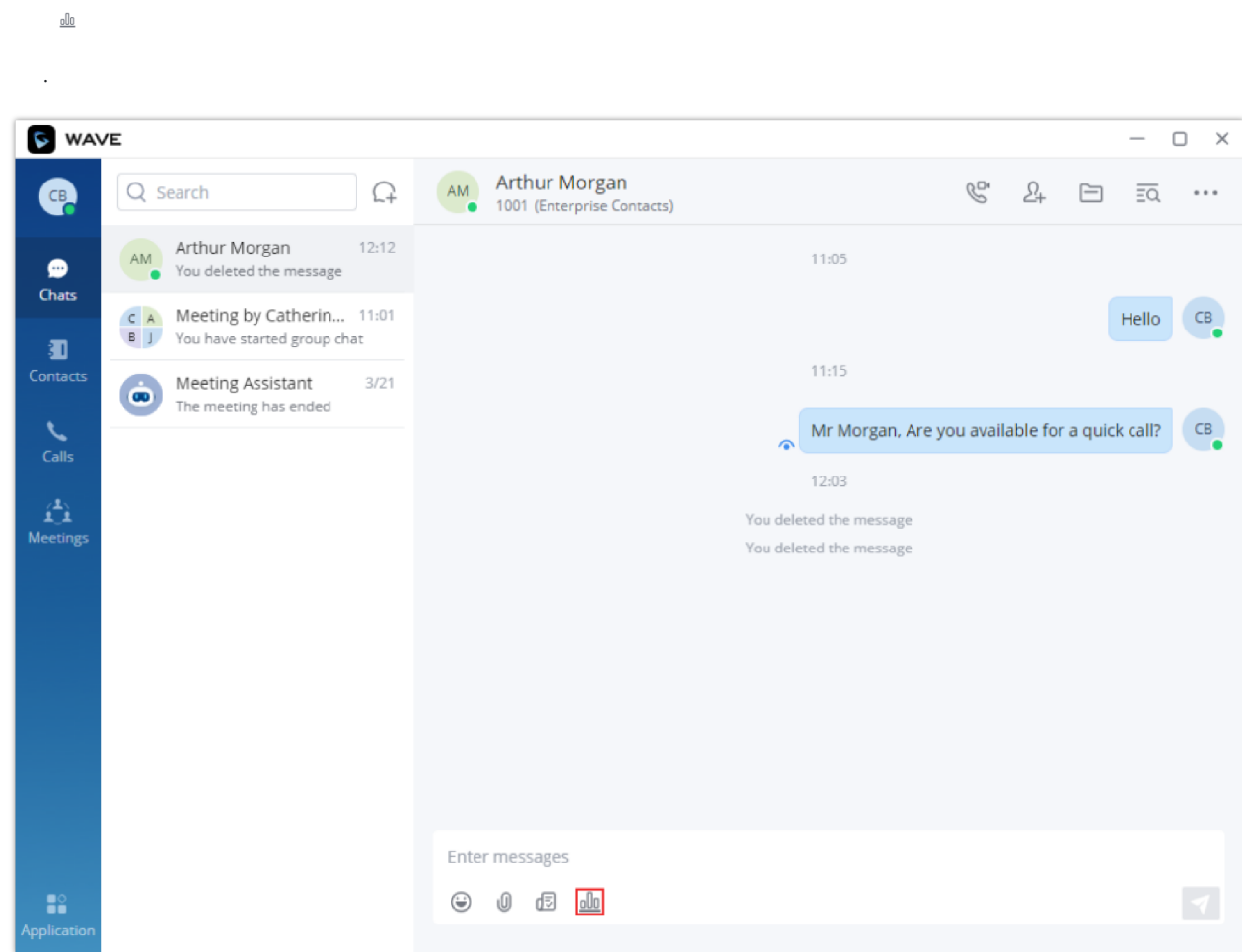
Wave Message Seen

Create Poll/Survey

In the chat window in Wave, the users can create polls, in which they ask the recipient(s) to pick one option. Polls and surveys can be created in individual chats as well as group chats.

To create a poll, please follow the steps below:

- 1. Navigate to the chat window in which you want to start a poll, then click on poll icon



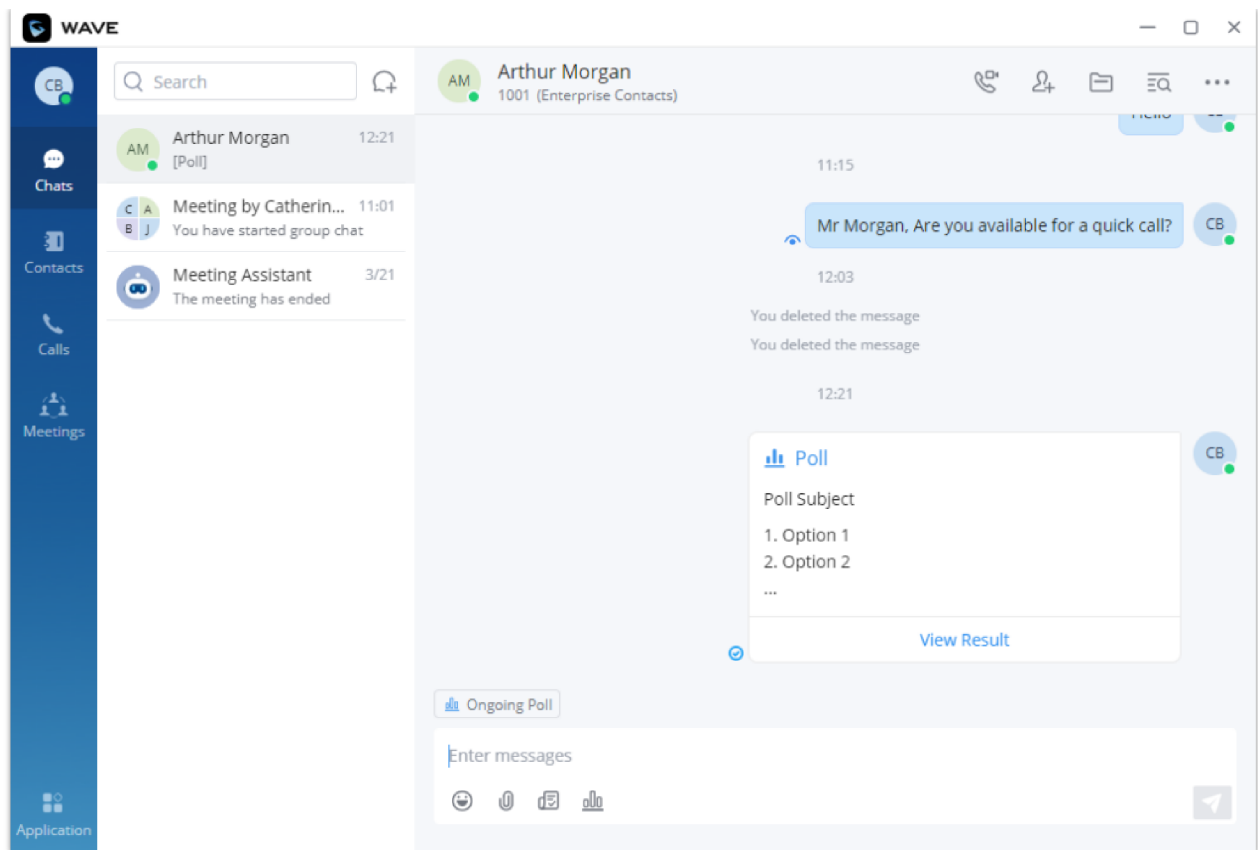
Create a Poll

- 2. Enter the information regarding the poll, as shown in the figure below.

The image shows a screenshot of the 'Add Poll' dialog box. It has a title bar with 'Add Poll' and a close button. The main content area includes a text input field for the poll subject, currently containing 'This a subject of the poll'. Below this is a toggle switch for 'Allow Multiple Selection'. There are three input fields for poll options, each with a radio button and a red minus icon to its right. The options are 'Option 1', 'Option 2', and 'Option 3'. Below the options is a green 'Add Option' button. At the bottom of the dialog, there are two more toggle switches: 'Allow Others to Add Options' and 'Anonymous Vote'. At the very bottom, there are three buttons: 'Preview', 'Save', and 'Save and Publish'.

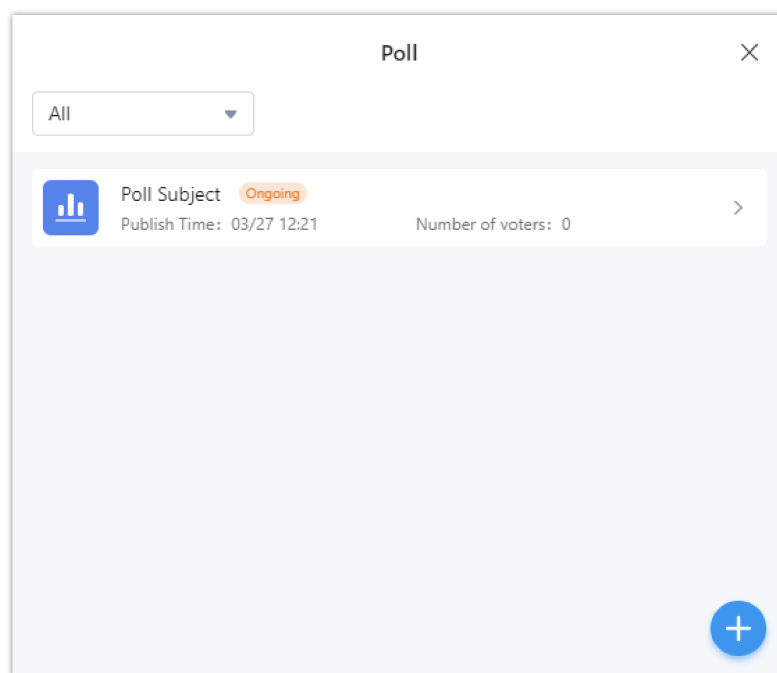
Poll Subject and Options

- 3. Click "Save" to save the poll as a draft. The recipient will not be able to see the poll. If the poll is ready to be sent, then click "Save and Publish". Then the poll will be displayed just like the figure below illustrates.



Wave Poll Published

Please note that while the poll is ongoing, you can send it to multiple Wave users to cast their votes on the poll. To do that, please navigate to the chat window in which you want to send the poll, then click on the poll icon . From the list of the polls, select the poll you want to send.



Polls List

Click on the three dots to show more options, then click on "Send".

Poll

Poll Subject

Option 1

(0) 0%

>

Option 2

(0) 0%

>

Number of voters: 0

Send

Edit

Export Result

Stop

Fill in

...

Send a Poll

Notes

- **Poll Subject:** You can enter up to 256 characters.
- **Option:** There must be at least 2 options and up to 20 options. The input limit for each option is up to 265 characters.
- Users can preview the newly created polls.
- Users can publish the the poll to one or multiple point-to-point chats or group chats.
- While the poll is ongoing, the results will be displayed in real-time.

Once a poll has ended, the user can choose to publish it again, delete it, share the results with other chat parties, or export the results to a .xlsx file.

Wave supports creating surveys which allow the user to make a list of questions and send them to other users either in individual chats or in group chats.

To create a survey, please follow the steps below:

1. On the chat window, click on survey icon



2. Then fill in the survey's information accordingly.

Add Survey

Survey Subject

Survey Description

Anonymous ☐

Allow Others to Share Survey ☐

Question 1

Question Number 1

Required ☒

Single Selection

Enter option

Preview Save Save and Publish

Add Survey

3. Specify the type of the answer that the user will provide.

- **Single Selection:** Enter the choices that users can choose from. The users will be able to pick only one option.
- **Multiple Selection:** Enter the choices that users can choose from. The users will be able to pick multiple answers to the question.
- **Text:** The user will be able to provide the answer in the form of a text.
- **Yes/No:** The users will get the option to answer either Yes or No to the question.

Once the survey is ready to be published, the user can click on “Save and Publish” to send the survey. Just like polls, the surveys can be sent to other user to fill in.

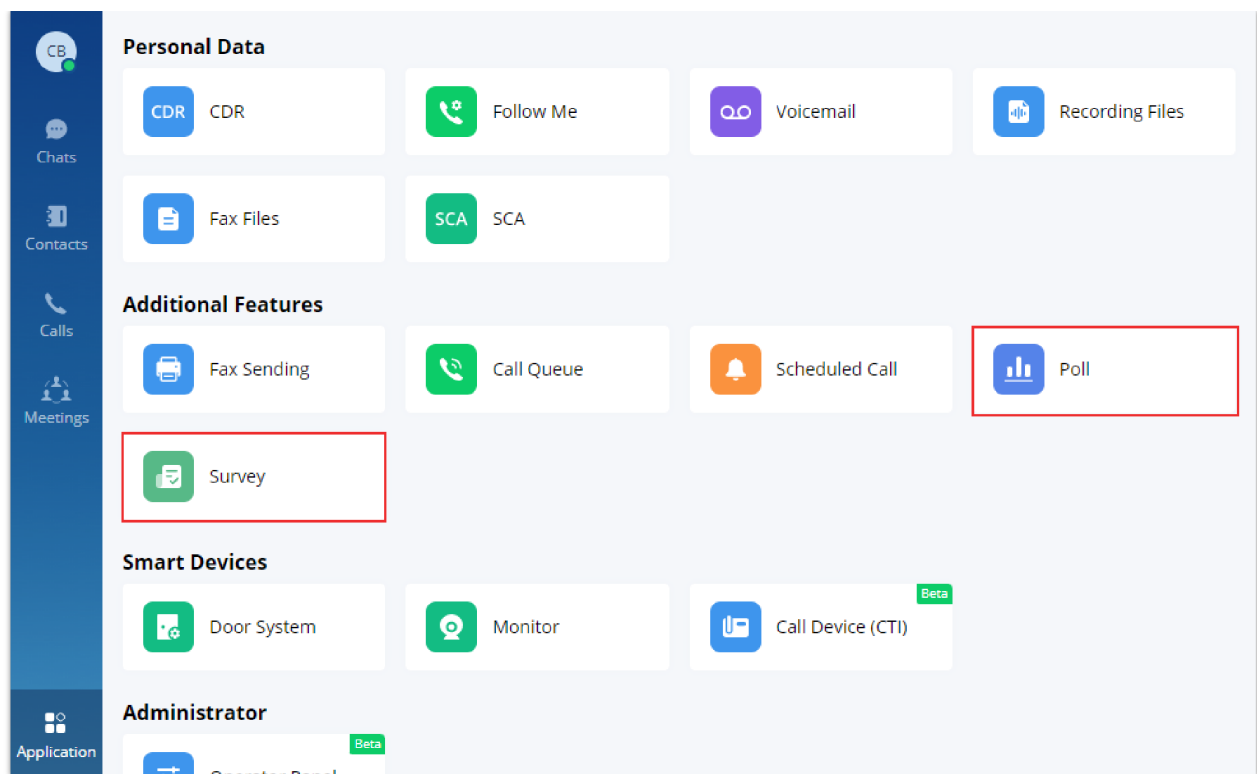
Survey management includes: Add Survey, Publish Survey, Edit Survey, Delete Survey, View Survey Results, Share Survey Results, and Export Survey Results.

For a survey which is in progress, the user can end the survey or send the survey to others or other chat groups. For the ended survey, the user can re-publish the survey (the previous votes will be reserved, and the survey will be reopened for voting) or re-create the survey (the original survey options will be reserved, but the previous votes will not be reserved).

Notes

- **Survey Subject:** Up to 256 characters.
- **Description:** Enter a description for the survey. The user can enter up to 1000 characters.
- **Questions:** There must be at least 1 question and up to 20 questions.
- **Question Content:** Up to 500 characters.
- **Options:** There must be at least 2 options and up to 20 options. The input limit for each option is up to 256 characters.
- The option “Allow Participants to Share Survey” is disabled by default. If you wish to allow the users to share the link of the survey to other user, please enable this option. The system will generate a link for this survey. Anyone with the link can take part in the survey.
- Users can preview newly created surveys.
- The user can publish surveys to one or multiple point-to-point chats or group chats.
- While the survey is ongoing, the user can edit the survey or export the results in an .xlsx file.

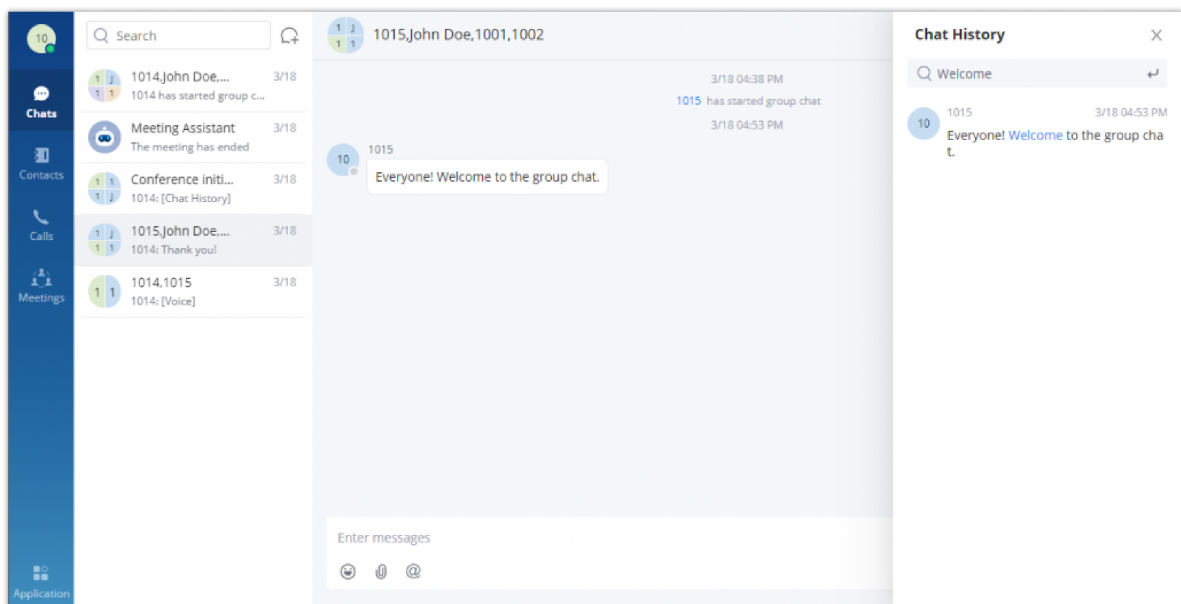
The user can view all the polls and surveys shared by navigating to “Application” tab, then clicking on Poll/Survey as the screenshot below indicates.



Application Poll and Survey

Keyword Search

Grandstream Wave allows searching for a specific keyword within a conversation so you can exactly recall the context and the information relayed by your team members. This can be used in group chat as well as point-to-point conversations. To search for a specific word, navigate to the discussion you wish to search. Then on the top right corner of the window, click the search button . After that type the keyword you wish to search, then press enter. If there are any results, they will be displayed similarly to this example below.

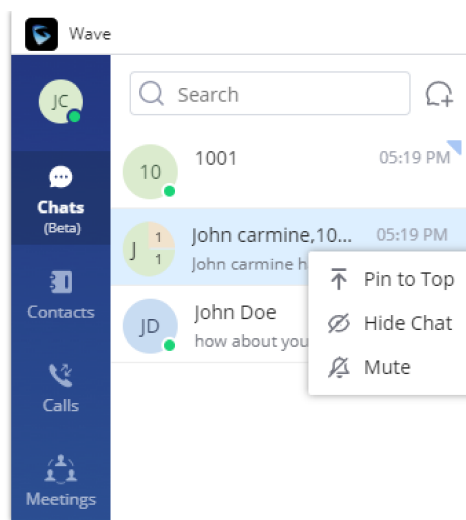


Chat Keyword Search

Pin Chat to the Top

In the chat list, the user can select a point-to-point chat or group chat and set the chat box to the top of the chat list. When the chat box has been set to the top of the chat list, the user can quickly find the chat box and reply to the message.

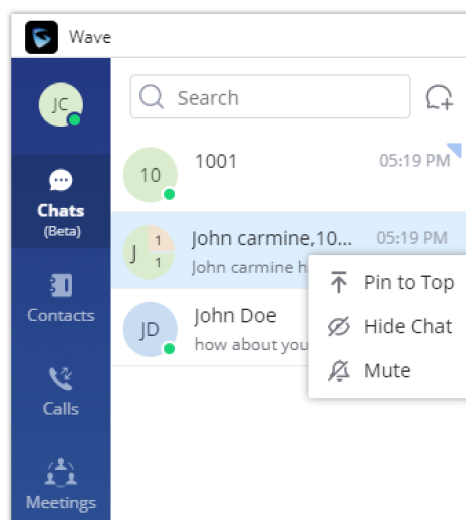
The user can also click the chat box and unpin the chat box.



Stick to Top

Hide Chat Box

In the chat list, the user can select a point-to-point chat or group chat and click on Hide Chat. Then, the chat box will be hidden in the chat list.



Hide Chat Box

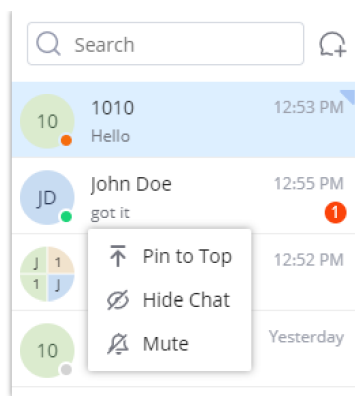
Note

The chat history will not be deleted after hiding the chat box. When the user receives a message from this chat box in the future, the user can also view the chat history.

Mute Chat

If the user needs to mute the new message notification of a chat, they can select a point-to-point chat or group chat in the chat list and set it to "Mute".

If the user wants to resume notification of new messages for the chat, the user can select the current chat box and cancel the DND setting by clicking on "Enable Message Reminder".



Mute Chat

Download Chat History

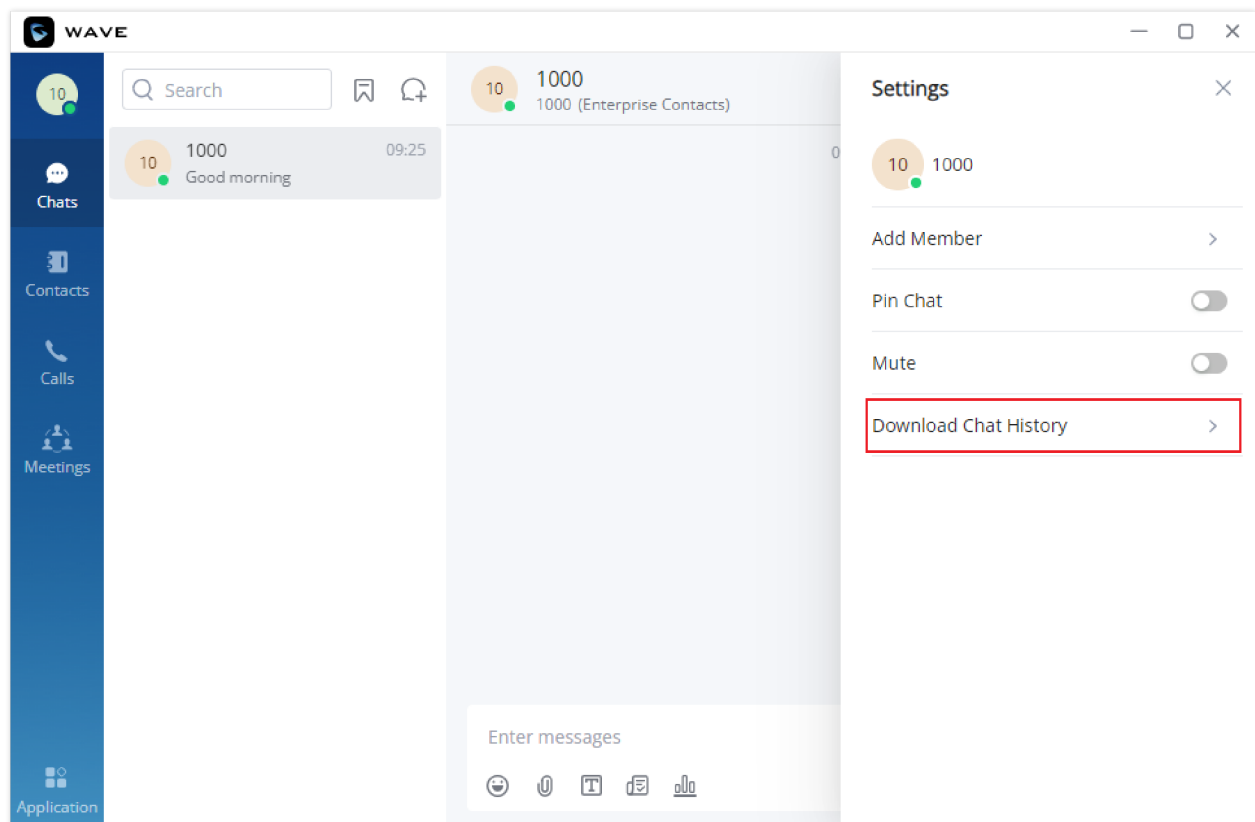
Wave allows users to download the chat history either for a individual chat or group chat given that the permission to perform this action has been granted by the PBX administrator. This privilege is granted by default. To download the chat history of a specific conversation, please follow the steps below.

1. Access the chat page which you want to download the chat history.
2. Click on the settings button



on the top-right corner of the chat page.

3. Then click on "Download Chat History" as highlighted in the figure below.



Download Chat History

4. Specify the chat interval to download then click "Download".

A text file will be downloaded containing all the messages from the specified interval.

Note

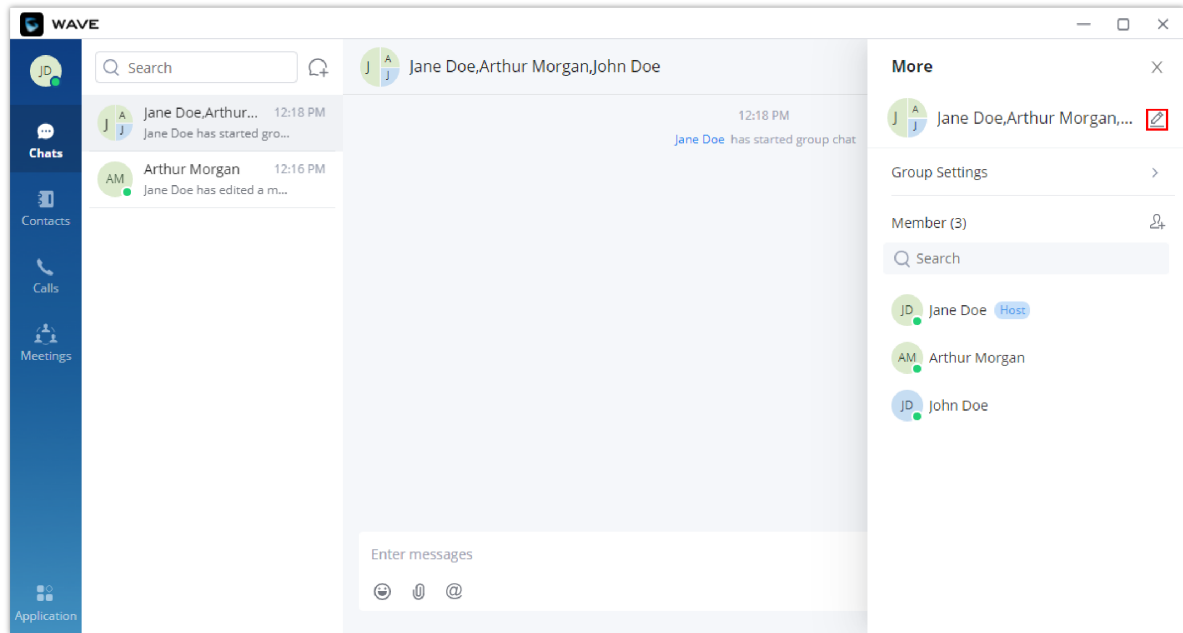
Please note that the exported conversation content is unencrypted. If the exported chat conversation includes sensitive data, we highly recommend to store it safely.

Group Management

Change Group Name

Both the group owner and group members can change the group name. To do so, kindly follow below steps.

Step 1: On the chat page, open the group chat page and click on the upper right corner to view group information.

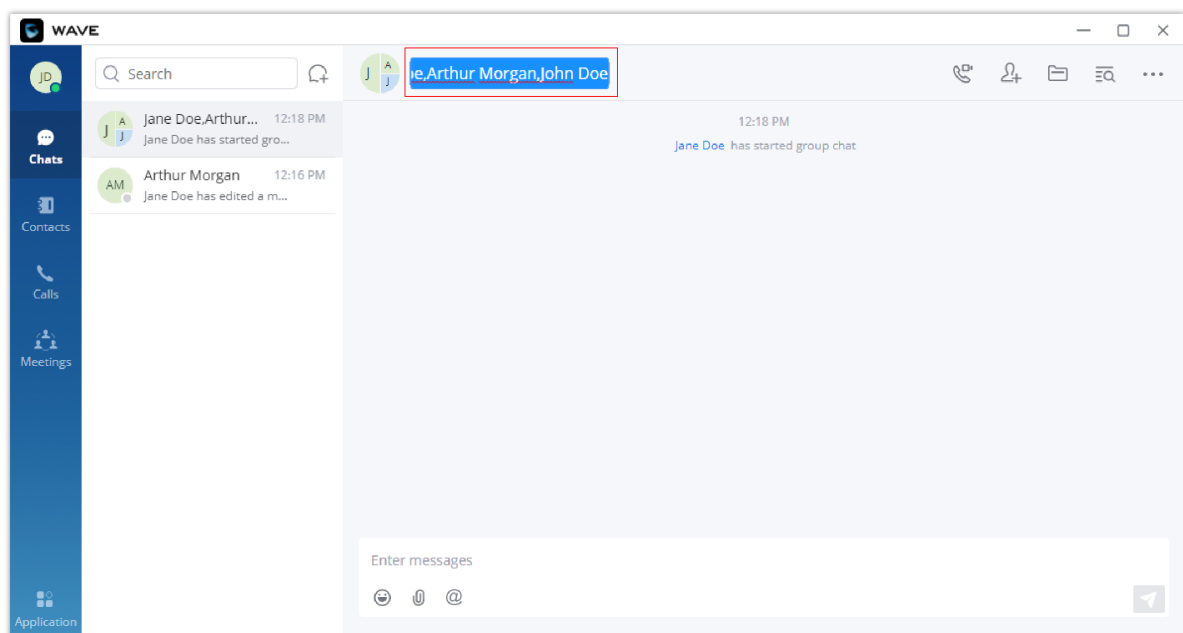


Change Group Name

Step 2: By clicking on  , users can modify the group name. The group name supports a maximum of 80 characters.

Step 3: After the modification is completed, click anywhere to save successfully.

Or You can directly click on the chat group name to edit it quickly, as shown in the screenshot down below:



Quickly Change the Group Name

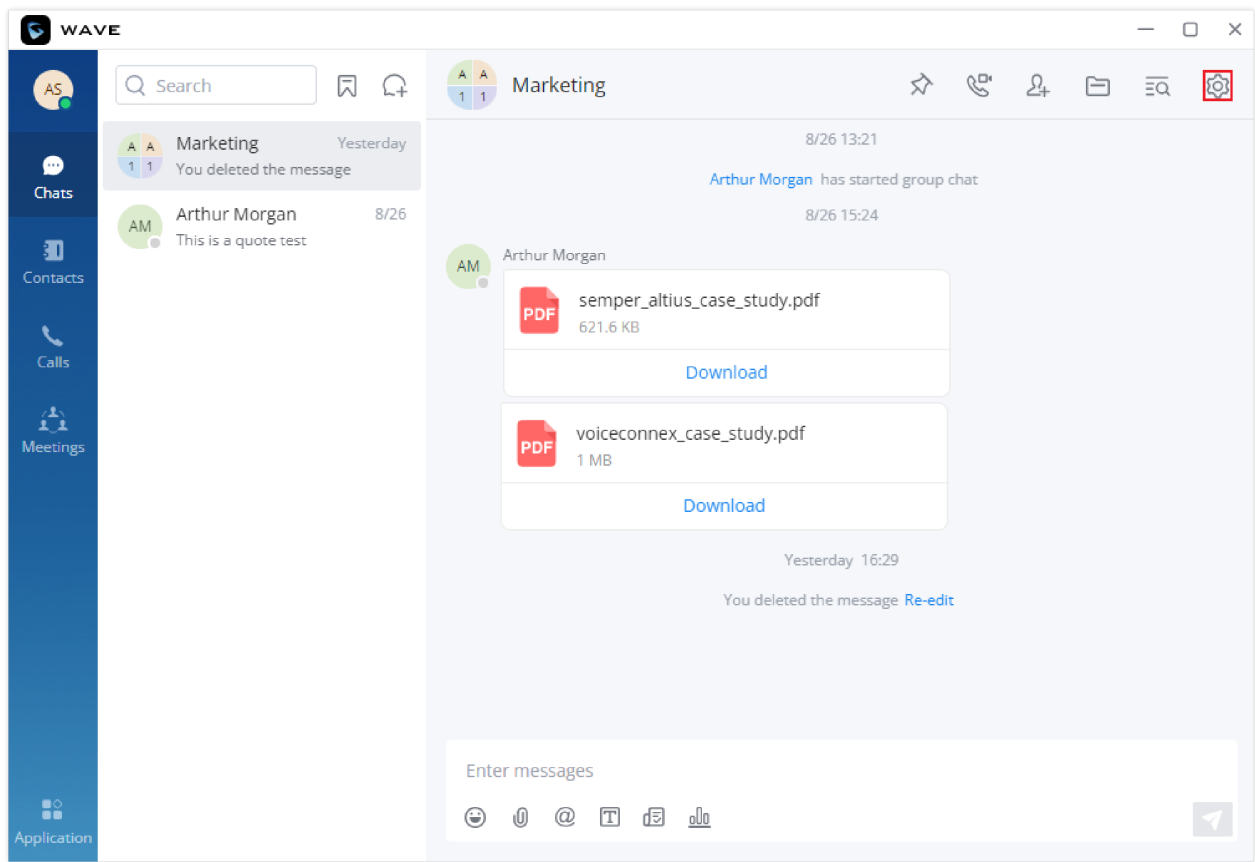
Change Group Avatar

To set an avatar for a group chat on Wave Desktop, please follow the steps below.

- 1. Click on the group settings button

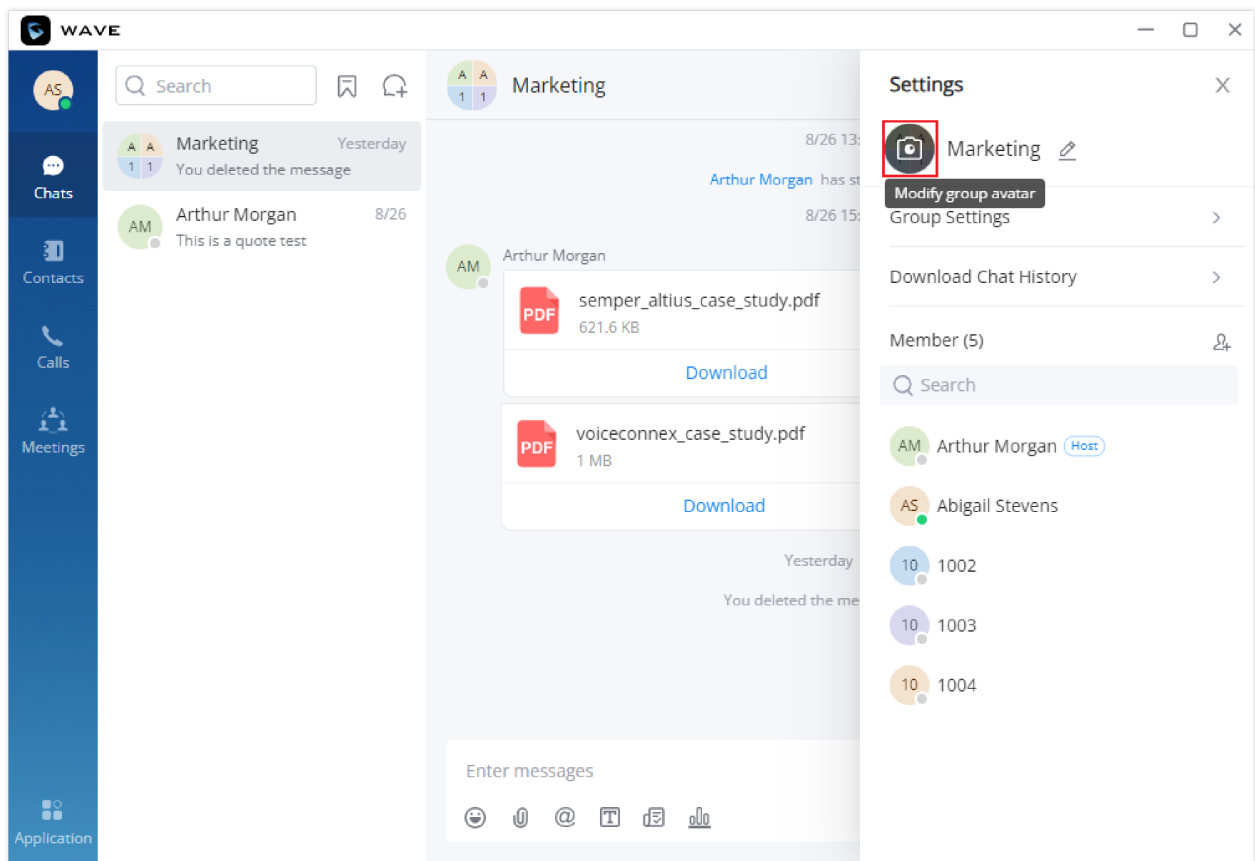


on the top right corner of the group page.



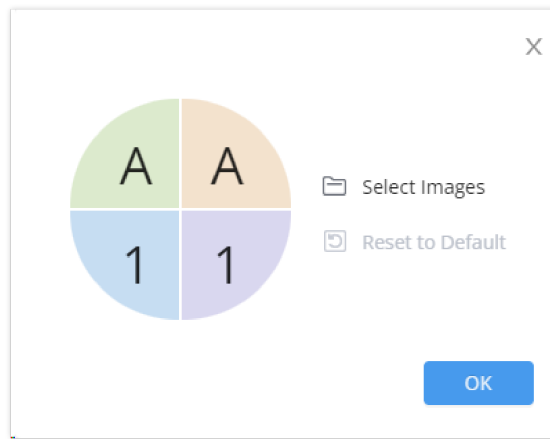
Wave Group Chat

- 2. On the sidebar, click on the avatar of the group chat.



Avatar Settings

3. To upload an image, please click on "Select Images". If an image has already been set and you wish to restore the change to default, click on "Reset to Default".

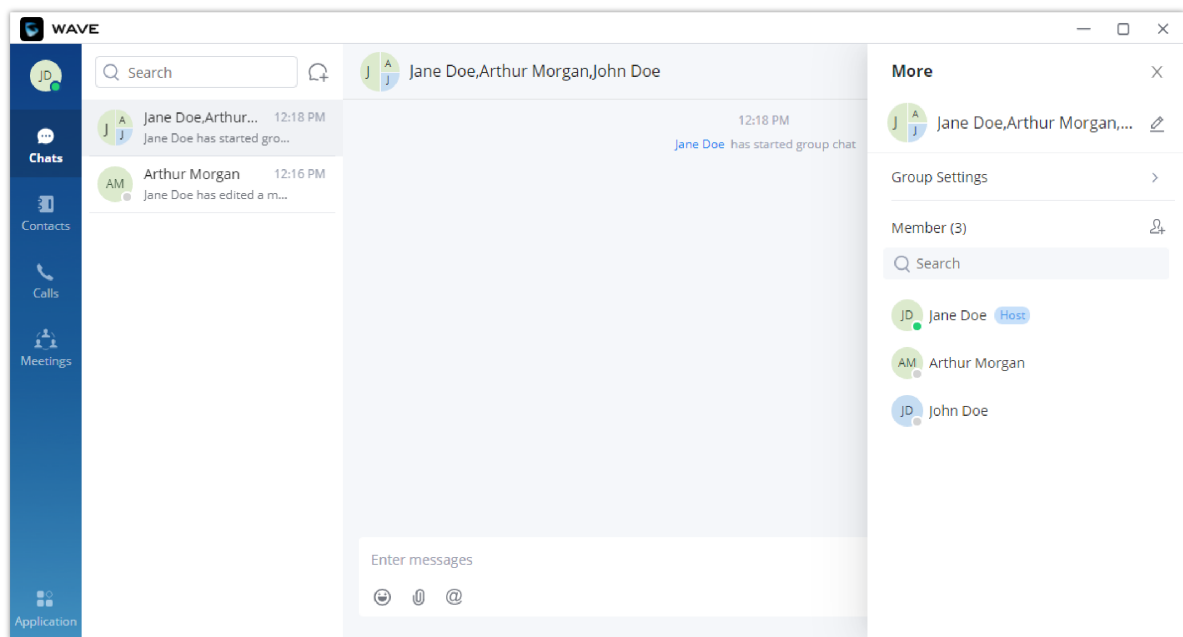


Upload Avatar or Reset to Default

View Group Members

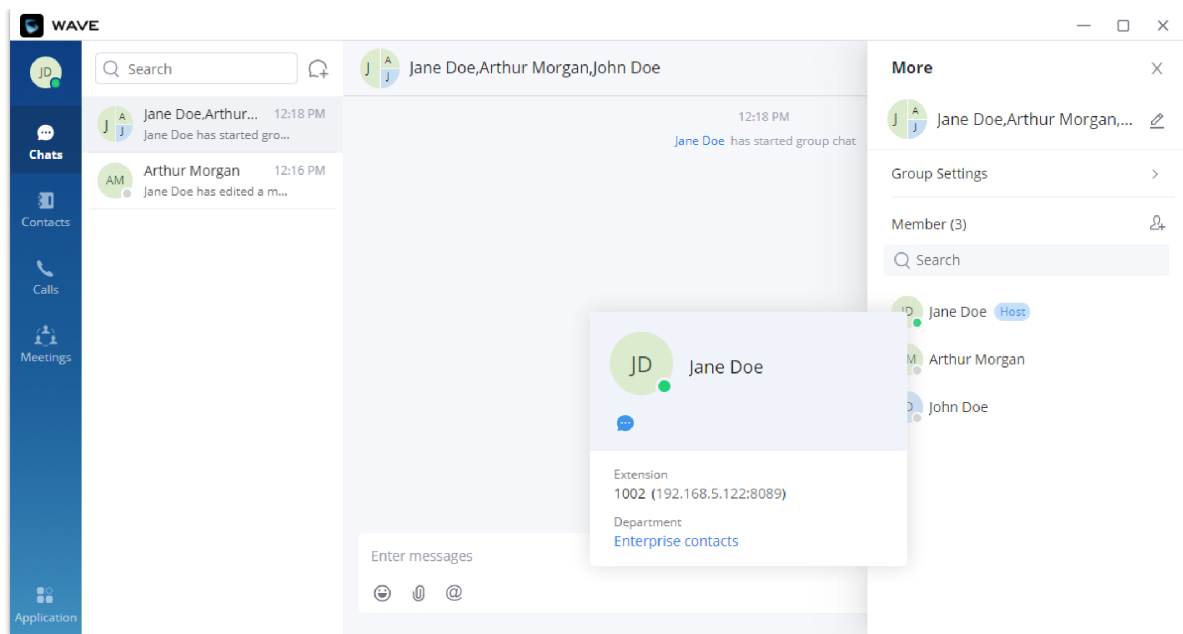
Both the group owner and group members can view the group members.

Step 1: On the chat page, open the group chat page and click on the three dots  in the upper right corner to view group members.



View Group Members

Step 2: Click on the avatar of the group member to view the detailed information of the member, send messages, and make calls.

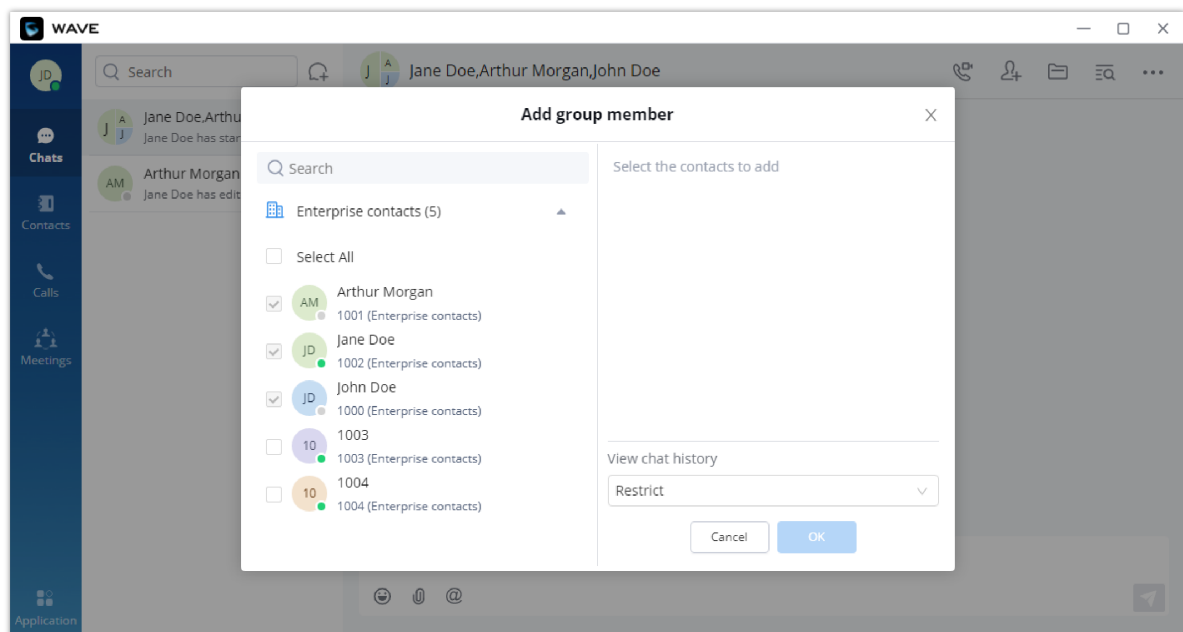


Group Member Business Card Interface

Add Group Members

Both group owners and group members can add group members.

Step 1: On the chat page, open the group chat page and click on the upper right corner, then click on  to enter the contact selection page.



Add Group Member Interface

Step 2: Select the contact you want to add or search for a contact by name and select it.

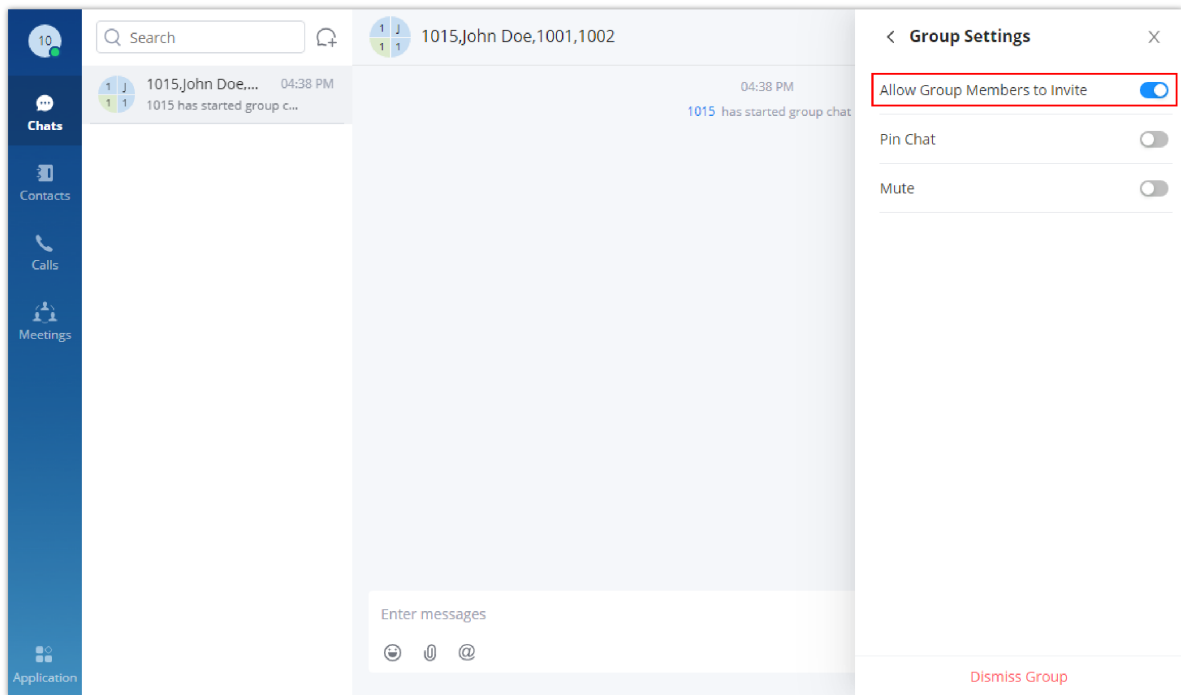
Step 3: Click the "OK" button to immediately add the selected contact to the group chat.

Notes

1. The newly joined members in the group chat cannot view the group chat history by default (Only the group owner can set the chat history that the group members can view: No, All, 1 Day, 7 Days).
2. The maximum group membership is 200 people.

- **Prevent or allow participants to invite other users:**

The chat group creator can allow or prohibit the participants from adding other members. To do that, please navigate to “Group Settings” icon  then choose to toggle on or off the option “Allow Group Members to Invite”.

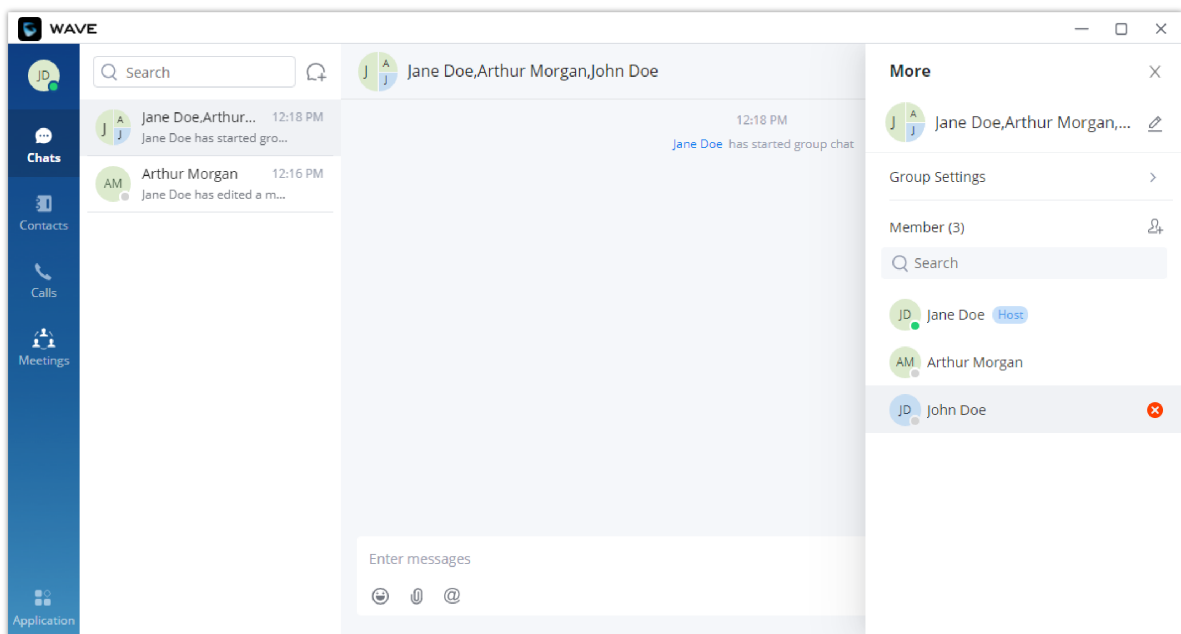


Allow Group Members to Invite Other Participants

Delete Group Members

Only the owner can delete group members.

Step 1: On the chat page, open the group chat page and click on the upper right corner, and hover over the profile picture of the member you want to delete.



Delete Group Members Interface

Step 2: Click on button  next to the member to delete them from the group.

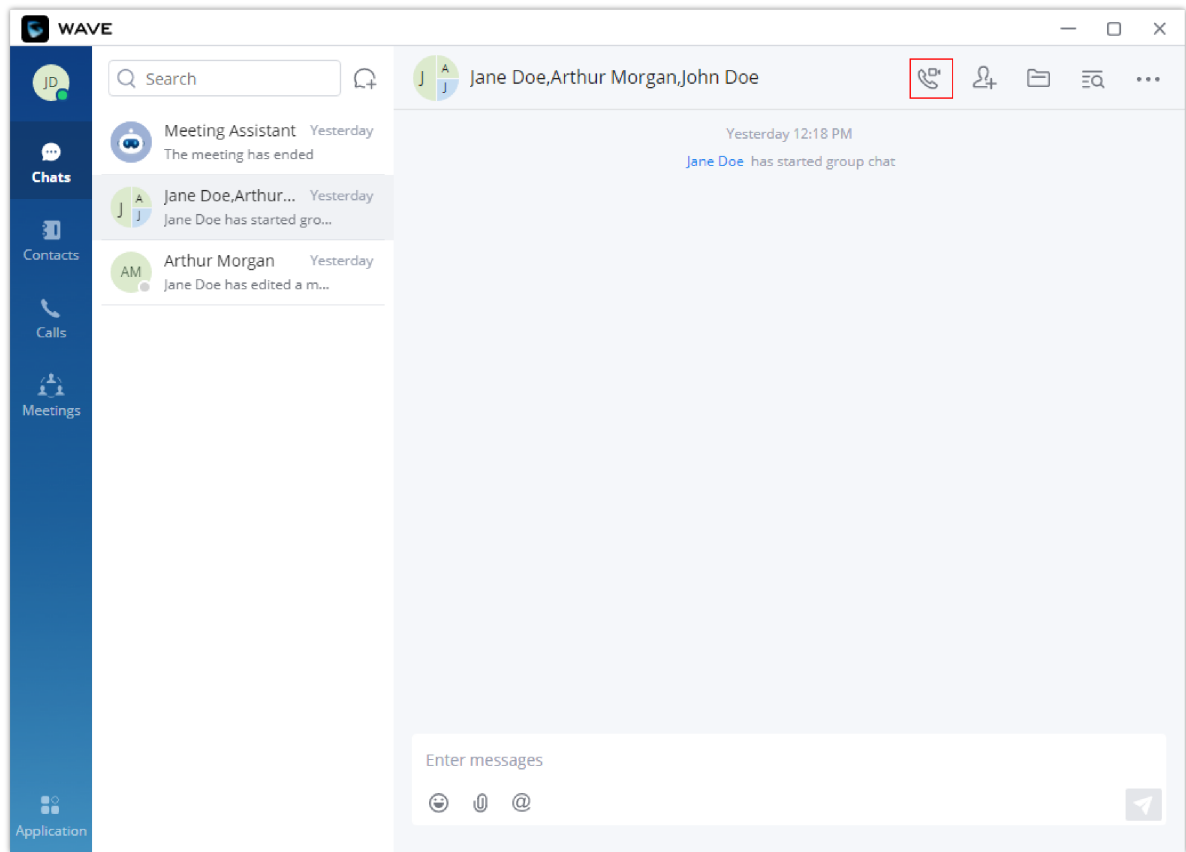
Step 3: After confirming the deletion, this group member exits the group chat and can no longer view the group chat messages.

Note

After deletion, only the deleted member will be notified, not everyone.

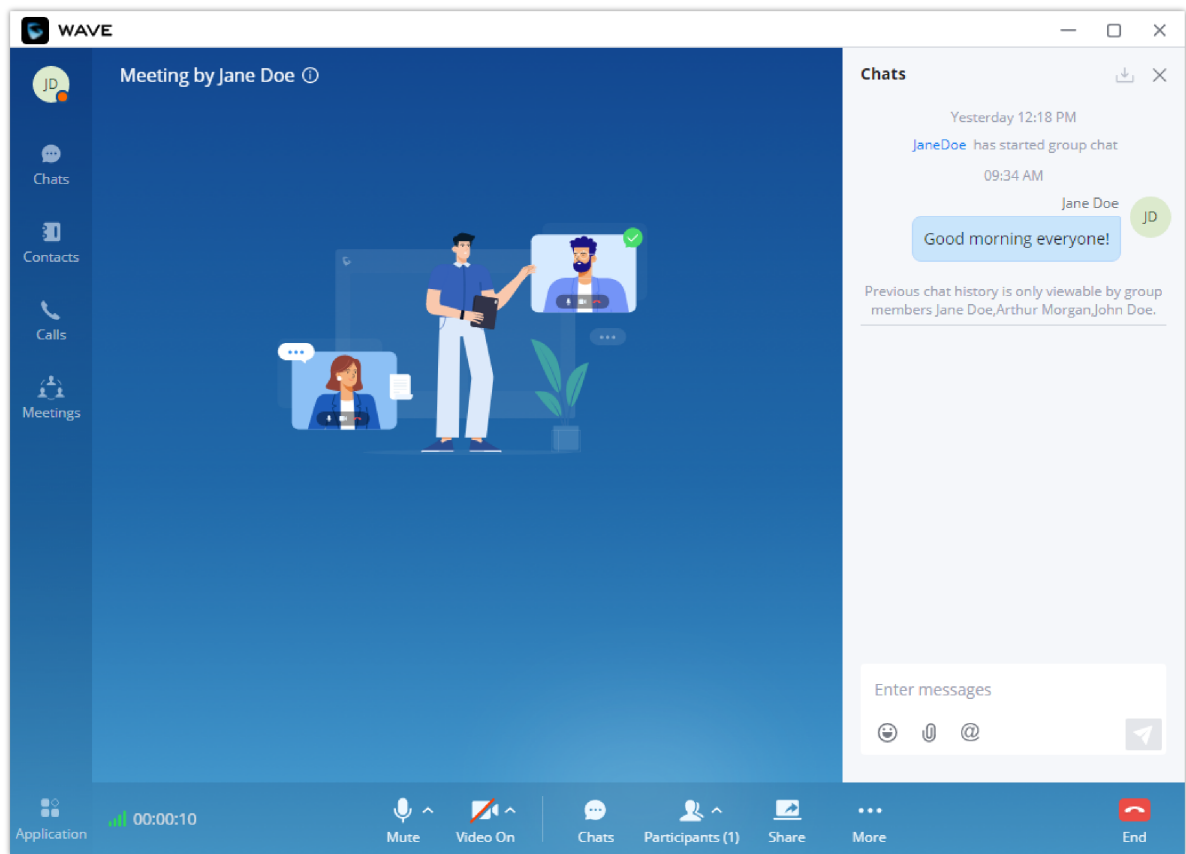
Start a Group Meeting

The user can quickly start a meeting with all the members of an existing chat group, please see the figure below.



Start a Meeting from a Chat Group

The chat history will be carried over to the meeting's chat, as the figure below shows. But any chat that has been exchanged during the meeting won't be synchronized to the chat group.



Meeting Initiated from a Chat Group

Note

Please note that chats which have been exchanged during the meeting can be downloaded in “Meetings” tab. Also, please note that this chatlog won’t contain the chats exchanged prior to the meetings.

Exit Group

Only group members can leave the group.

Step 1: On the chat page, open the group chat page and click on the upper right corner, then click “Leave Group Chat” at the bottom.

Step 2: After confirming to log out, you will no longer accept new messages from this group and cannot view the group history messages.

Note

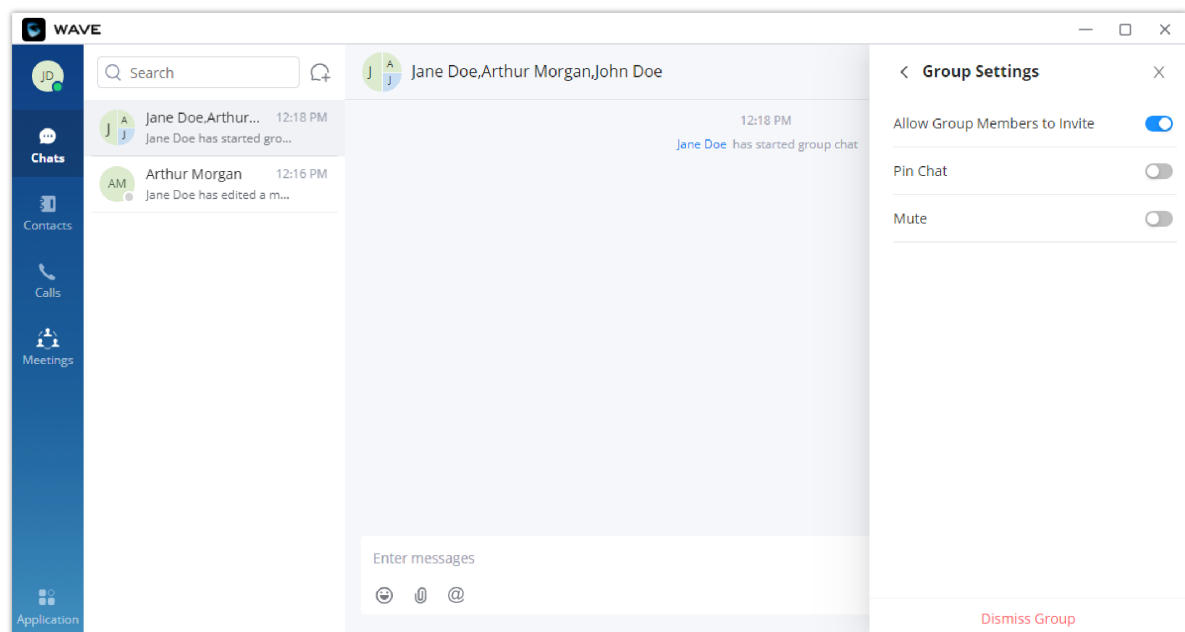
After logging out, only the group owner will be notified, not everyone.

Dismiss Group

Only the group owner can dismiss the group.

Step 1: In the chat interface, the user can open group chat interface and click the button on the right upper corner , then click “Group Settings” option at the bottom of the interface to dismiss the group.

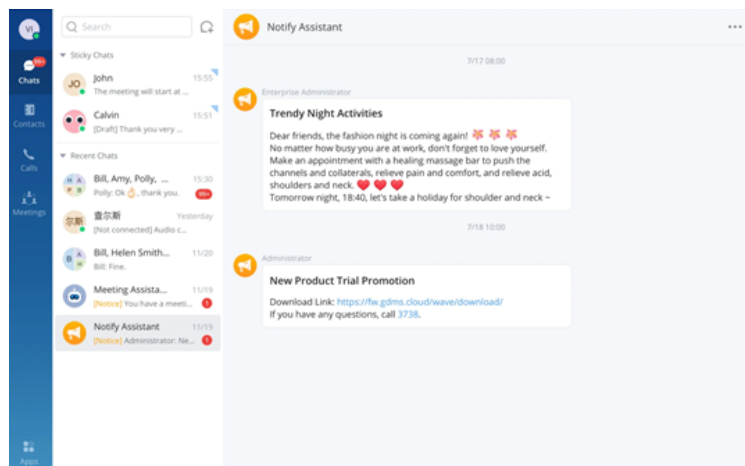
Step 2: After dismissing the group, all members of the group will be removed, and the group chat history cannot be viewed.



Dismiss Group

Notification Assistant

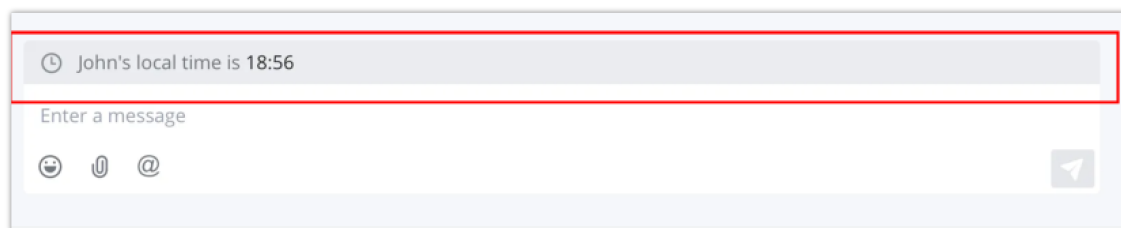
The administrator of your UCM can log in the **Web UI of the UCM -> Messaging -> Message Broadcast** to publish a broadcast message to all extension users, and Wave users can receive this message and display through the Notification Assistant. You can set the desktop notification and sound notification in Settings.



Notify Assistant

Contact Local Time

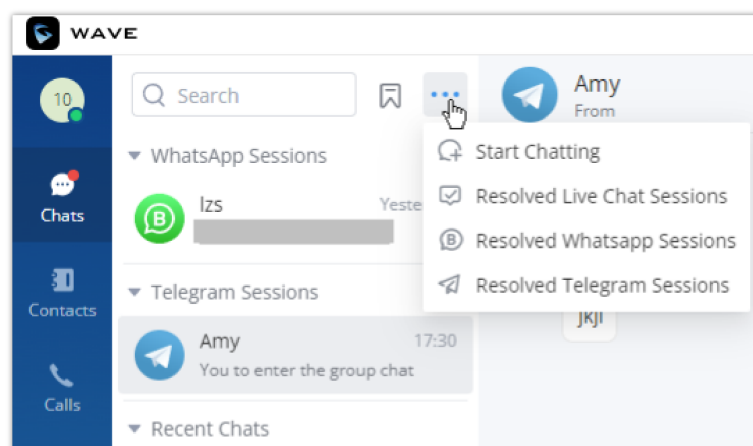
When opening the chat box of a specific contact, Wave will show the contacts local time. This helps with knowing what time it is for a contact when the contact is located in a different time zone. This saves the user time of converting between time zones.



Contact Local Time

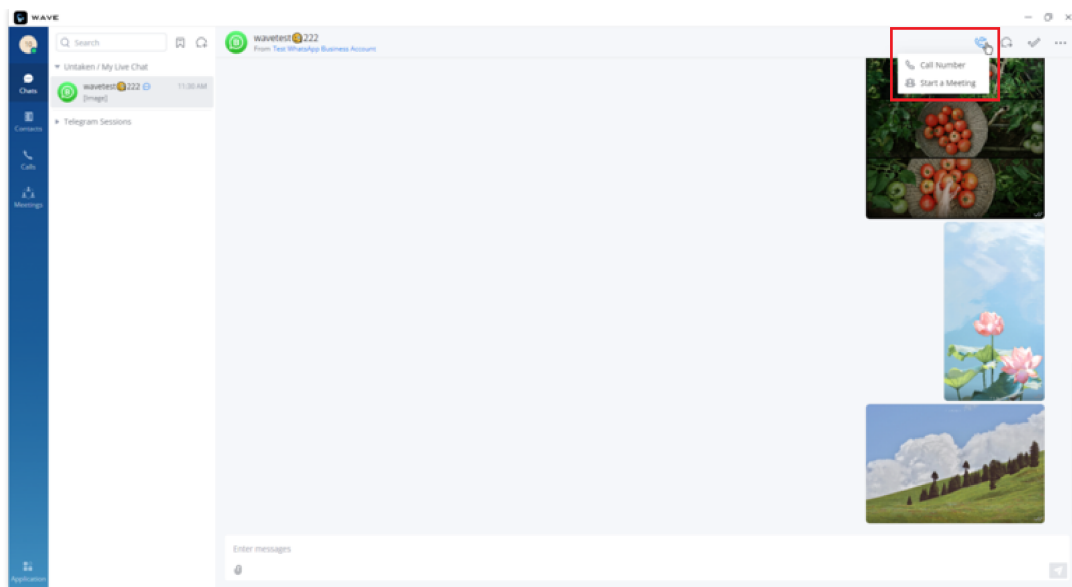
Whatsapp and Telegram Sessions

When Whatsapp Business/Telegram add-ins are configured, the user can directly respond to the messages initiated on the aforementioned platforms directly from Wave. When a session is marked as resolved, the user can view them by clicking on the three dots menu on Wave desktop client and choose the corresponding sessions as shown in the screenshot below.



Resolved Sessions

When a user respond to a message, the user can initiate a one-to-one call or start a meeting

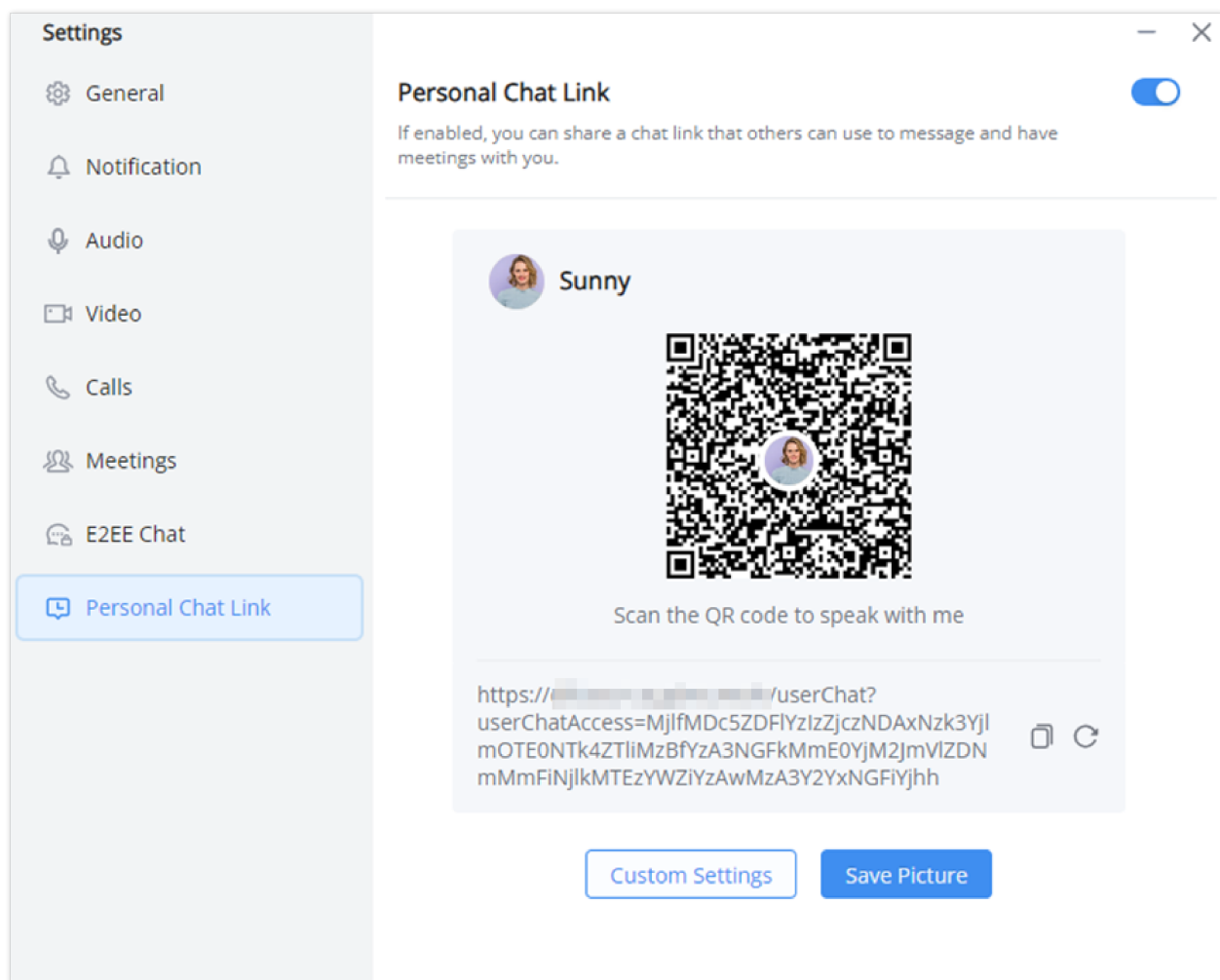


Initiate a Call through Whatsapp Business Session

Personal Chat Link

Wave users can create and share a personal chat link which they can be shared with other people. External people can open this link on a browser and be able to reach the Wave user directly or start a meeting.

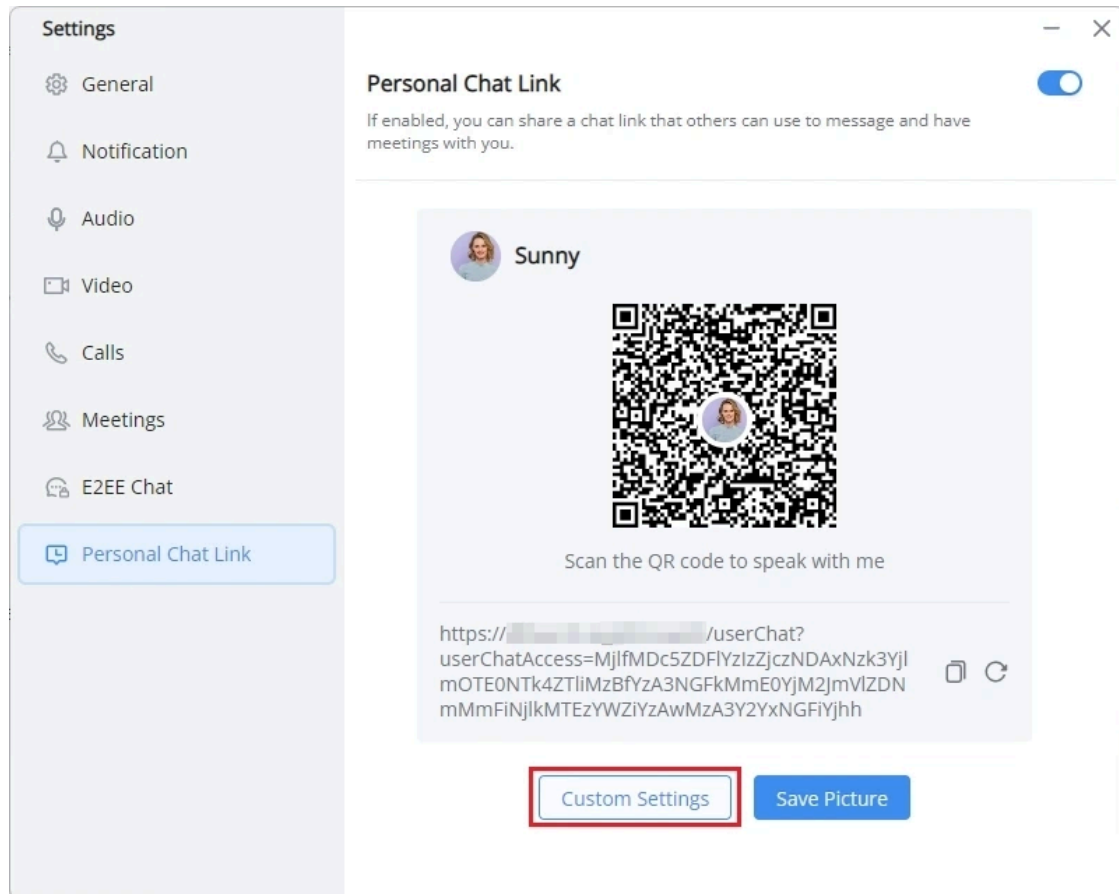
To create a personal chat link, please click on your avatar, then click on "Settings". Then click on "Personal Chat Link" and enable Personal Chat Link toggle as shown in the figure below.



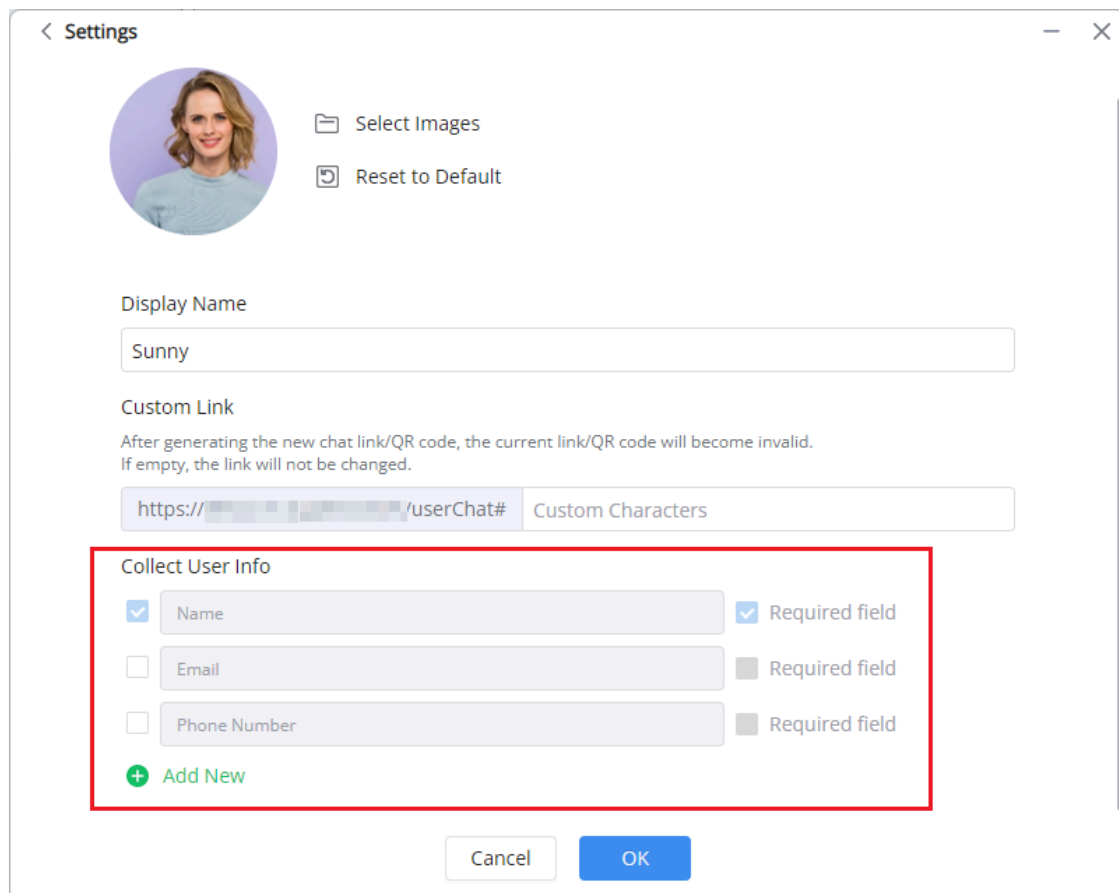
Personal Chat Link

1. The link is valid only when this function is enabled. After it is turned off, the link will be invalid immediately.
2. You can download the QR code and share it with external users
3. You can copy the link to external users.

4. You can customize the fields that external users must fill out before initiating the chat, such as name, email, and company.



Custom Settings for Personal Chat



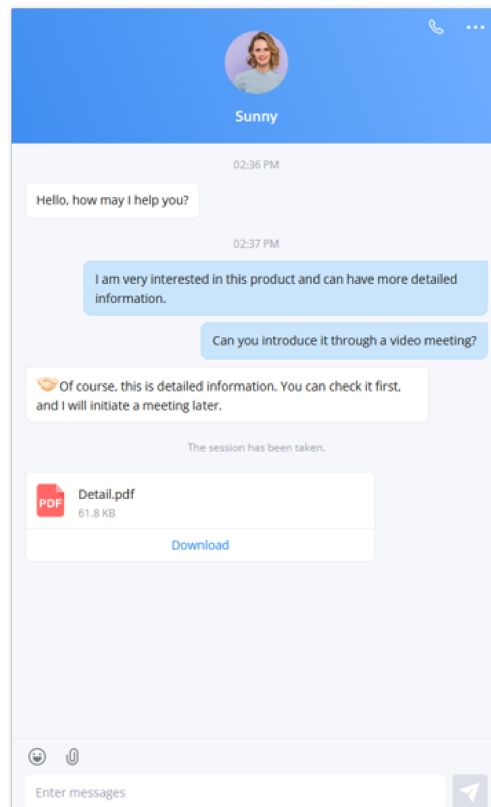
Customize Personal Chat Fields

5. Users can click



change the displayed avatar and name, and support resetting the link or customizing the link address (after resetting, the original link will be invalid).

6. External users can open this link using a computer or a mobile browser to chat.



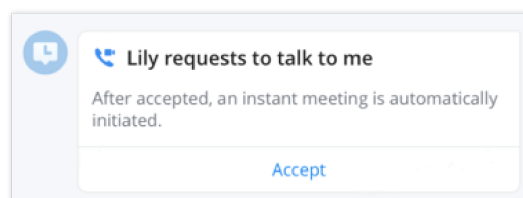
Private Chat

7. External users can send text messages, emojis, and attachments.

8. Clicking the icon

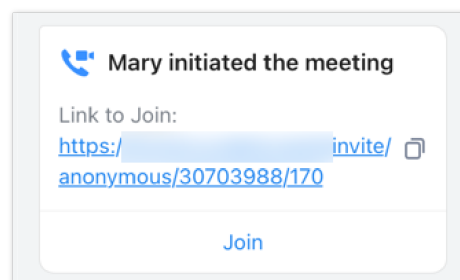


will send a call request to the Wave user, and the Wave user will receive the request as follows:



Meeting Request

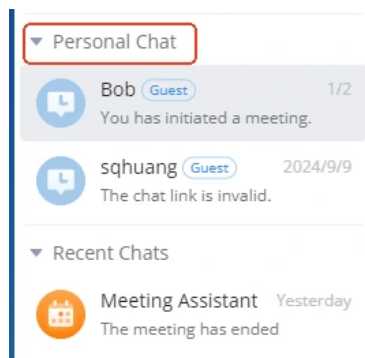
9. When the user click "Accept", an instant meeting is initiated and the meeting link is sent to external users.



Meeting Initiated

10. When an external user clicks "Join", they will join the meeting using their current browser.

11. Personal chats appear as independent chat modules within the Wave interface, separate from other chats.



Personal Chat Module

MEETINGS

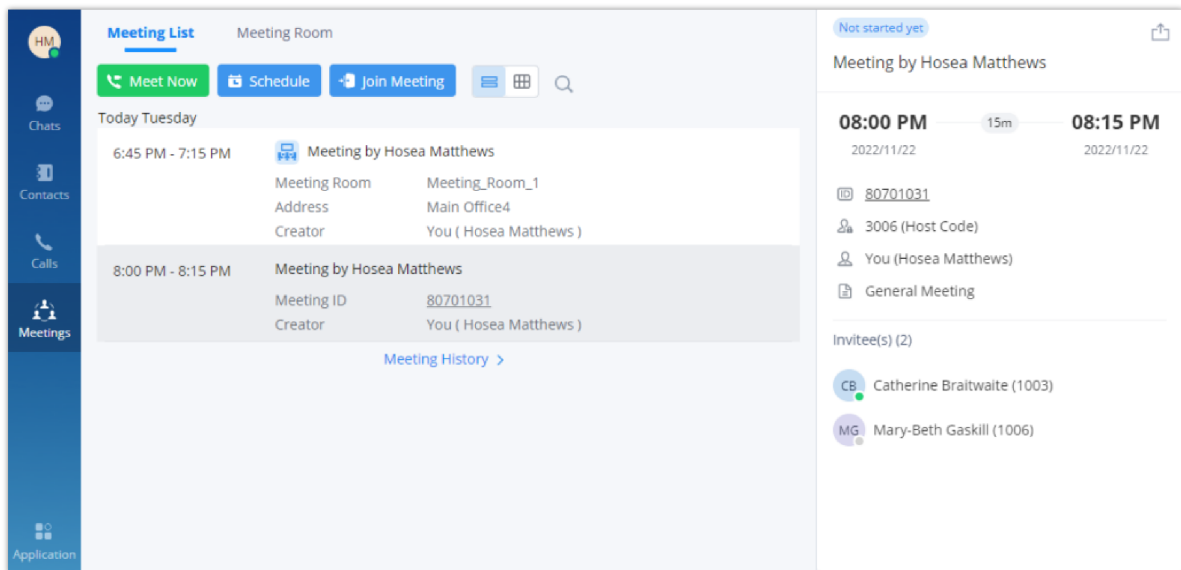
Meeting List

Users can join an audio or video meeting on UCM by dialing the room number. After logging in Wave desktop, click on "Meetings" on the left panel to open meeting page.

Users can view all meeting history in Wave application, and it will show the actual duration of the previous meetings, as well as the participants list of the previous meetings.

Users can search for the recent 6 months meeting history. The period will be counted by natural month.

Users can create meeting to start now by selecting **Meet Now**, or schedule meeting by clicking on **Schedule** on the top of this page.

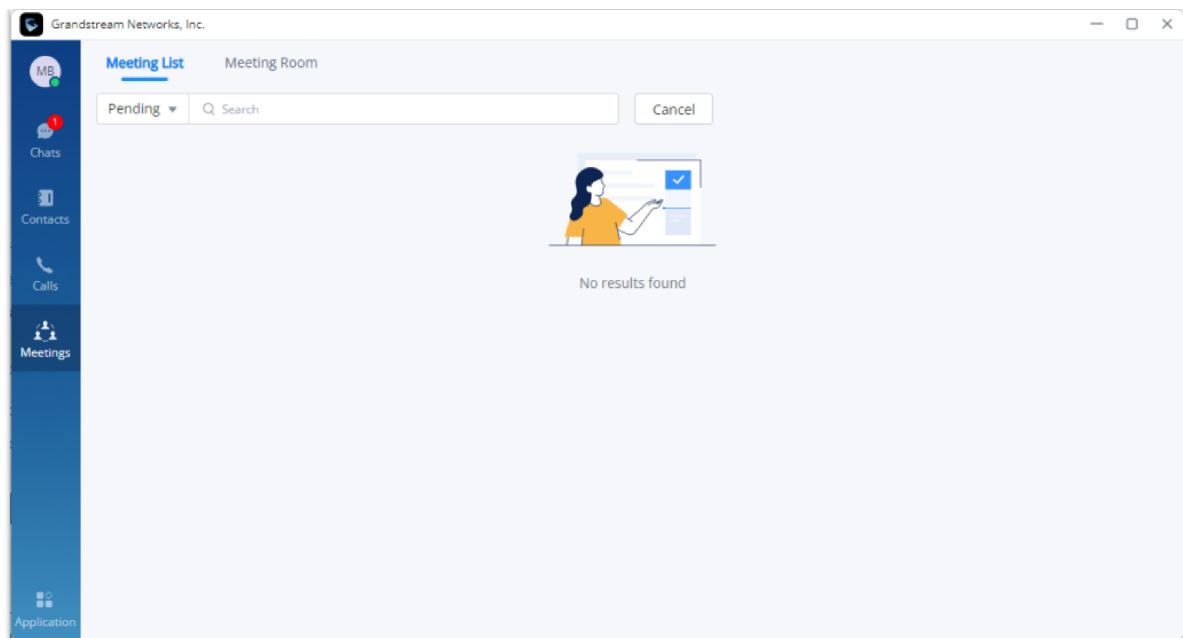


Wave Meetings Desktop Page

Once the meeting has been scheduled, the user can view the details related to the meeting in the side bar. The details which are displayed are:

- **The status of the meeting:** This shows if the meeting has started or not yet.

Users can view scheduled Meetings by selecting "Daily", "Weekly", "Monthly" and defining the date range. Click on  to search meeting by meeting subject, creator, meeting room number.



Search Meeting

Meet Now

On the top of meeting page, click on **Meet Now**.

Meet Now Interface

Step 1: The user needs to enter a meeting subject.

Step 2: The user needs to enter the invitee's number or email address or click the **"Add"** button to invite the participants from the contacts or group.

Step 3: The user can click **"Meet Now"** button to start an instant video meeting immediately and invite participants to join the meeting.

Note

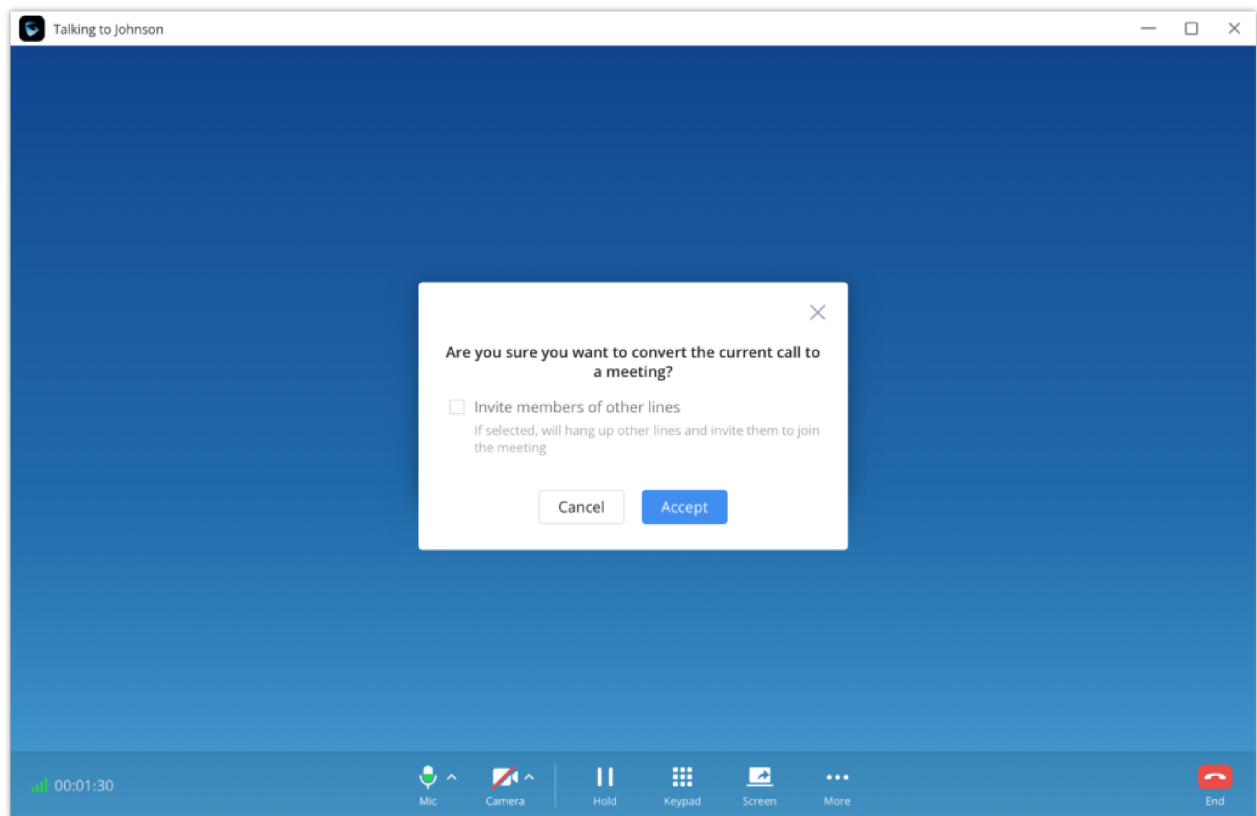
After creating the instant meeting, the video meeting number is a random meeting number. If the user wants to use the public meeting room, the user can access to the public meeting room list and join the public meeting room.

Note

The audio or video meeting room must be created and pre-configured by UCM admin before users can join any meetings.

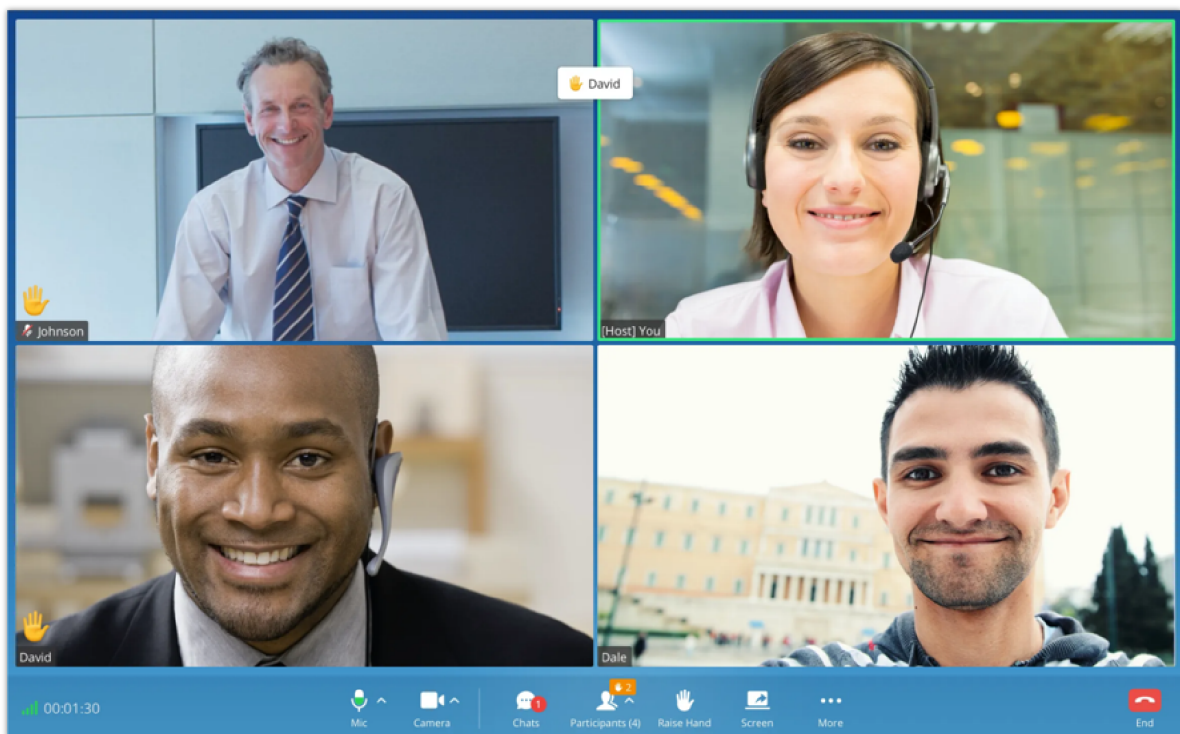
- **Merge separate calls into one meeting**

The user can start a meeting when he/she has received calls from multiple parties. The user can quickly merge all the active lines into one meeting.



Multimedia Meeting

Users can click "**Video on**" or "**Video off**" option during the conference to switch between video/audio conference. Below is the picture showing the call interface after joining video conference room.



Video Conference Screen

Below are the available meeting control options:



: View network condition status such as packet loss for video and audio.



: Invite participants. If the UCM admin has enabled "Allow User Invite" for the meeting room, any participant in the meeting can invite other participants. Otherwise, only the moderator can invite other participants.



: Mute/unmute. Users can click the "**More**" button to enter the alternative ringing speaker settings interface. When a participant is muted, either by his/her own self or by the host. The participant can activate the microphone by pressing and holding the space bar. The microphone will be activated in as long as the participant is holding the space bar and the will be disabled once the participant let go of the space bar.



: Video on/off. Click to enable/disable the local video feed. Users can click the "**More**" button to enter the virtual background settings interface.



: Screen sharing. Click to start screen sharing. Only one participant can share screen at a time. If a participant already shares the screen, this icon will be grey and other participants cannot click on this icon to share.



: More options. The user can click this button to open the DTMF soft keyboard and display the chat bubble function.



: End call.



: View participant list. Click to open the participant list. The user can view participants' mute/unmute status, search for a participant, modify display name, chat with participants, etc.



: Chat. Click to open the chat window and enter chat text.

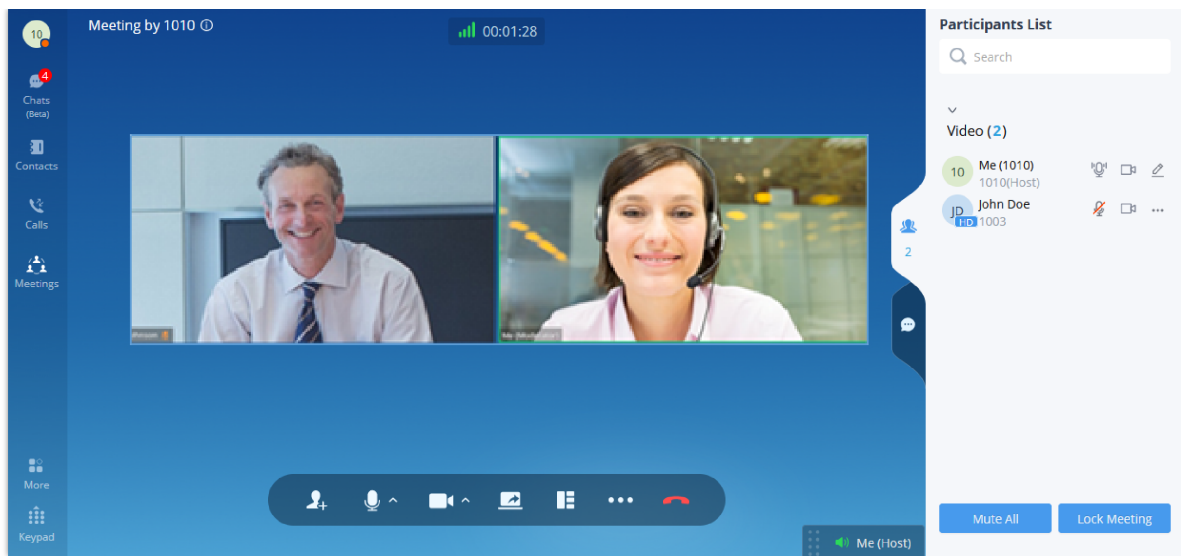


: Raise hand to request to talk.

To become meeting host:

- **Host Meeting:** If there is no meeting host in the meeting, the user can click "More" button  and select "Host Meeting" option to become the meeting host.
- Manage participants:

Click on icon  on the right-side menu to open participant list. The moderator can mute/unmute participants, turn on / off video for participants, transfer moderator to another participant, remove participant from meeting and etc. The moderator can also mute all participants and lock the meeting room (no one can join the meeting room).



Managing Participants in Video Conference

Content Sharing

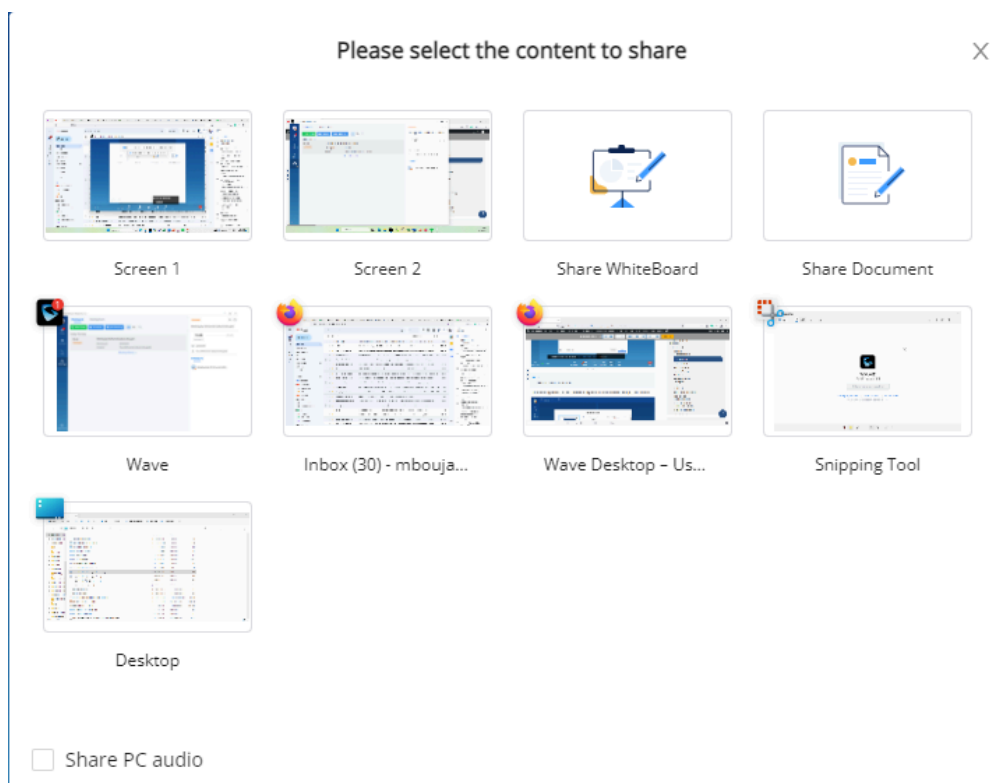
During point-to-point video calls or video meetings, users can share screen to present to all the other participants.

After the users click on the icon , a prompt will appear with the sharing options:

- "Screen #": To share the entire screen
- "Web Browser": To share the web browser content only
- "Application": To share a specific application content only.
- "Share WhiteBoard": To share the WhiteBoard (Supported in meetings only)
- "Share Document": To share a PDF file (Supported in meetings only)

Share Screen

Select "Share Screen".

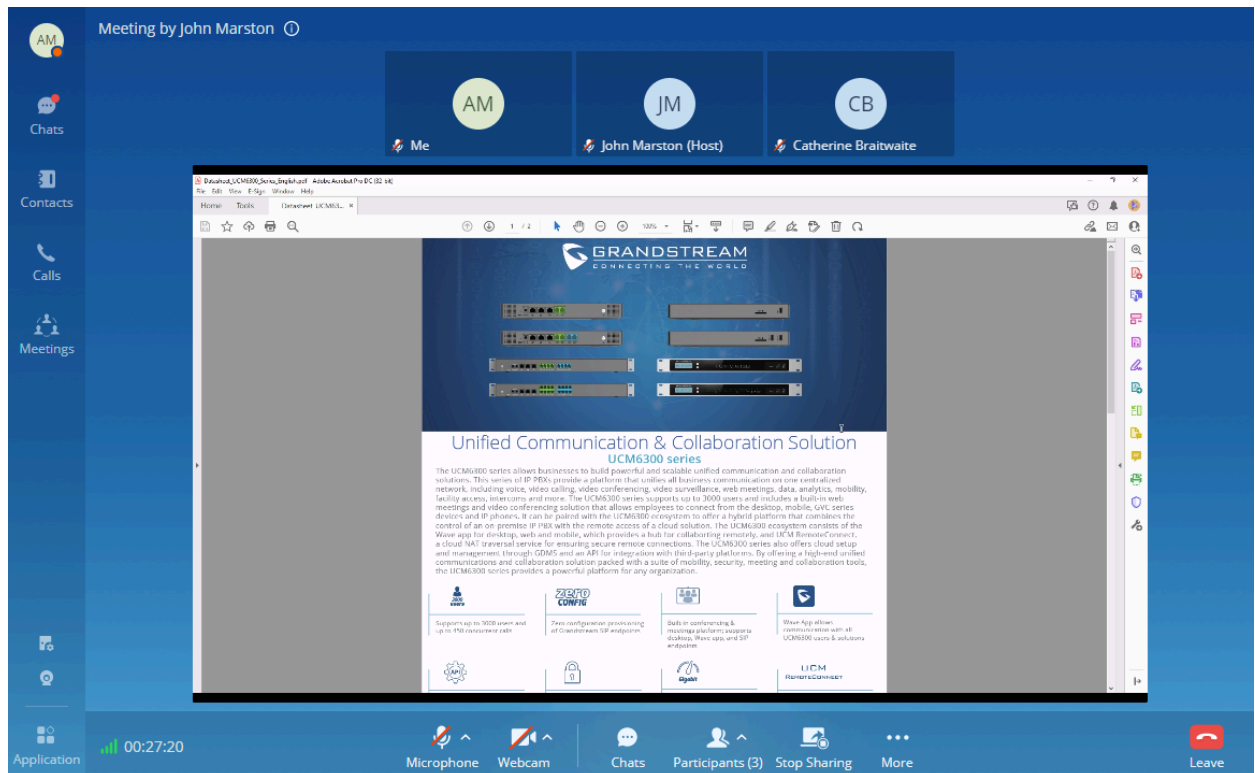


Share Screen

Note

Only one user can share a screen at a time.

During screen sharing, the users can double click on the sharing screen or video screen to enlarge the display area to full screen.

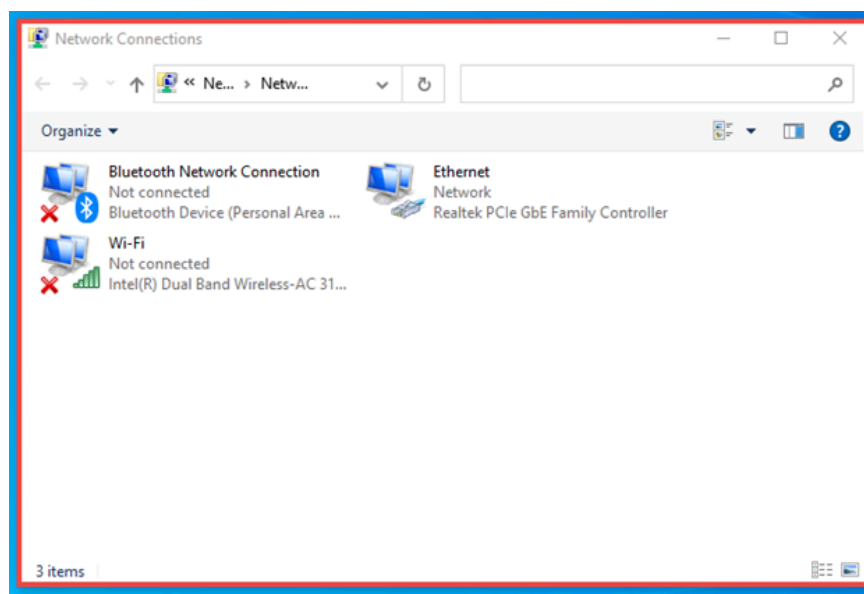


Screen Sharing Layout

Note

The user can choose to enable sharing the PC audio alongside the screen-sharing, any audio that is played in the PC will be heard by all the participants.

During screen sharing, the shared screen/window will have a red frame to distinguish the shared content.



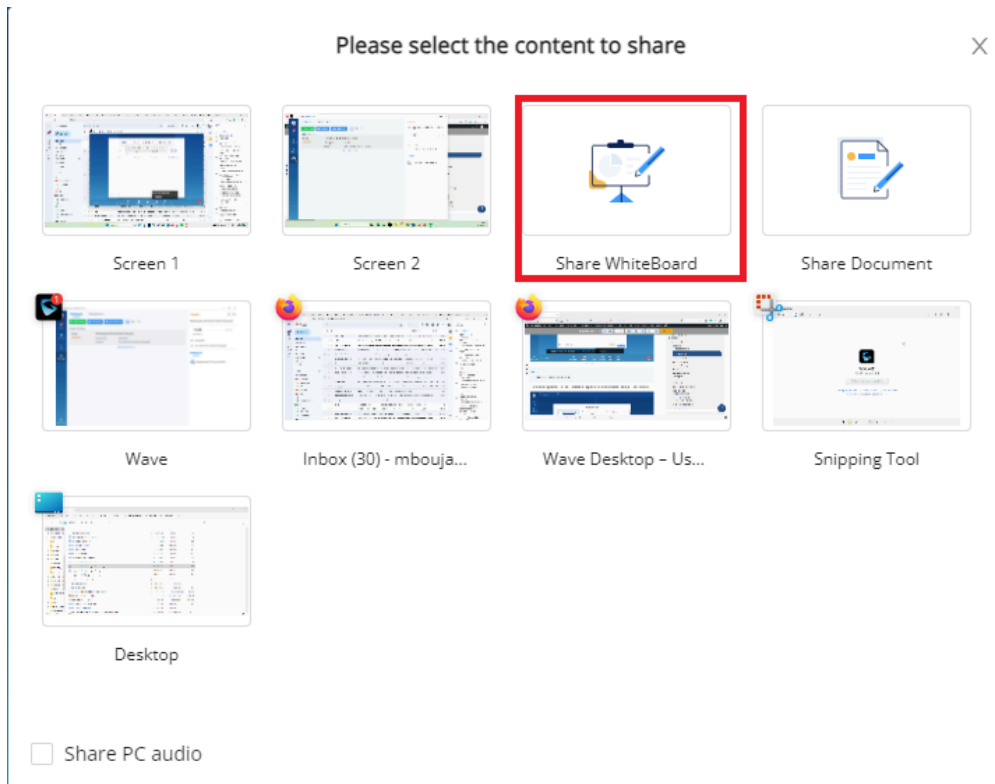
Window Sharing Ongoing

The user can use the sketching tools to draw annotations on the screen.

Share WhiteBoard

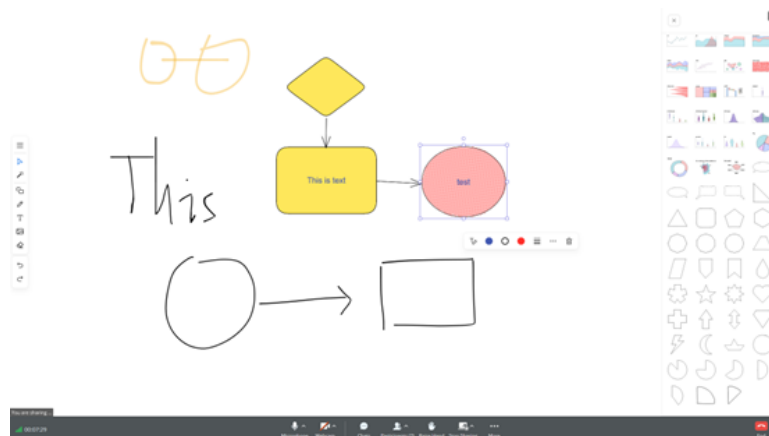
Share WhiteBoard is supported in meetings only.

The user can click on the icon  , and select "Share WhiteBoard".



Share WhiteBoard

The shared whiteboard contains complete features including laser pointer, highlighter, input texts, graphics, flow charts, charts and other more graphics and styles. You can drag graphics, and edit graphics for multiple times. The real-time drawing feature is very simple and fast for users.



WhiteBoard

☰: Click to view more options (only the sharer has the permission) including: Enable/Disable Collaboration function (After enabling this function, other participants can draw at the same time), change the Canvas Color, Empty Canvas, Open File (the whiteboard data picture which was previously saved), Save as Picture, etc.

☞: This is the mouse option. After you select this option, the whiteboard brush becomes the mouse. You can select any figure on the whiteboard, drag the figure or change the style of the figure. You can press and hold the blank space to move the whiteboard.

☞: This is the laser pointer option and only the sharer has this option. It displays the drawn track and will disappear in 3 seconds.

 : This is the graphics option. It only displays the basic graphics by default. You can click “All Graphics” option to expand the menu and see more graphics, including more basic graphics, flow charts, charts, UCM charts, Google charts, etc. You can also double click the graphic to add text.

 : This is the brush option. There are two types brush “Common Brush” and “Highlighter”.

 : This is the text box option. You can click it to enter texts.

 : Pictures can be inserted. After inserting a picture, you can drag the edge to change the size of the picture.

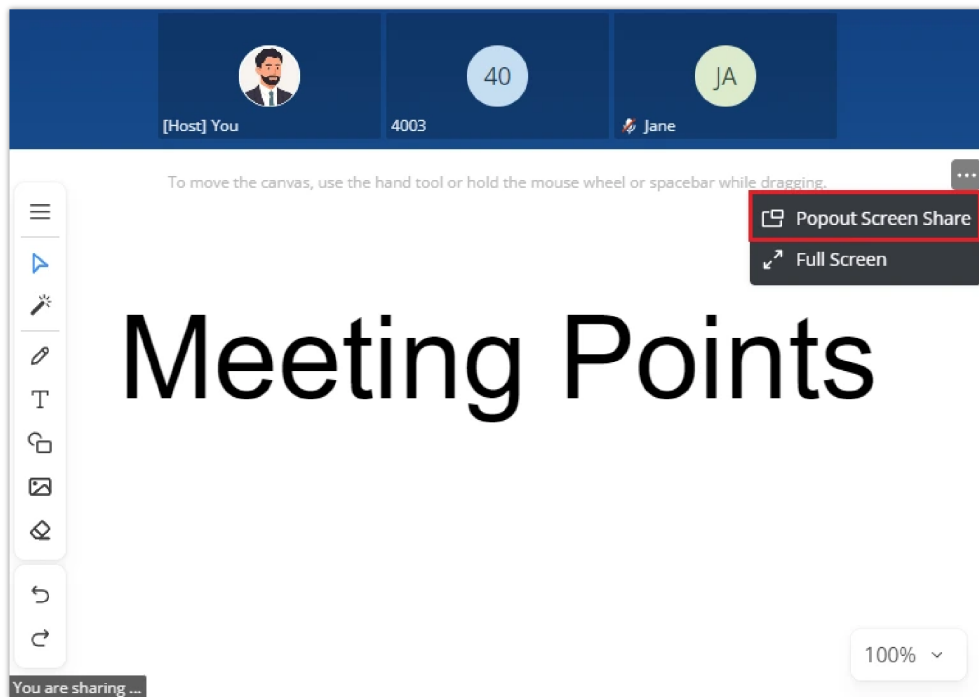
 : This is the eraser option.

 : This is the undo option.

 : This is the recovery option.

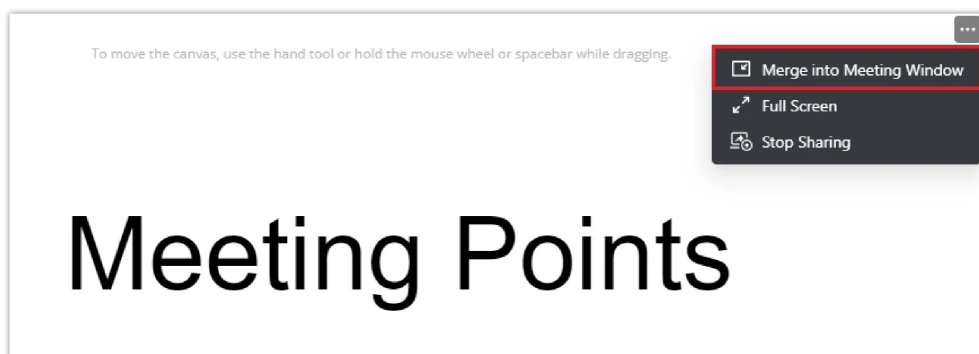
During whiteboard sharing, the sharer can enhance their experience using the **Popout Screen Share** and **Zoom** features for better control and visibility.

On the top-right corner of the shared whiteboard, hover over the three-dot icon (...) to reveal more options. From the menu, the sharer can select “Popout Screen Share” to open the shared content in a separate window.



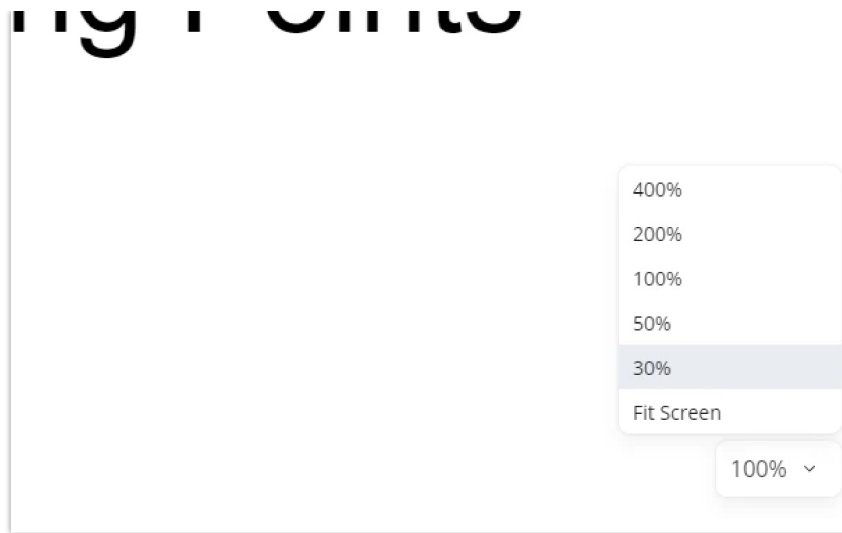
Popout Whiteboard Screen Share

If needed, the user can switch back to the default view by selecting “**Merge into Meeting Window**”, returning the shared content to the main meeting interface.



Merge Whiteboard Screen Share into Meeting Window

Below the shared content area, a zoom drop-down list is available for both the sharer and the viewers. This allows users to adjust the zoom level of the shared whiteboard or document.



Whiteboard Zoom Controls

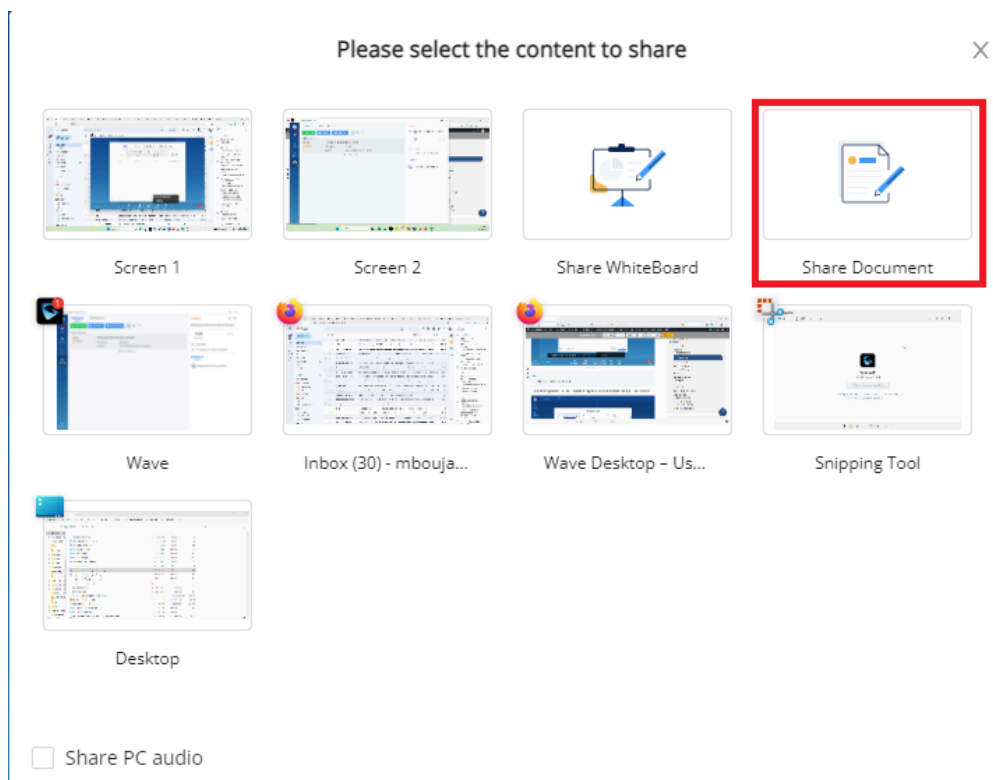
Share Document

Share Document is supported in meetings only.

The user can click on the icon



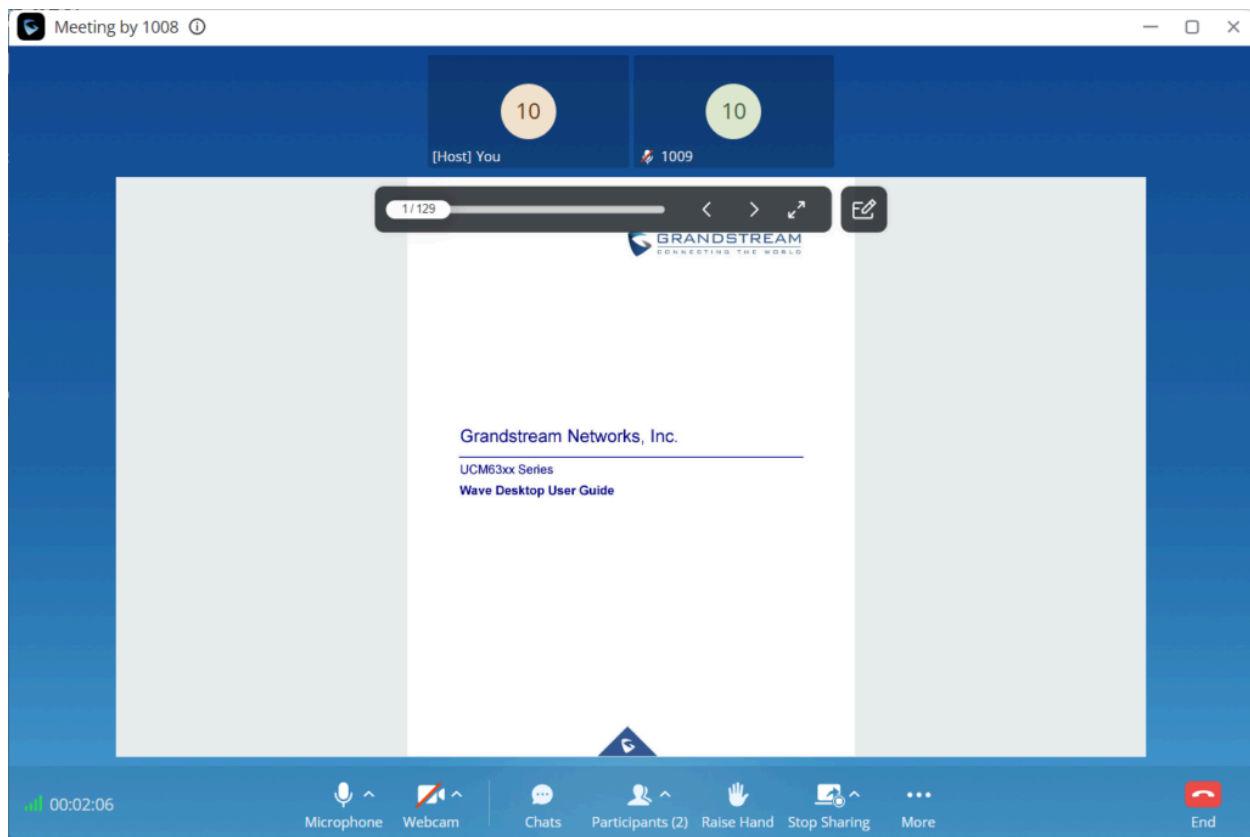
, and select "Share Document".



Share Document

Note:

Supports PDF file only, with up to 20 MB



Shared Document

The users can click  button to use annotations on the shared document.



: This option to change the brush thickness and color.

: This is the paint brush option. It supports different modes: Free, Line, Rectangle/square, Circle and Arrow.

: This option to enter text.

: This is the eraser option.

: This is the undo option.

: This is the recovery option.

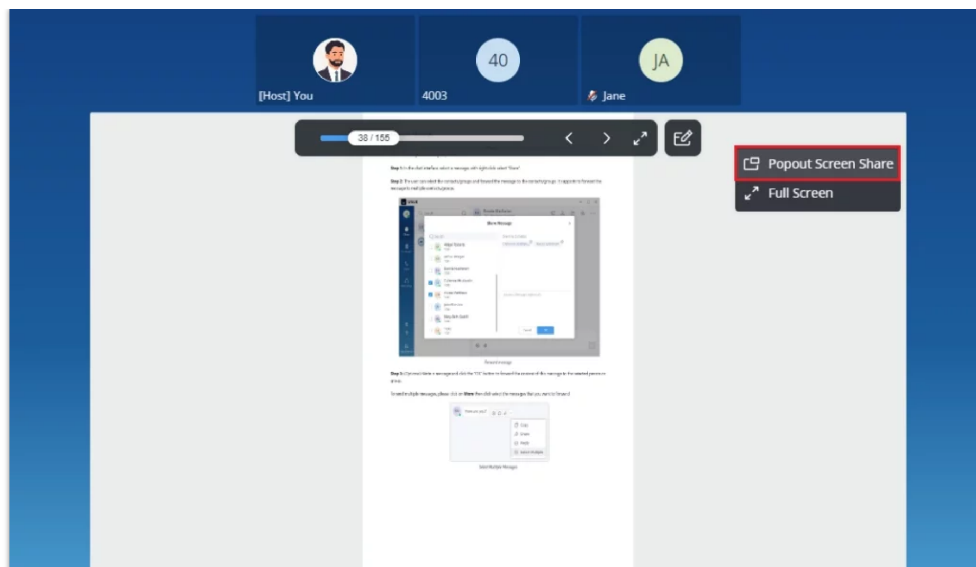
: This is the empty option to clear all the annotations.

: This option to other the other participants to draw annotations at the same time.

: This is the download option. It will download the current page with its annotations as jpeg file.

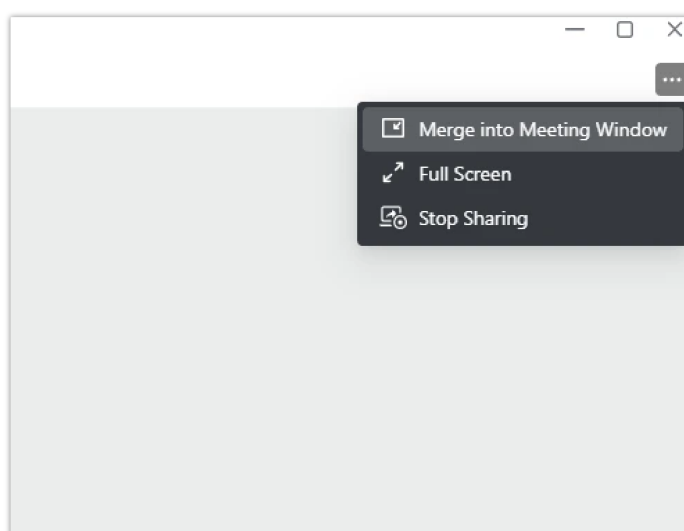
While sharing a document, the sharer can enhance their experience using the **Popout Screen Share** and **Zoom** features for better control and visibility.

On the top-right corner of the shared document, hover over the three-dot icon (...) to reveal more options. From the menu, the sharer can select "Popout Screen Share" to open the shared content in a separate window.



Popout Document Screen Share

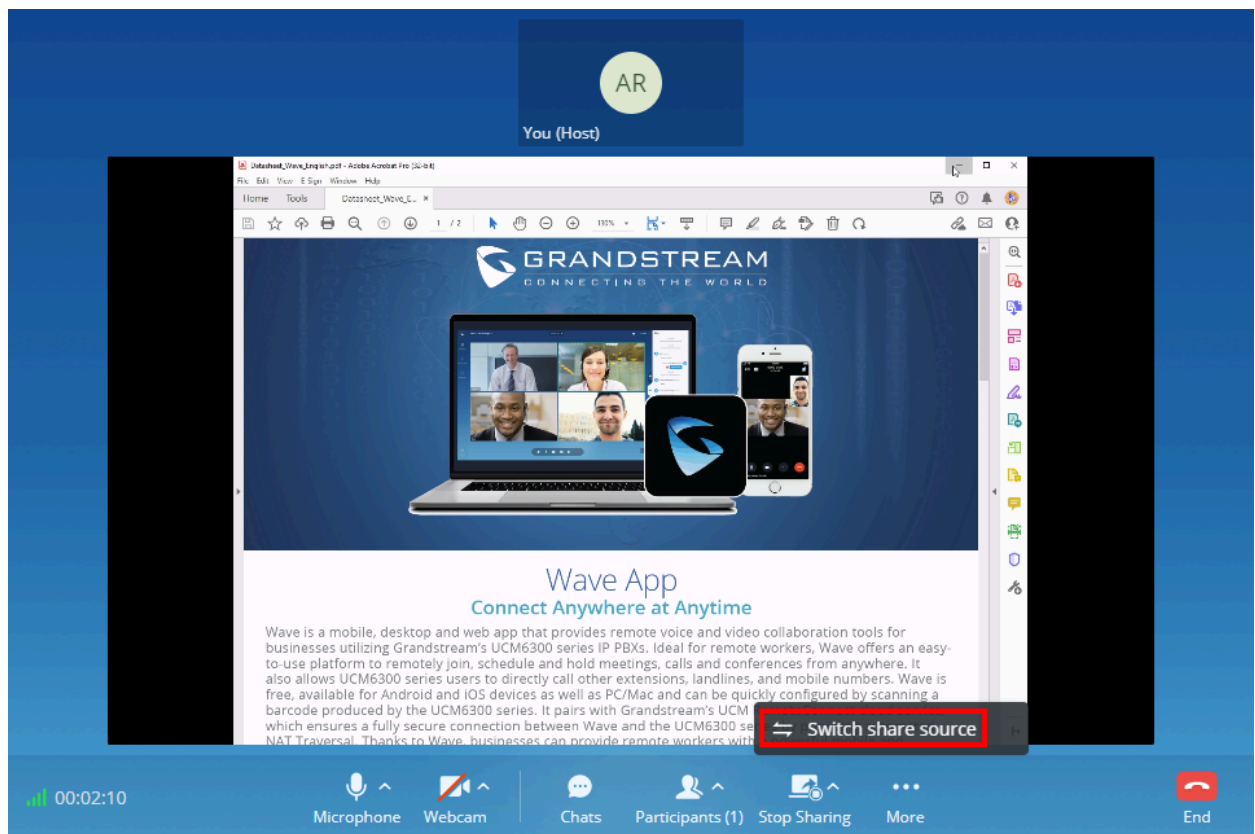
If needed, the user can switch back to the default view by selecting **“Merge into Meeting Window”**, returning the shared content to the main meeting interface.



Merge Document Screen Share into Meeting Window

Switch Sharing Source

Using Wave point-to-point call or meeting allows switching seamlessly between the source of the screen-sharing. This can be performed without ending the screen-sharing. Please refer to the screenshot below to know exactly how it can be performed.

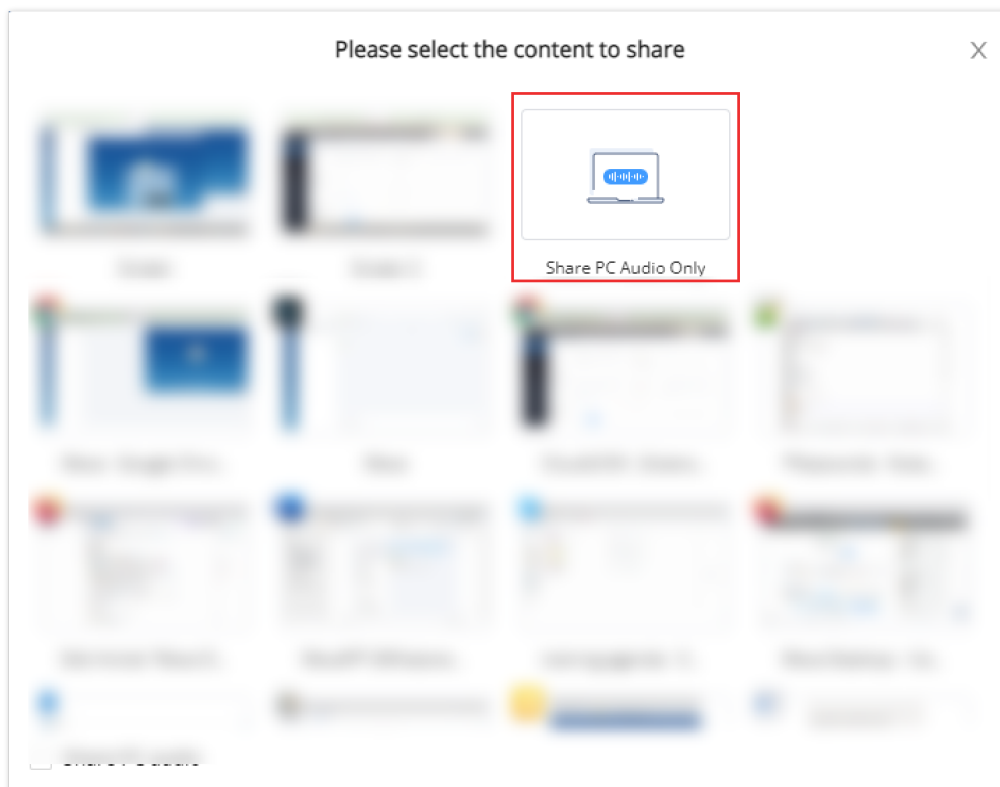


Switch Share Source

Then choose the new source that you want to share with the other users.

Share Desktop Audio

While in a one-to-one call or a meeting, the user can share the desktop audio with the other user(s). To share the desktop audio, please click on "Share" button on the call menu  then, select "Share PC Audio Only" as shown in the figure below.

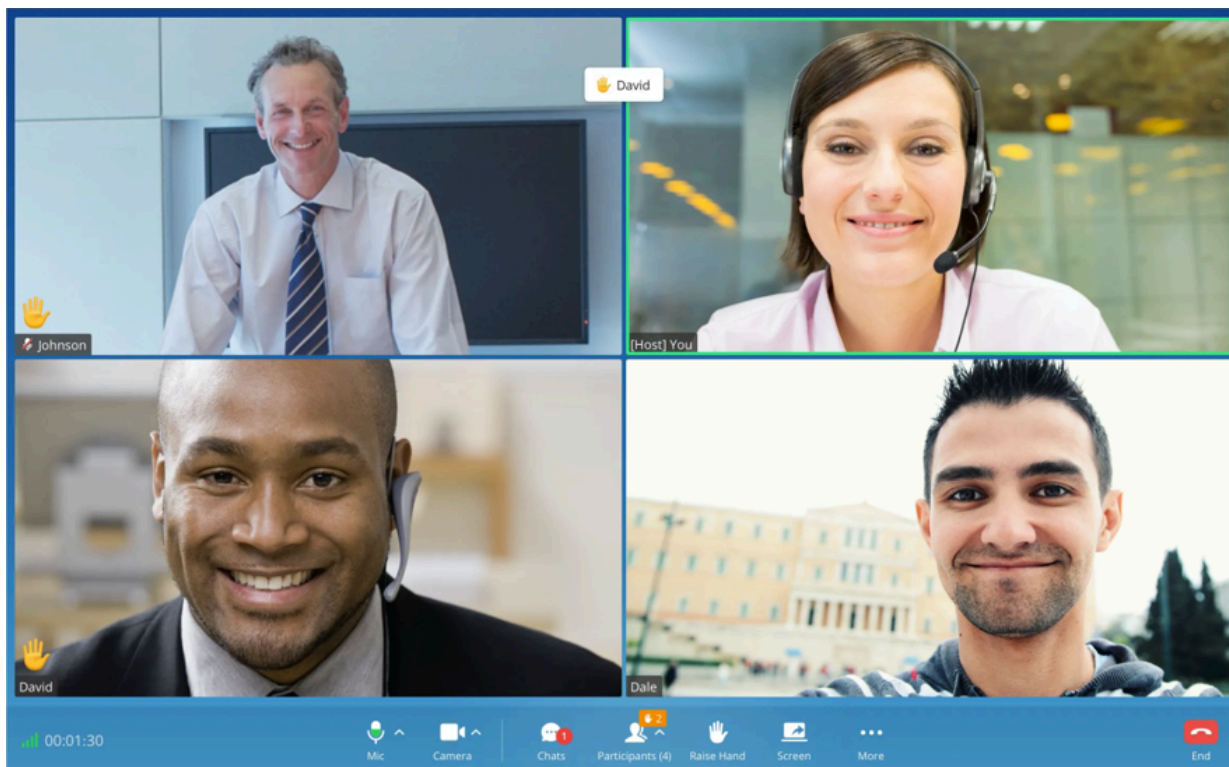


Share Desktop Audio

Raise Your Hand

During the meeting, the participants can request to speak by raising the hand. All the other participants will be able to see who has risen their hand. This makes meetings with many participants a lot easier to manage for the host.

To raise your hand, please click on . The participants who have risen their hands will be displayed as the screenshot below shows.

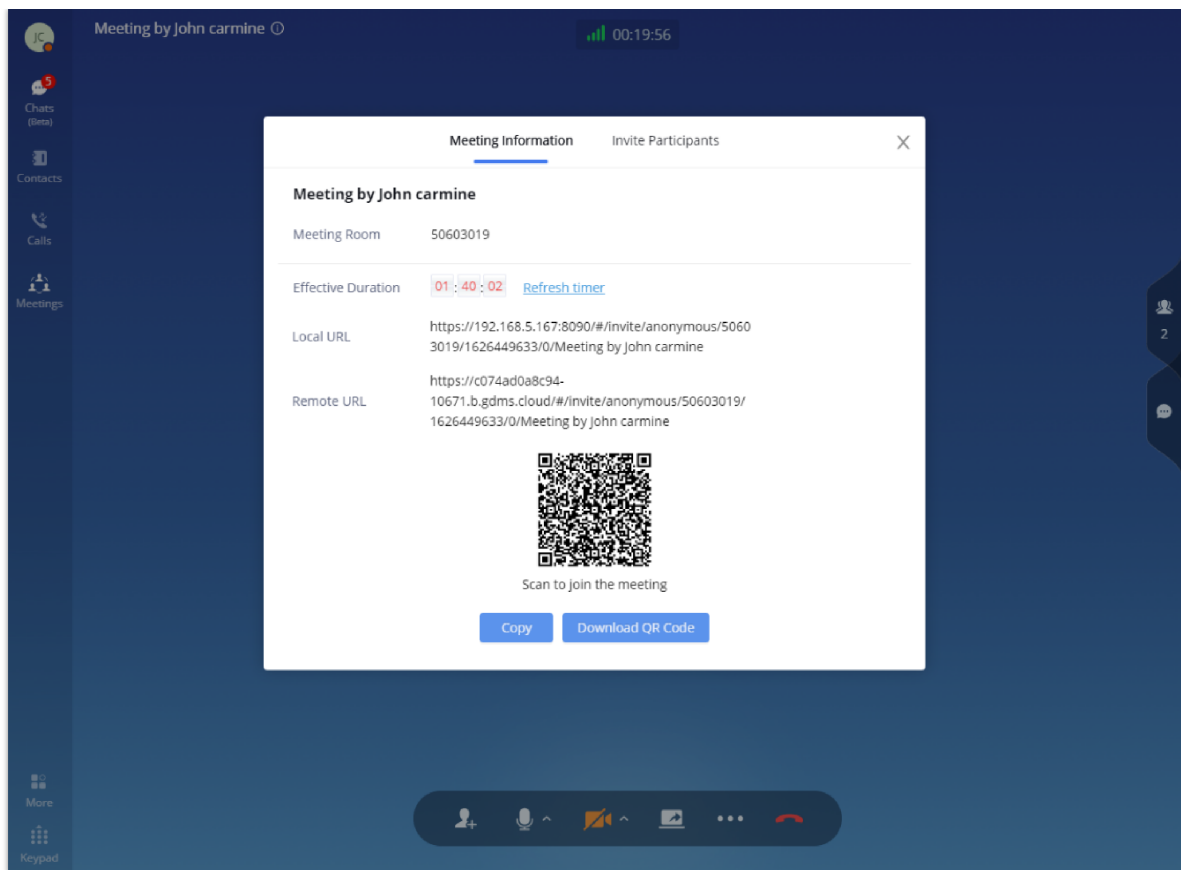


Raise Hand

Invite Participants

If the UCM admin has enabled “Allow User Invite” for the meeting room, any participant in the meeting can invite other participants. Otherwise, only moderator can invite other participants.

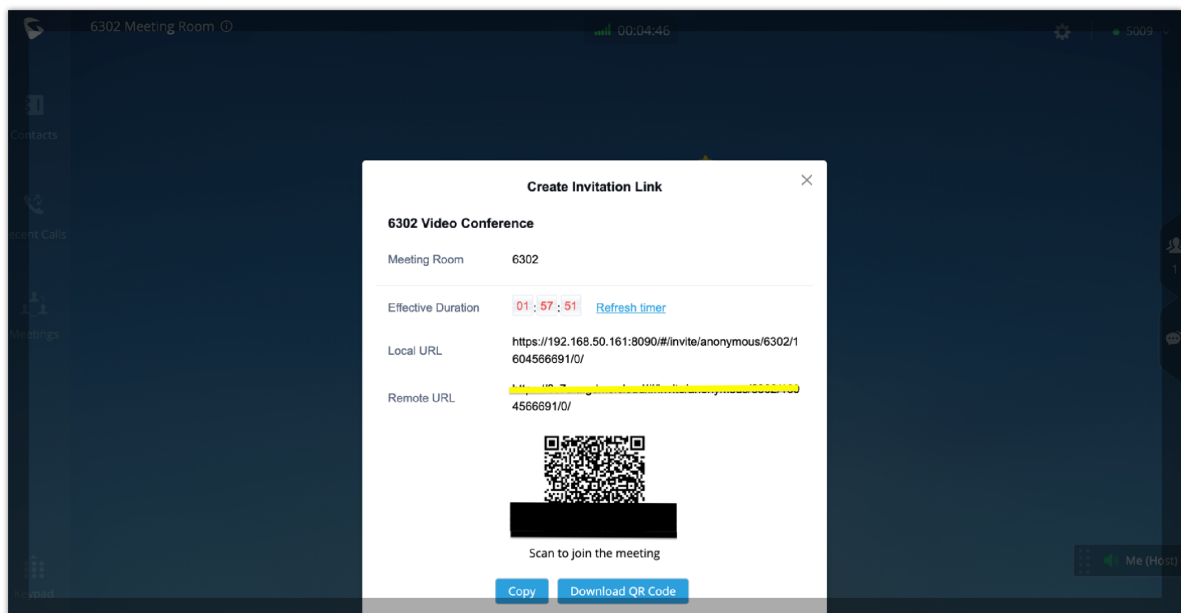
Users can invite other participants by generating meeting link or dialing other participants.



Invite Participants

- **Create invitation link:**

After selecting “Create Invitation Link”, users will be prompt with link information as below. The users can send the link or QR code to other parties for them to join the meeting.

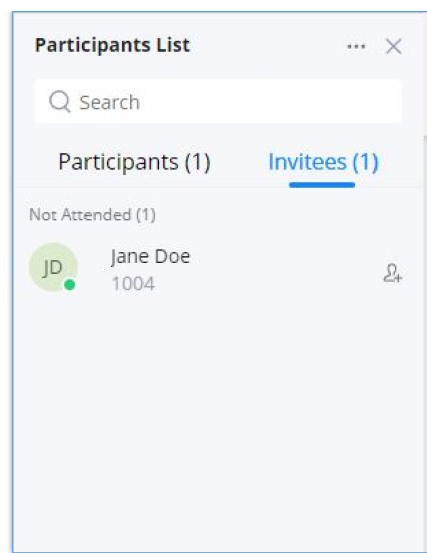


Create invitation link

- **Invite participants:**

After selecting “Invite Participants”, users can select a contact to invite or enter the number to invite.

The meeting’s host can also invite the participants quickly. . To do this, the user needs to click on button  in the menu bar at the bottom of the screen to bring the participants menu up:

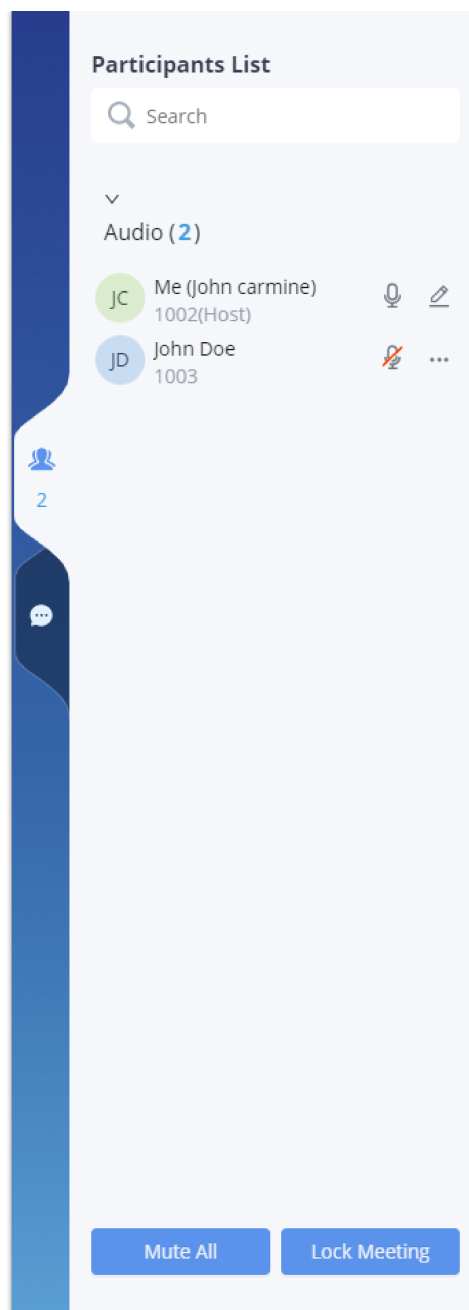


Participants List

On the invitees tab, the user needs to click on  to quickly invite the participant.

Managing Participants

During meeting, click on icon  to open participant list.



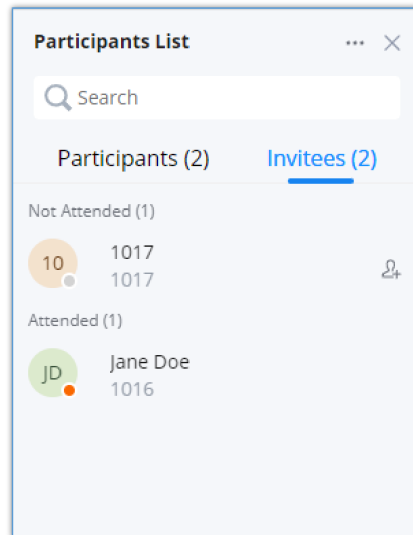
Participant list

Participants can view the list only, while moderator has more options to manage the participants.

-  : Modify display name.
-  : This indicates the participant has video on. If moderator clicks on it, it will turn off the participant's video.
-  : This indicates the participant has video off. If moderator clicks on it, it will invite the participant to turn on video.
-  : Mute. This indicates the participant has mic on. If moderator clicks on it, it will mute the participant's mic.
-  : This indicates the participant is talking. If moderator clicks on it, it will mute the participant's mic.
-  : This indicates the participant is muted. If moderator clicks on it, it will turn the mic back on for this participant.
-  : More options to operate for this participant, such as "Transfer Moderator", "Remove" and "Chat".
-  : Chat. Click to open chat window.
- Lock Meeting: Click to lock meeting so that no one can join the meeting room anymore.
- Mute all: Click to mute all participants in one click.

Invitees List

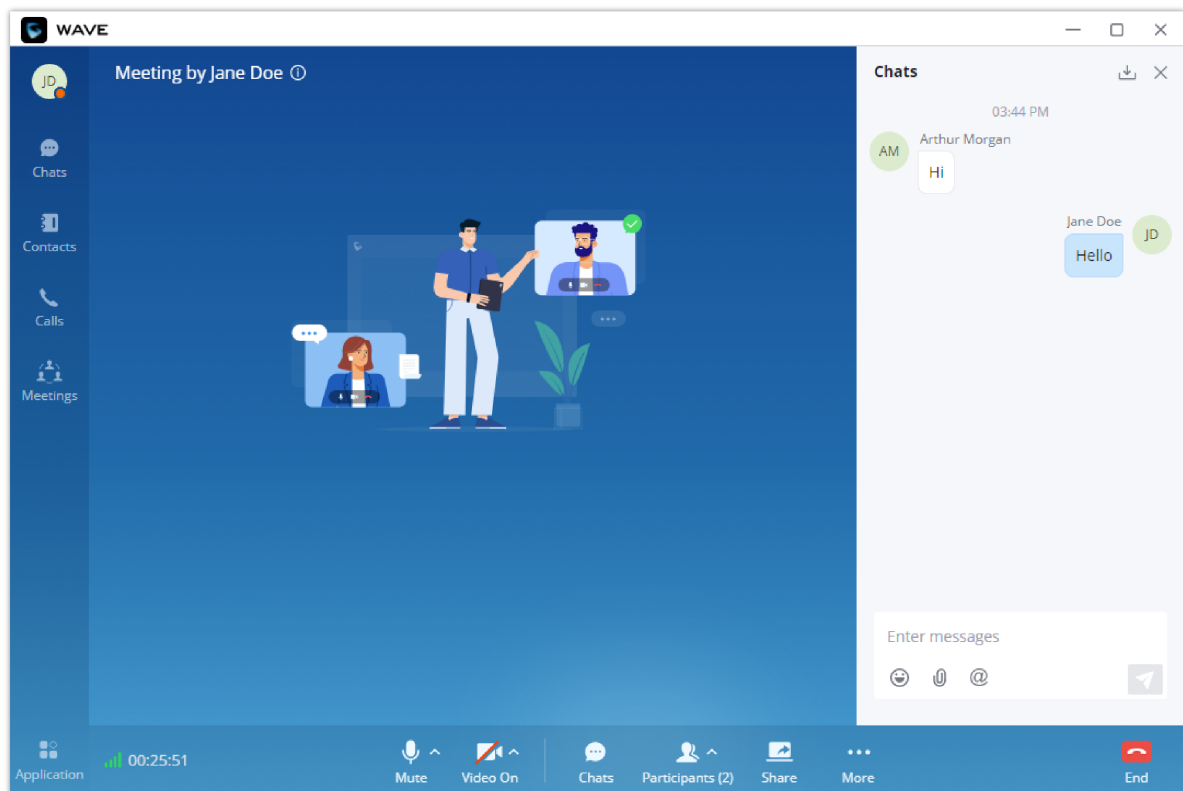
If the current user is the meeting host, the user can view the list of participants who are not attending the meeting. The participants can only view the list of current attended participants. The meeting's host can send an invitation to the people who have not attended the meeting or those who left. Please see the screenshot below.



Invitees List

Chat During Meeting

During meeting, users can click on  to open chat window. The chat messages can either be sent to a specific participant or to all the participants.



Chat during Meeting

- Chat window not only displays all chat messages, but it also shows real-time notification when a participant joins meeting or leaves meeting.
- Wave supports chat with members who join the conference via browser, PC client, and mobile APP.
- The user can choose to send a message to all members or select a specific member to send the message.
- Click the icon  under the participant list for a specific user chat privately with him/her. Only supported for wave users.

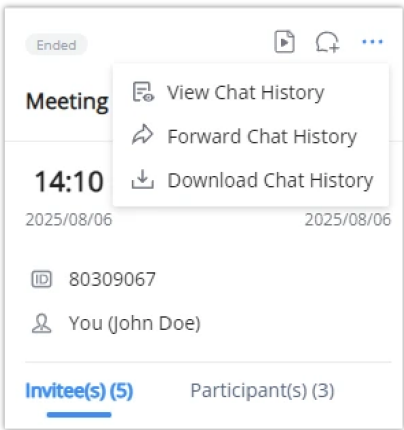
Chat History After Meeting

After a meeting ends, users can access and manage the full chat history from the **Meeting History** tab in the Wave application.

Note:

Only users with meeting host permission can view, download, or forward chat history.

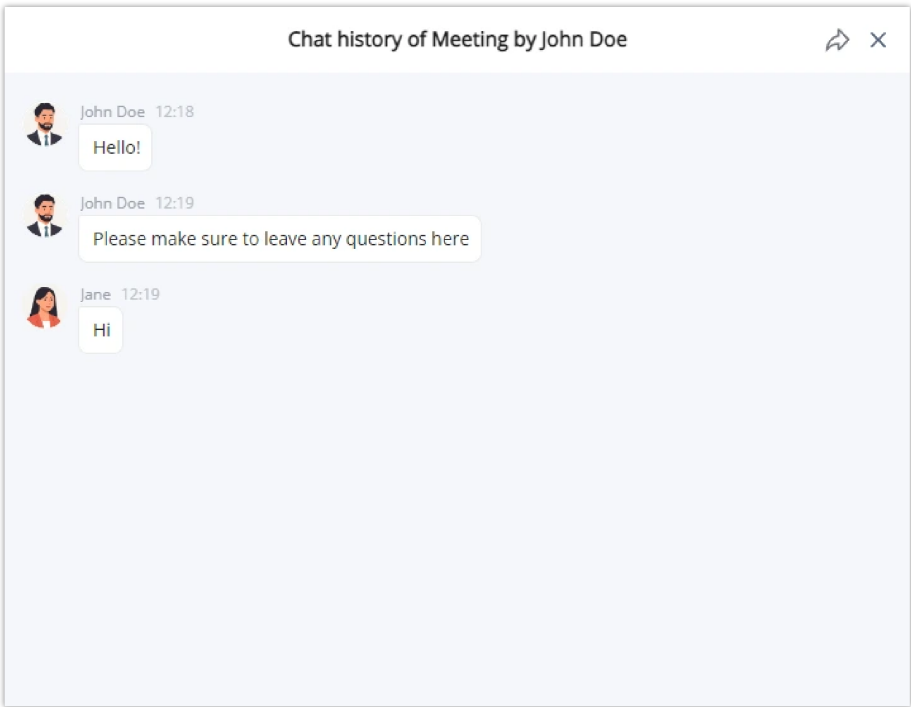
- 1. Click the **“Meeting”** button on the left side of the main interface.
- 2. Navigate to the **“Ended”** tab to find past meetings.
- 3. Click on the desired meeting to open the **Meeting Details** interface.
- 4. Hover over the additional options to view the available actions.



Chat History Options

◦ **View Chat History:**

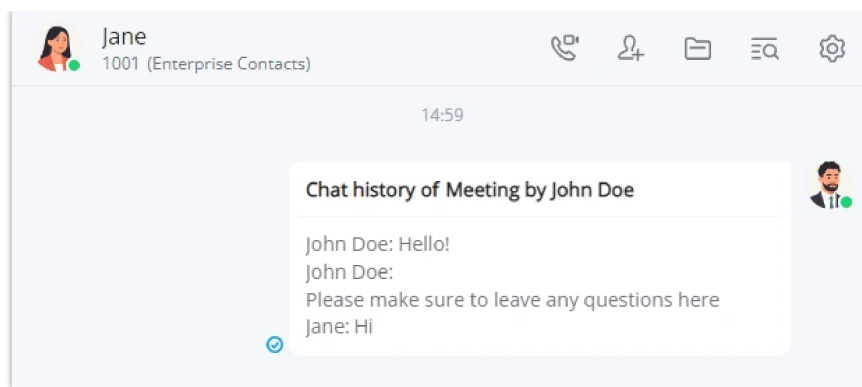
Opens the full in-meeting conversation log directly in the Wave application interface.



View Meeting Chat History

◦ **Forward Chat History**

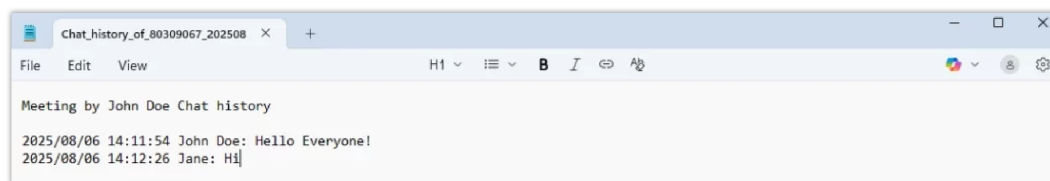
Allows the user to forward the chat transcript to other **Wave users**. A recipient selection dialog will appear.



Forward Meeting Chat History

◦ **Download Chat History**

Exports the chat log as a plain **.TXT file** for record keeping, sharing, or offline access.



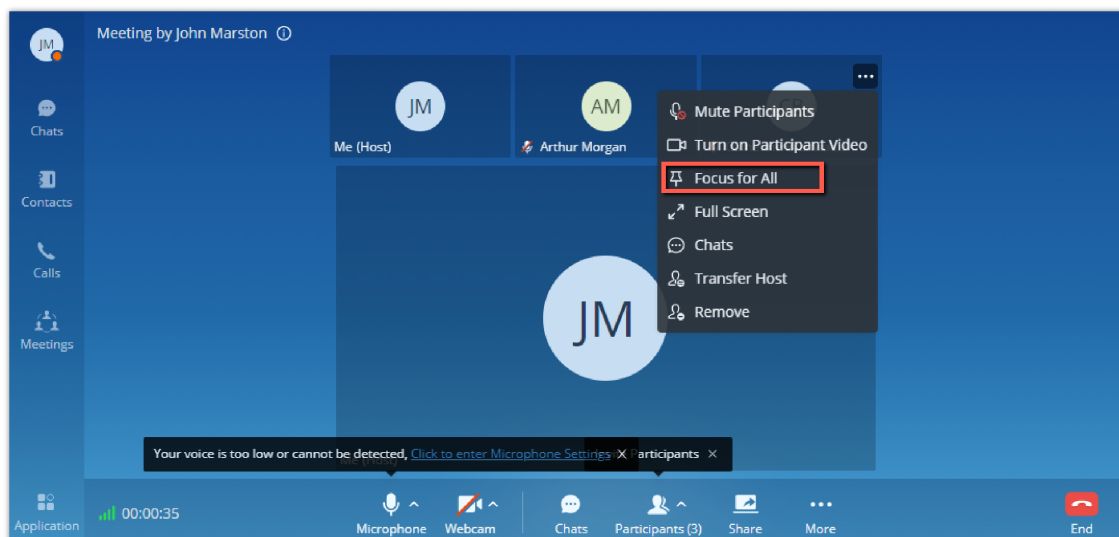
Download Meeting Chat History

Meeting Layout

You can arrange the layout of the tiles of the participants in a specific meeting in two arrangements, to do that please click on "More" button , then select either  **Speaker Layout** Or  **Tiled Screen Layout**

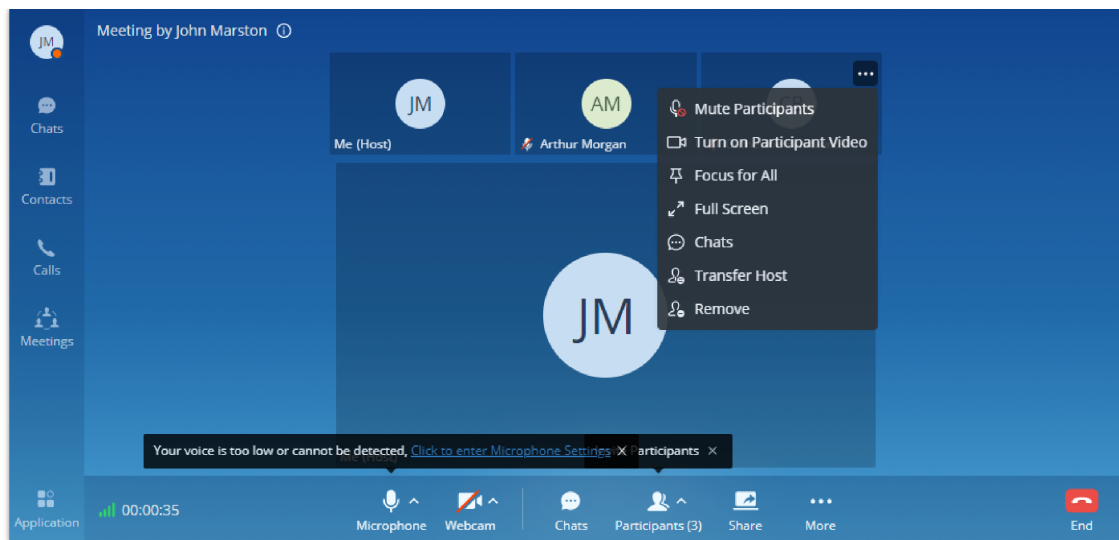
- **Tiled Screen Layout:** The tiles will be arranged in the same size without putting the focus on the speaker.
- **Speaker Layout:** Whenever someone is speaking his tile will be enlarged and showed under the tiles of the listeners. This puts the focus on the speaker and his/her video feed if he/she has the webcam on.

The meeting host can also control to have one participant's tile pinned. To do that, the meeting host can click on the three dots on the top right corner of the user's tile, then click on "Focus For All" as the screenshot below shows.



Focus for All

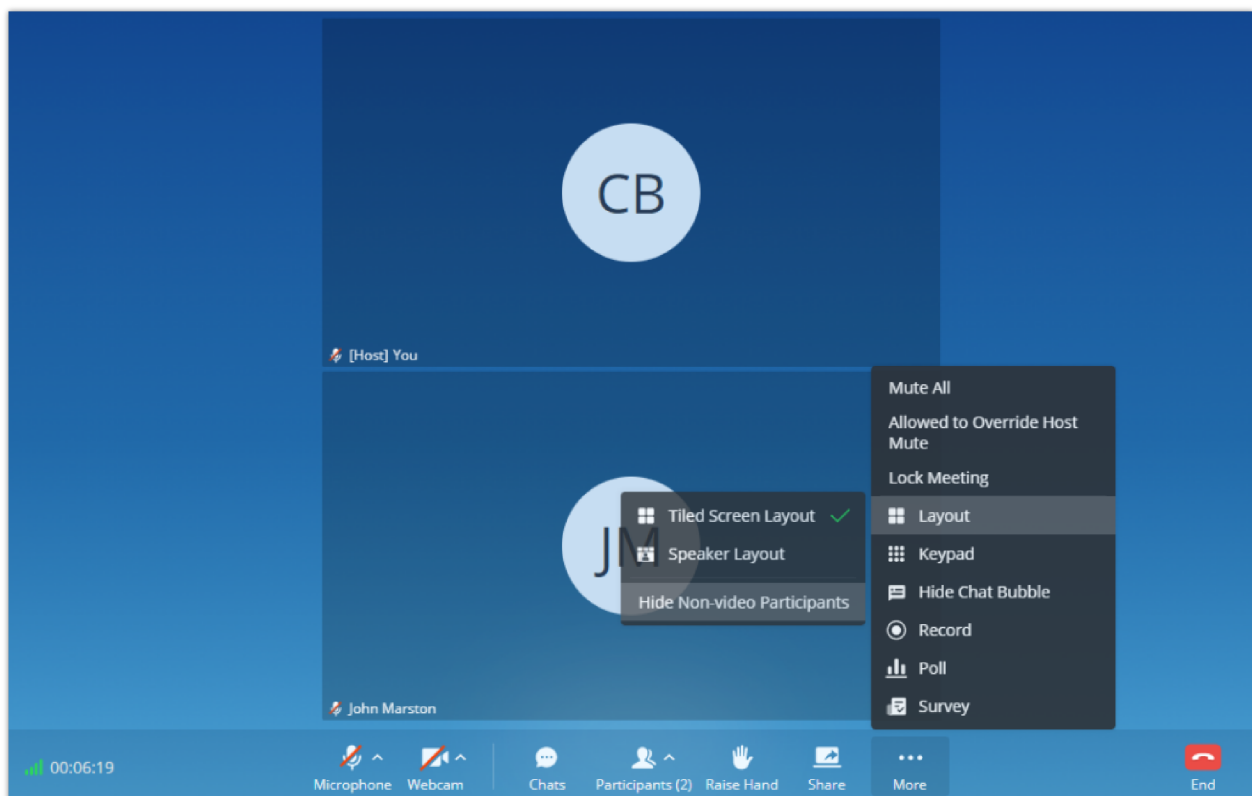
The host can perform various action depends on the user, please see the screenshot below.



Host Controls

- **Mute Participant:** The host can mute a specific participant. The participant can activate the microphone by pressing and holding the space bar. The microphone will be activated in as long as the participant is holding the space bar and the will be disabled once the participant let go of the space bar.
- **Turn on Participant Video:** The host can turn on the sound of a certain participant.
- **Focus For All:** The host can enable focus on one speaker tile/webcam feed.
- **Full Screen:** The host can toggle one speaker tile/webcam feed to full screen.
- **Chats:** The host can directly mention the speaker in the chat using this button.
- **Transfer Host:** The host can relegate its role as a meeting host to a different participants.
- **Remove:** The host can use this feature to remove a participant from the meeting.

The host can hide the participants whom have not turned on their webcams by clicking on  then hover the mouse cursor on "Layout" then click on "Hide Non-video Participants".

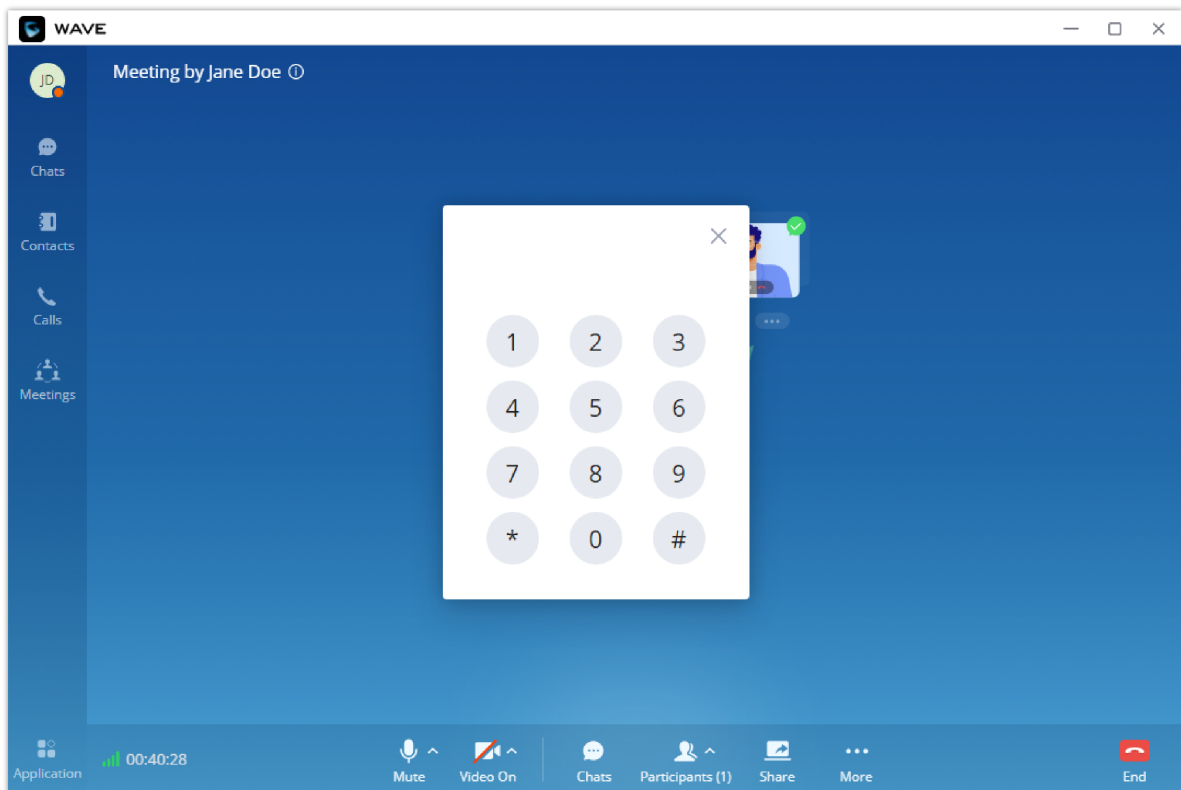


Hide Non Video Participants

1. **Step 1:** During the meeting, the user can click the “More” button  on the menu and click DTMF button

 DTMF to open the DTMF soft keyboard, as the screenshot shows below.

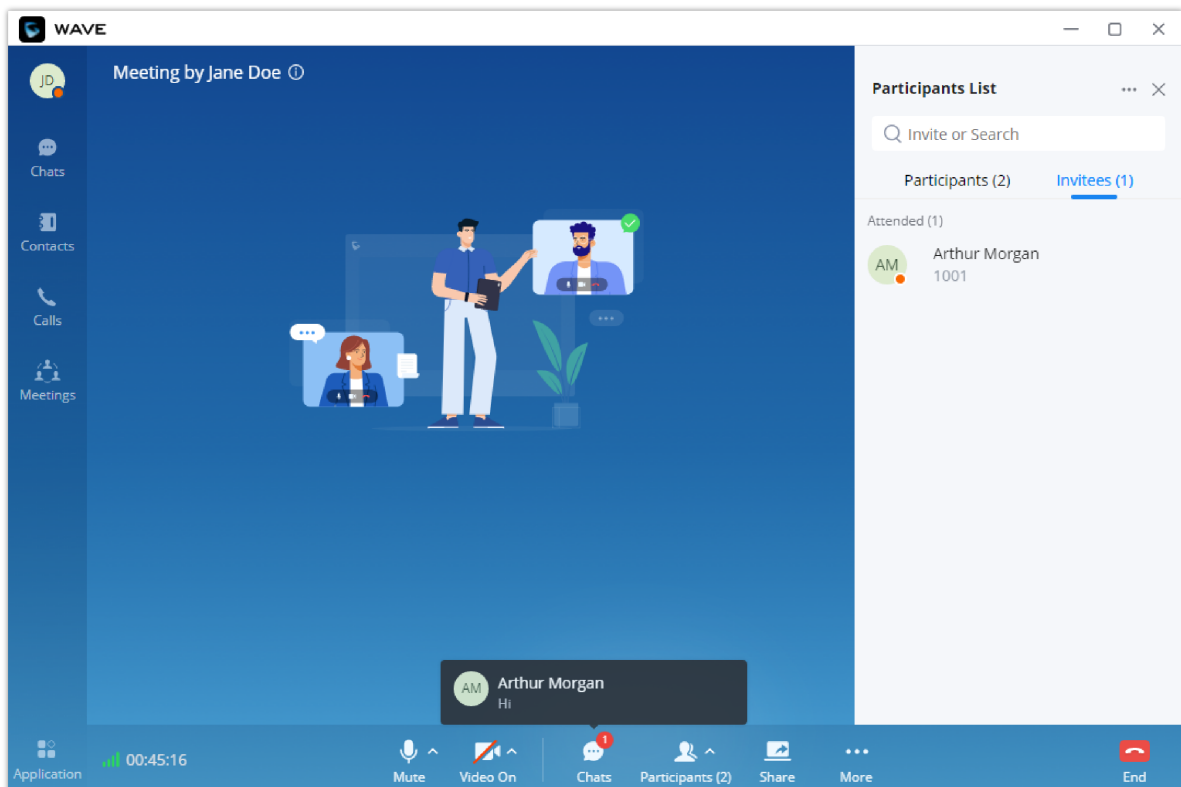
2. **Step 2:** The user can click the digit button on the keyboard to enter the digits.



DTMF Soft Keyboard

Chat Bubble

During the meeting, the user can click  button to enable the chat bubble function. If there is a new message during the meeting, the chat content will be displayed in the form of bubbles on the right side of the interface, as the screenshot shows below:

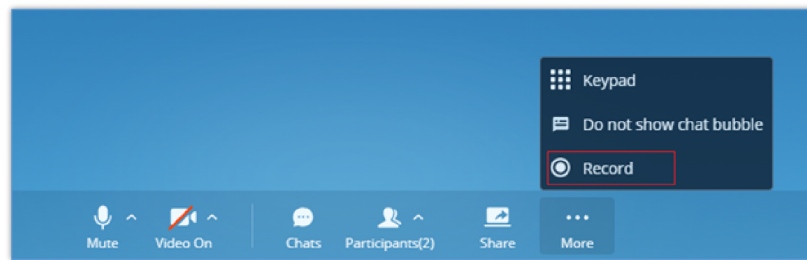


Chat Bubble Interface

Record an Ongoing Meeting

During a meeting, the host can start recording it. To do that, you need to click on "More" on the menu at the bottom of the screen, then click "Record".

When the meeting is ended, the meeting organizer can view the recording files in Meeting Details.

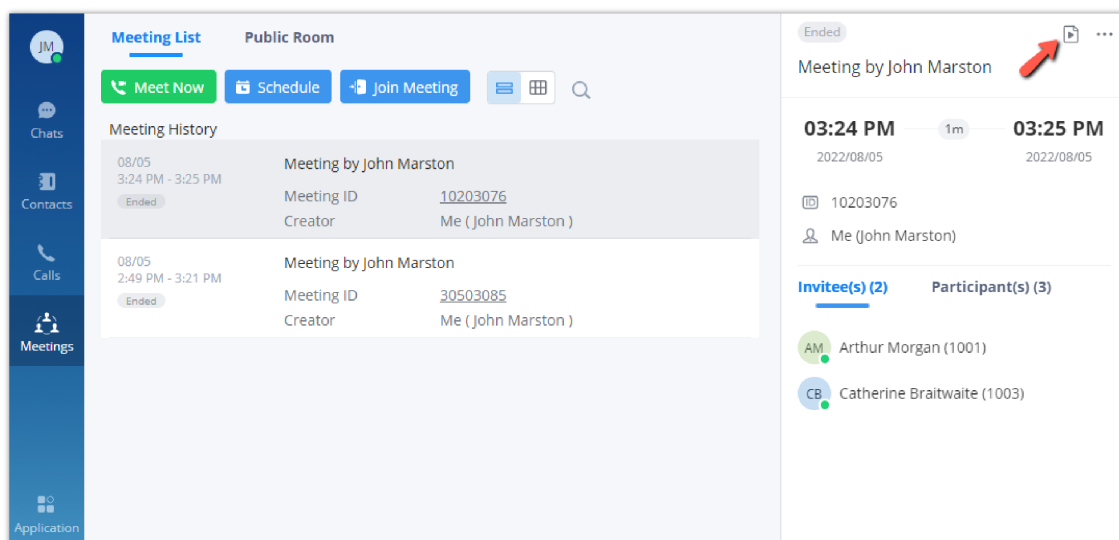


Record an Ongoing Meeting

Note

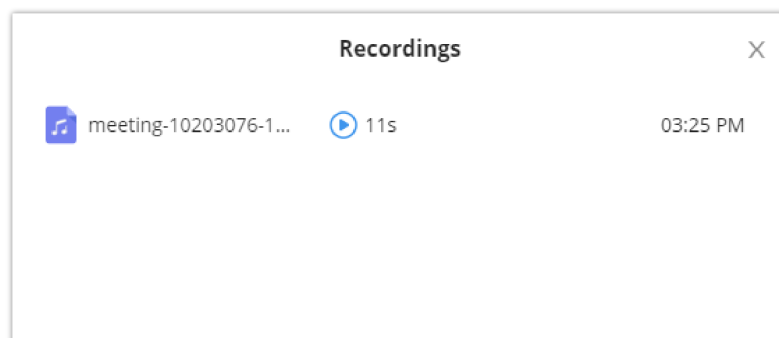
Only the meeting's host can record the meeting, and he/she will be the only one who can access the recording once the meeting is finished.

After the meeting is finished, the host can check the recording by navigating to the meeting tab, then select the meeting and after that click on the recording's icon on the top right-hand corner. Please see the screenshot below.



Meetings Info

The recording files will appear with possibility to play them, download, or delete them.



The recordings of the meeting

Note

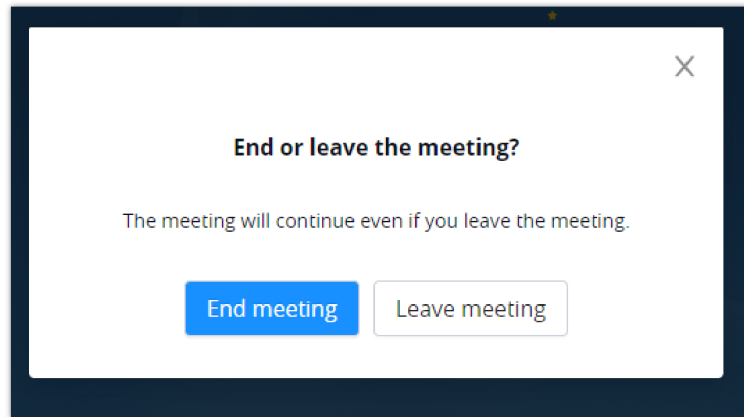
If the ongoing meeting does not support enabling video recording function, the audio recording will be performed instead.

Manage Meeting

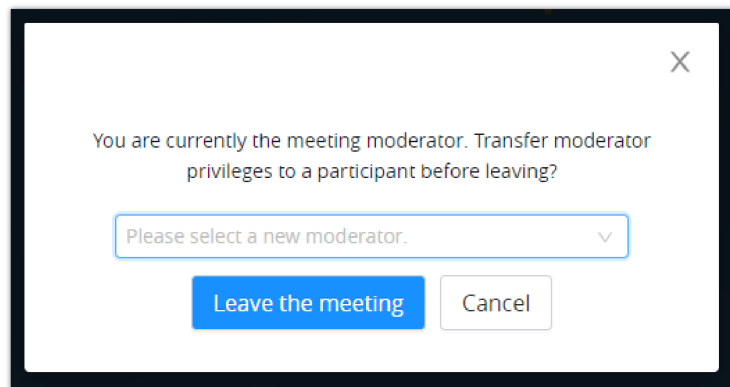
- **End meeting**

When a meeting participant clicks on  to end meeting, the participant will leave the meeting immediately.

When a moderator clicks on  to end meeting, a prompt will be displayed asking the moderator to confirm whether to leave meeting only or end the meeting. If the moderator selects leaving meeting only, Wave desktop will request the moderator to select another participant to be the moderator. After that, the user will leave the meeting while the meeting is still ongoing for the other participants. If the moderator selects ending the meeting, all participants will be disconnected from the meeting.



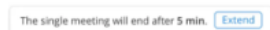
End Meeting as Moderator



End Meeting as Moderator Transfer Moderator Privileges

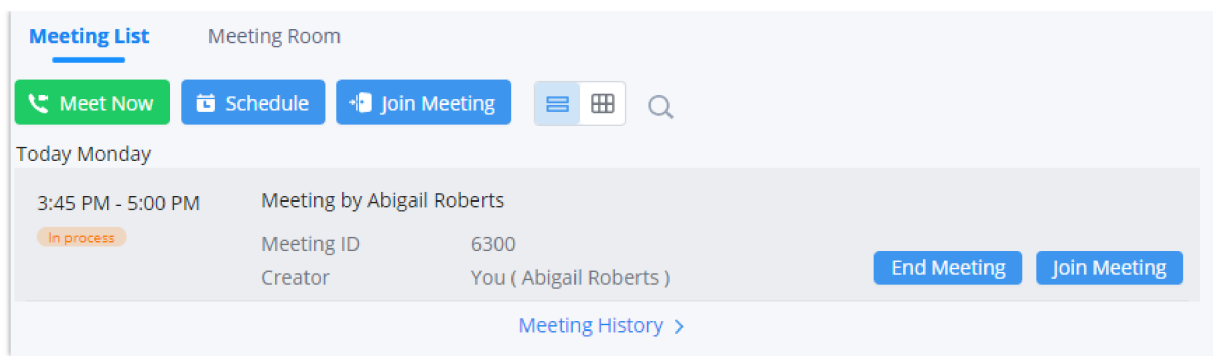
Note

- If there is only one participant in the meeting, and the total duration of the meeting reaches 30 minutes, the specific participant will be prompted whether to continue the meeting. Create a group chat after successfully scheduling the meeting. Messages created during the meeting will be automatically synced to the group after the meeting.



- When the meeting duration is about to reach 12 hours and the meeting host is still in the meeting, the meeting interface of the host will be prompted whether to extend the meeting. The meeting host can click to extend the meeting for another 12 hours. The meeting can only be extended once. After another 12 hours, the meeting will be ended. If the meeting host is not in the meeting, the meeting will be ended when the meeting duration reaches 12 hours.

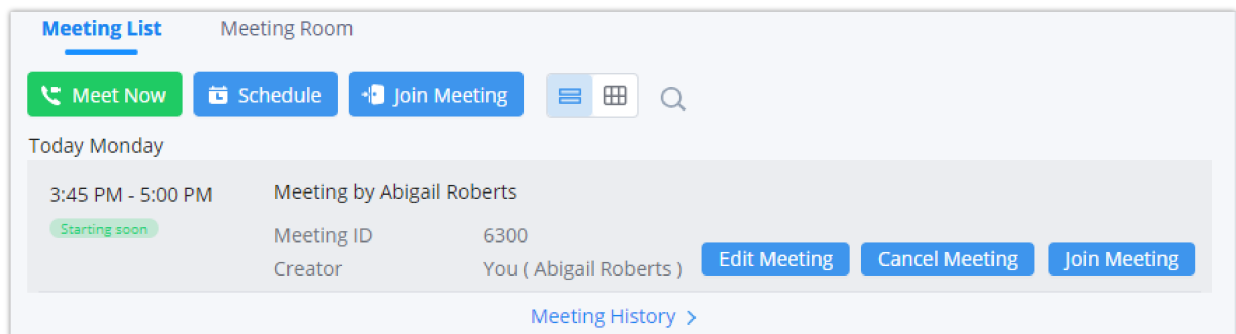
You can also end an ongoing meeting by going to **Meetings** then hover the mouse cursor over the meeting you would like to end then click on end meeting.



Meeting List End Meeting

◦ Edit a scheduled meeting

The user can edit a meeting after it has been scheduled, to change its name, meeting room type, time, recurrence, password, and invitees. To edit a meeting, the user should navigate to **Meetings** tab on Wave, then hover the mouse cursor over the meeting that they want to edit, then select *Edit Meeting*.



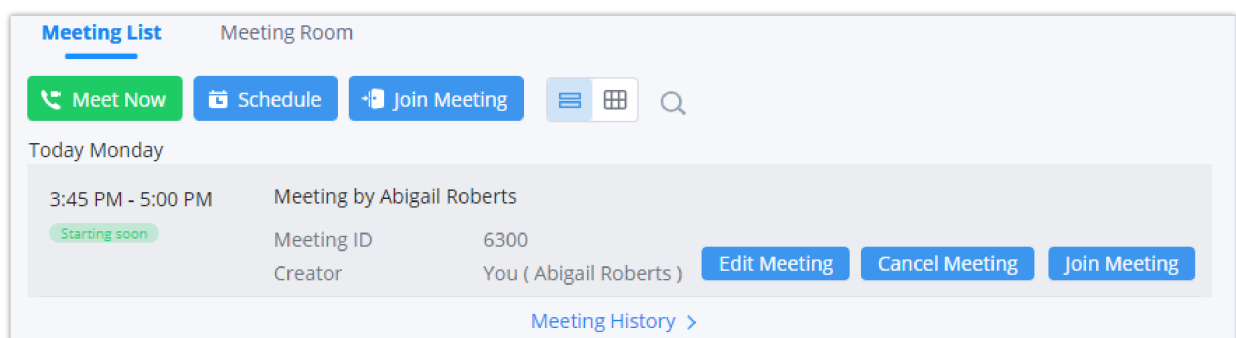
Meeting List Edit Meeting

Note

Please note that once the meeting has started, it cannot be edited.

◦ Cancel meeting

The user can cancel a meeting after it has been scheduled. To do that, the user should navigate to **Meetings** tab and then hover the mouse cursor over a specific meeting then click on *Cancel Meeting*.



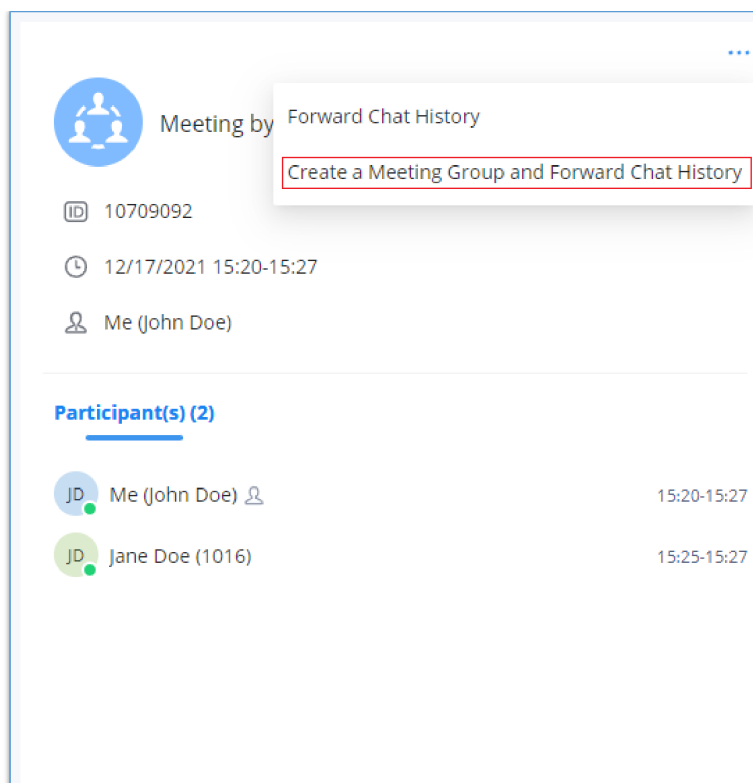
Meeting List Cancel Meeting

Note

Please note that once the meeting has started, it cannot be cancelled.

Meeting Group Chat

Only the meeting organizer can create a group that consists of the same members that were previously in a meeting, in case they wish to continue the discussion through text chat. The user needs to navigate to the "Meetings" tab, then on the top right-hand corner, click on the three dots and select "Create and Forward Chat History".

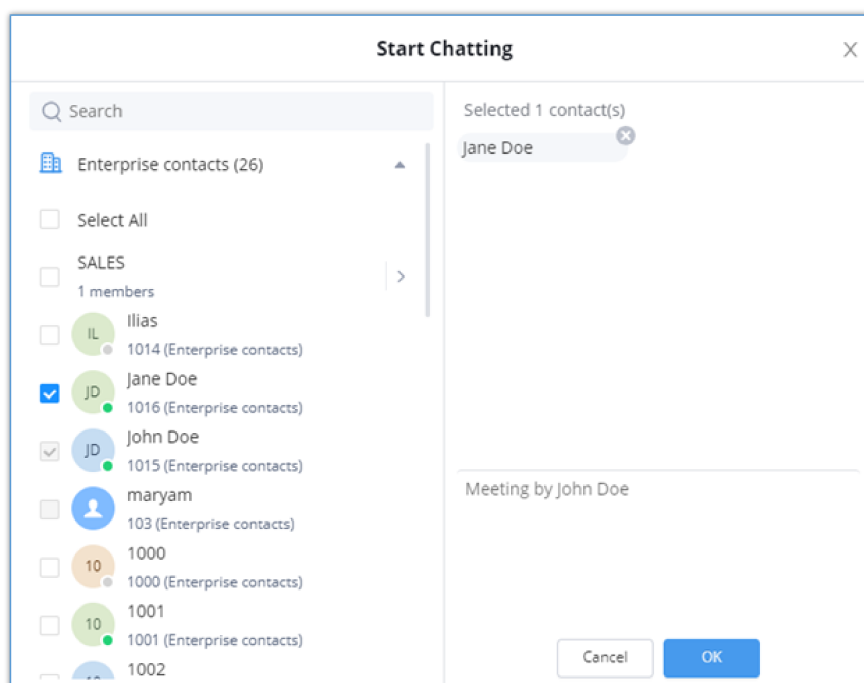


Create a Chat Group After The Meeting Has Ended

Note

Please note that only the host of the meeting can create the group chat and forward the chat history.

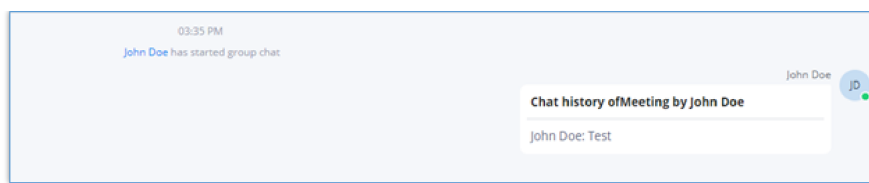
Once that's clicked, a window will appear with the members of the meeting selected, with the possibility to add any users that were not in the meeting:



Choose the Participants

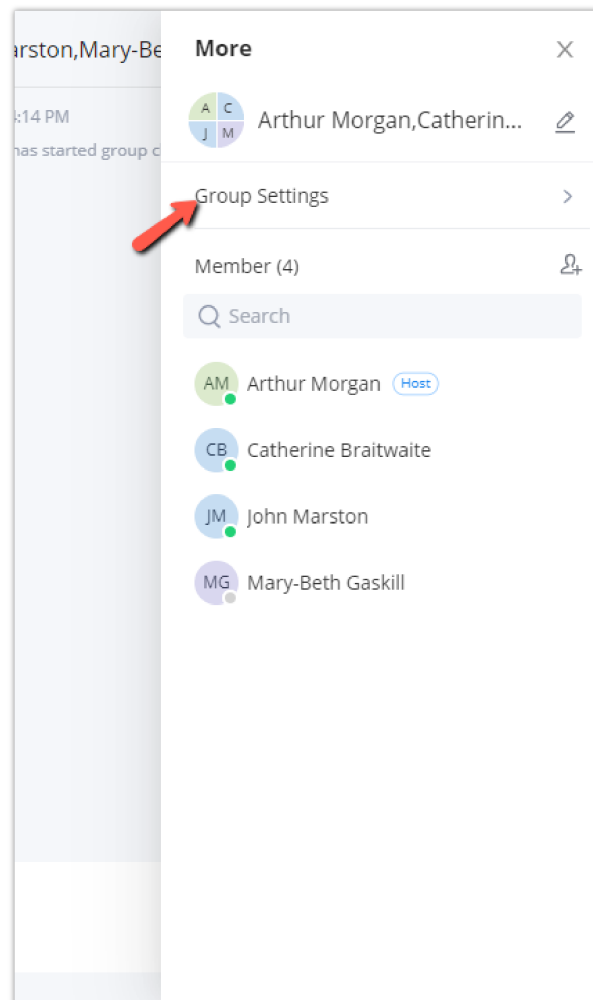
Press "OK" to create the group and forward the chat history of the meeting.

The group will be created, and the chat history will be displayed similar to the image below.



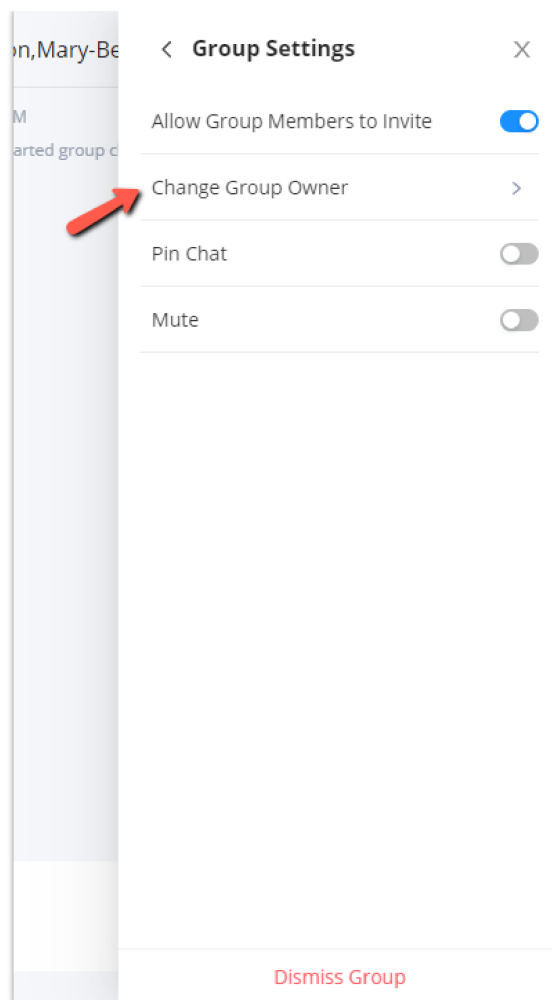
Forwarded Meeting Chat History

At any point the host of the group can relegate his/her role to another member by going to "Group Settings" as the figure below shows:



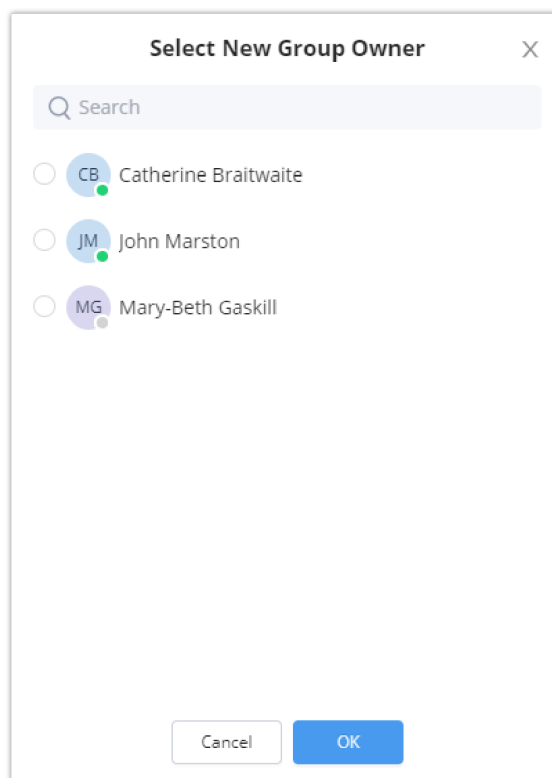
Group Settings

Then select "Change Group Owner":



Change Group Owner

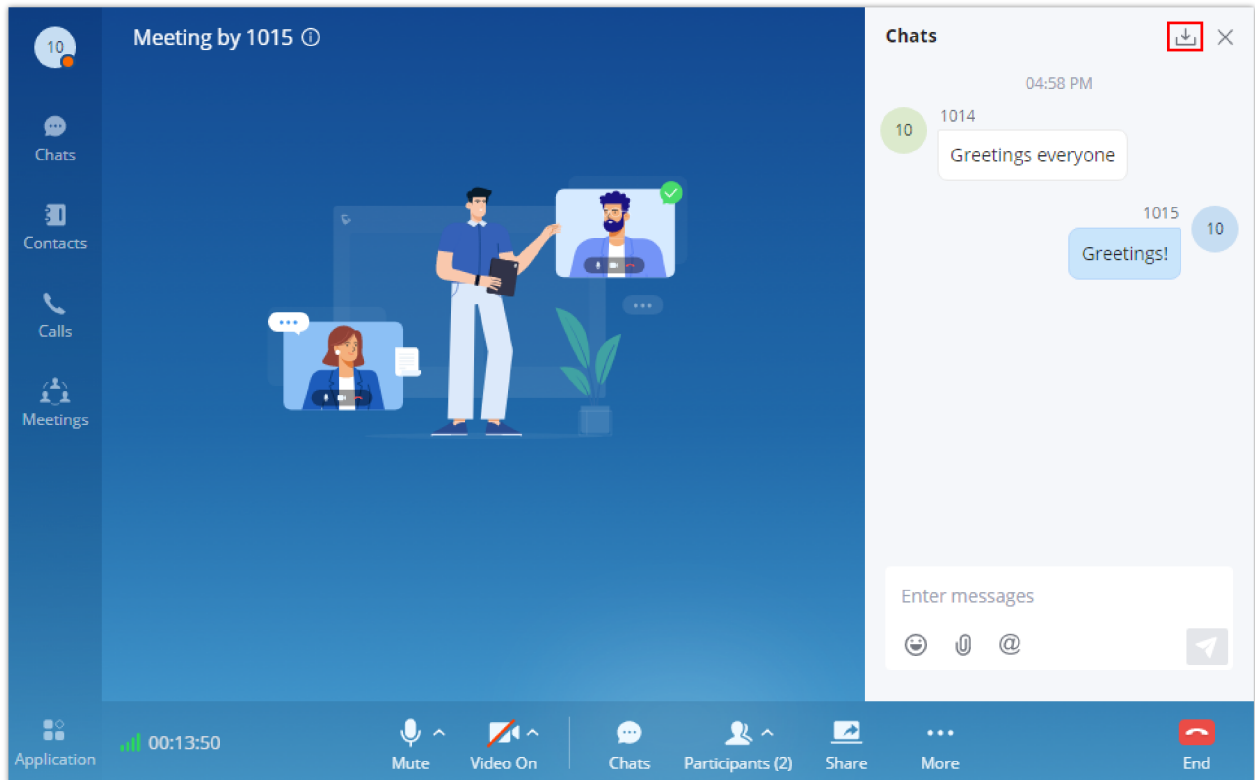
Then choose the new group owner among the existing members of the group.



Select New Group Owner

Download The Chat History

During a meeting, the host can download the chat history at any point of time. To do that, the host needs to open the chat sidebar in the meeting screen and then click on the download button on the top right corner of the screen, as the screenshot below shows.



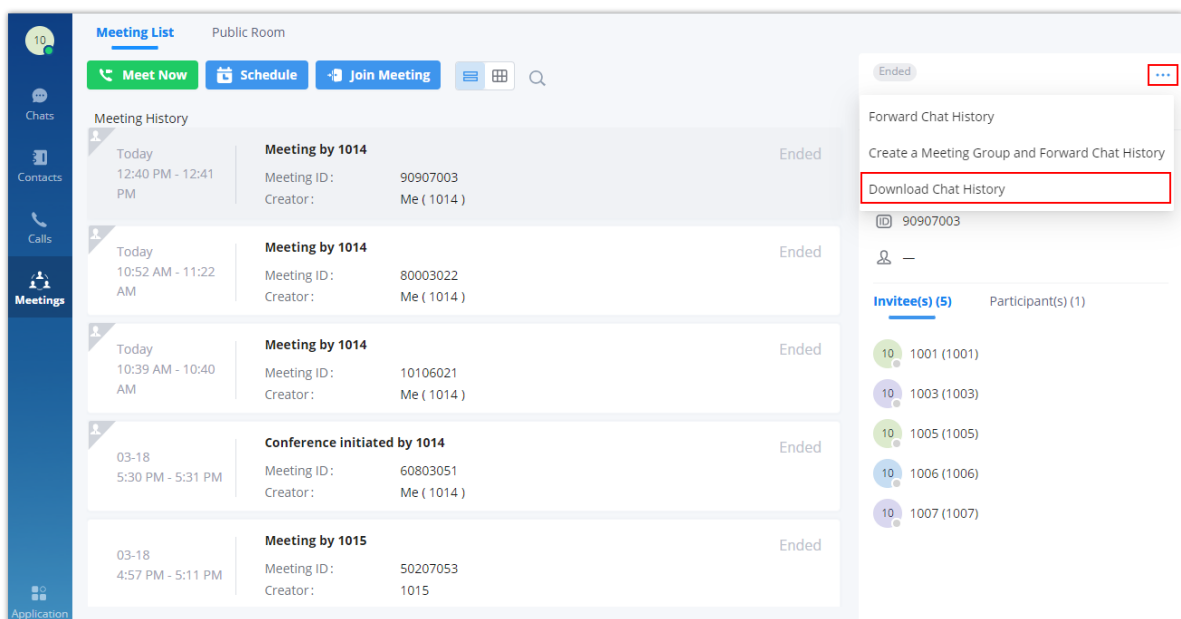
Download Chatlog

The chat history will be downloaded as a .txt file.

Note

Only the host is allowed to download the chat history.

If the host wishes to download the chat history after the meeting has ended, then he/she need to navigate to "Meetings" tab, then click on three dots on the top right corner of the window, and select "Download chat history"



Download Chat History

Meeting Management

Schedule Virtual Meeting

Wave desktop users can schedule meeting after logging in with SIP extension number and SIP registration password. Click on Meetings on the left panel and select "Schedule Meeting" on the top. A new window to edit schedule meeting will be prompted.

Schedule Meeting

* Subject: Meeting by John Marston

Meeting Room: ☐ Use public meeting rooms

* Time: 2022-08-05

Please select the time

* Recurrence: No Repeat

Password: Please enter a number of at least 4 digits

Invitees: Please enter meeting invitees here,press Enter to separate

Add

Cancel

OK

Schedule Meeting

Schedule Meeting Options	
Subject	Configure meeting subject.
Conference Type	Select video or audio conference.
Meeting Room	The user can select to use a public meeting room. ● Disable: The meeting will use a random meeting number. ● Enable: The meeting will use the public meeting room number. The meeting number will be selected from the existing audio/video meeting room.
Time	Select the date and time for the meeting. Note: Please avoid time conflict on schedules in the same meeting room.
Recurrence	Choose when to repeat a scheduled meeting: ● No Repeat: The meeting is scheduled once with no recurrence ● Every Day: The meeting is scheduled daily at the same time ● Weekly: The meeting is scheduled weekly on the same day of the week ● Monthly: The meeting is scheduled monthly on the same day of the month ● Custom: The meeting can be scheduled either every N days or N weeks
Frequency	Specifies the interval for a custom recurring meeting. This option becomes available when "Recurrence" is set to "Custom". The available options are: ● Days: Set the meeting to repeat every specified number of days.

	● Weeks: Set the meeting to repeat every specified number of weeks.
Stop Repeating	Defines when the recurring meeting should stop repeating. Users can choose one of the following options: ● Repeat Indefinitely: The meeting will continue to repeat without an end date. ● End Date: The meeting will stop repeating after the specified date.
Password	Configure the password for participants to join a meeting. The password must be at least 4 digits.
Invitees	Defines the extensions or emails of the members to attend a scheduled conference. After adding one invitee, click on ENTER to confirm. Note: -If the invitee's extension does not have email configured on the UCM extension setting, the user can click on "(Add Email)" to add email for this invitee. -To remove an invitee, click on "x" for the invitee. The user can click the "Add" button to add the participants from contacts or groups.
Meeting Agenda	Set the agenda of the scheduled meeting. (Up to 500 characters)
Host Settings	
Host	This is used to select a meeting host.
Email	This is the host email address.
Host Code	This is used to configure the host code. The password must be at least 4 digits.
Advanced Settings	
Time Zone	Defines the time zone of the scheduled meeting. The default setting is the time zone of the current client.
Email Reminder (minutes)	If configured, email reminders will be sent out x minutes before the start of the conference. Note: After editing the time of a single recurrence of a scheduled meeting, a cancelation email will now be sent out followed by a meeting update email.
Allow participants to invite	If enabled, any participant in the meeting can invite other parties.
Allowed to override Host Mute	If enabled, the participants will be able to unmute themselves after the host has muted them.
Auto-call Participants	If enabled, invited participants will be called when the meeting starts.
Play Joining/Leaving Meeting Prompt Tone	Enables an audible prompt when participants join or leave the meeting. This setting is supported for both ongoing and scheduled meetings.
Create Meeting Group	Create a group chat after successfully scheduling the meeting. Messages created during the meeting will be automatically synced to the group after the meeting.

Schedule Meeting Specifications

After the meeting is scheduled, it will be listed in the meetings page. Meeting participants will receive email notification for the scheduled meeting. At the same time, the system will send the meeting assistant message to the invitees automatically.

CB

Chats

Contacts

Calls

Meetings

Application

Meeting List

Meeting Room

Meet Now

Schedule

Join Meeting

Today Wednesday

12:00 - 12:30

Meeting by Catherine Braitwaite

Meeting ID 50301063

Creator You (Catherine Braitwaite)

Meeting History

Not started yet

Meeting by Catherine Braitwaite

12:00

30m

12:30

2023/04/05

2023/04/05

50301063

1090 (Host Code)

You (Catherine Braitwaite)

Invitee(s) (3)

AR Abigail Roberts (1005)

AM Arthur Morgan (1001)

MG Mary-Beth Gaskill (1006)

Scheduled Meeting

GRANDSTREAM

CONNECTING THE WORLD

The meeting you are hosting has been succesfully updated, please see below for details.

test

Time 2021-01-25 15:15 ~ 2021-01-25 15:45

Time Zone Etc/GMT-1 (GMT+1:00)

Moderator 1000

Moderator Code 1532

Room 6301

Join Meeting (From Inside Corporate Office)

Join Meeting (From Outside Corporate Office)

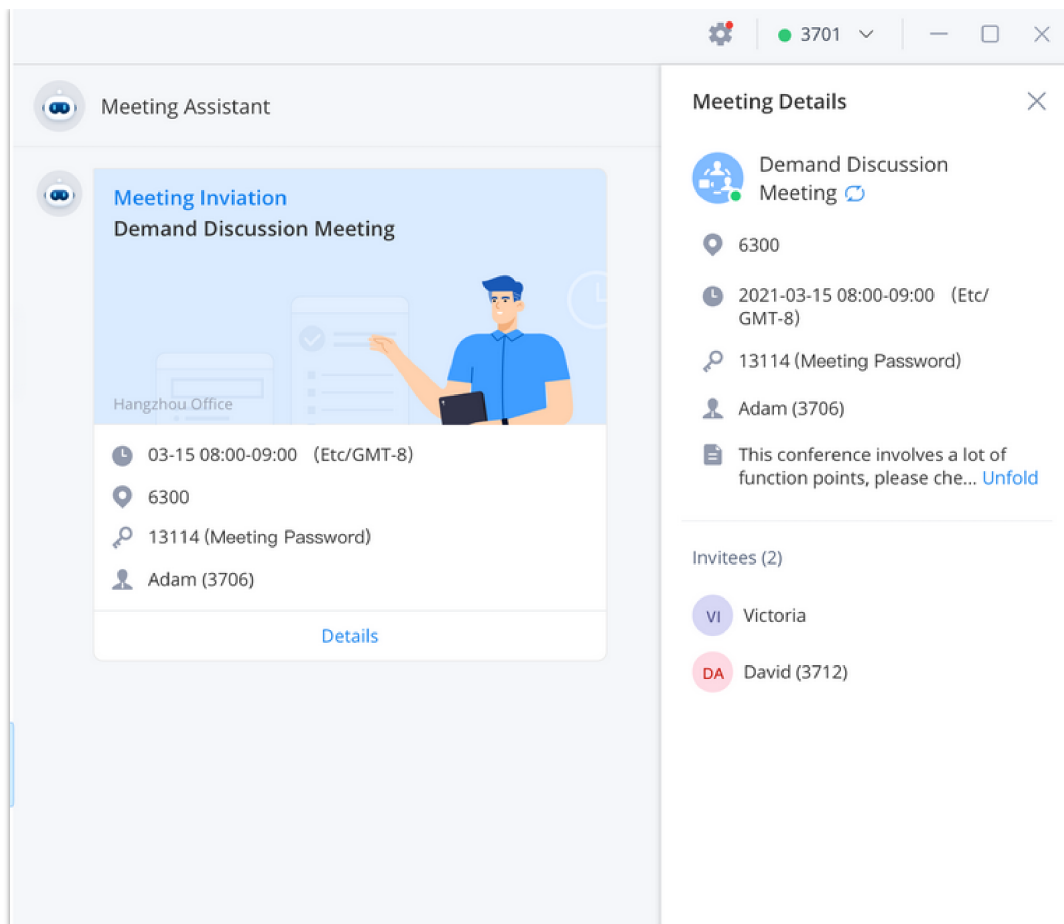
Please open the link address with [Chrome](#) or [Firefox](#) browser.

Scan to join the meeting

Company Info | Contact Us

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Scheduled Meeting Email Notification



Meeting Assistant Interface

If meeting schedule information is modified, participants will receive email update. An email reminder will also be sent to the participants at the configured email reminder time, If the meeting has been modified, or the meeting reminder will be sent to the participants through the meeting assistant.

To join meeting, the Wave user can click on the link in the email notification to join meeting directly, or Wave mobile app user can scan the QR code in the email notification to join meeting as well. The user can click the meeting assistant message to enter the meeting.

Schedule Onsite Meeting

The users can schedule onsite meetings by going to **Meetings** and clicking on **Schedule**.

Schedule Onsite Meeting

Onsite Meeting Options	
Subject	Enter the subject of the meeting.
Meeting Room Type	Select Onsite Meeting room.
Meeting Room	Select the meeting room on which the meeting will take place.
Time	Select the duration of the onsite meeting.
Recurrence	Choose when to repeat a scheduled meeting: ● No Repeat: The meeting is scheduled once with no recurrence ● Every Day: The meeting is scheduled daily at the same time ● Weekly: The meeting is scheduled weekly on the same day of the week ● Monthly: The meeting is scheduled monthly on the same day of the month ● Custom: The meeting can be scheduled either every N days or N weeks
Frequency	Specifies the interval for a custom recurring meeting. This option becomes available when "Recurrence" is set to "Custom". The available options are: ● Days: Set the meeting to repeat every specified number of days. ● Weeks: Set the meeting to repeat every specified number of weeks.
Stop Repeating	Defines when the recurring meeting should stop repeating. Users can choose one of the following options: ● Repeat Indefinitely: The meeting will continue to repeat without an end date. ● End Date: The meeting will stop repeating after the specified date.
Invitees	Defines the extensions or emails of the members to attend a scheduled conference. After adding one invitee, click on ENTER to confirm. Notes: ○ If the invitee's extension does not have email configured on the UCM extension setting, the user can click on "(Add Email)" to add email for this invitee. ○ To remove an invitee, click on "x" for the invitee.

	o The user can click the "Add" button to add the participants from contacts or groups.
Meeting Agenda	Set the agenda of the scheduled meeting. (Up to 500 characters)
Host Settings	
Host	This is used to select a meeting host.
Email	This is the host email address.
Advanced Settings	
Time Zone	Defines the time zone of the scheduled meeting. The default setting is the time zone of the current client.
Email Reminder (minutes)	If configured, email reminders will be sent out x minutes before the start of the conference. Note: After editing the time of a single recurrence of a scheduled meeting, a cancelation email will now be sent out followed by a meeting update email.

Meeting Agenda

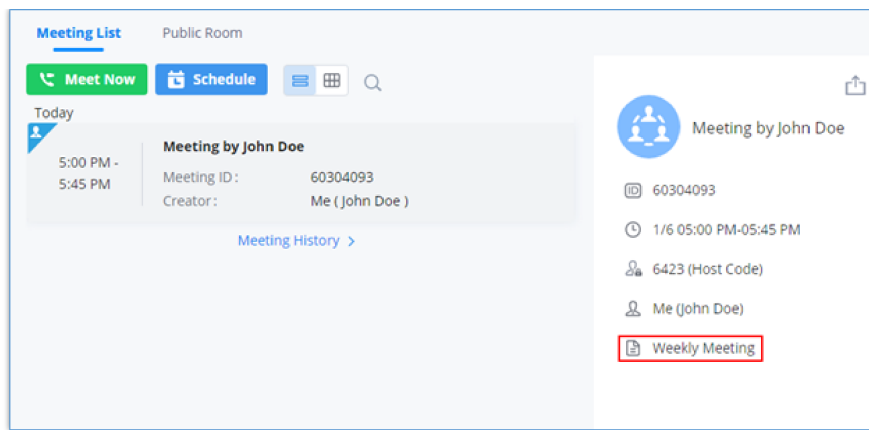
When scheduling a meeting, the host can configure an agenda name to the meeting to be reminded of that purpose of that meeting.

The screenshot shows a 'Schedule Meeting' dialog box with the following fields and options:

- * Subject:** Meeting by John Doe
- Meeting Room:** ☐ Use public meeting rooms
- * Time:** 2022-01-06 (calendar icon) 5:00 PM-5:45 PM (clear icon)
- * Recurrence:** No Repeat (dropdown arrow)
- Password:** Please enter a number of at least 4 digits
- Invitees:** Please enter meeting invitees here, press Enter to separate
- Add** (blue link)
- Meeting Agenda:** Weekly Meeting (highlighted with a red rectangle)
- Buttons:** Cancel, OK

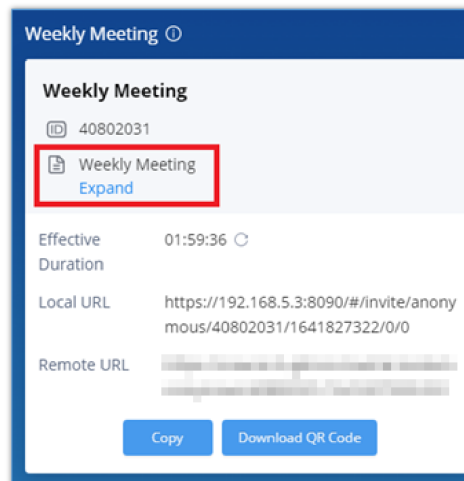
Schedule Meeting Parameters

After creating the meeting, you can check the agenda in the meeting details tab. Please see the screenshot below:



Meeting Details

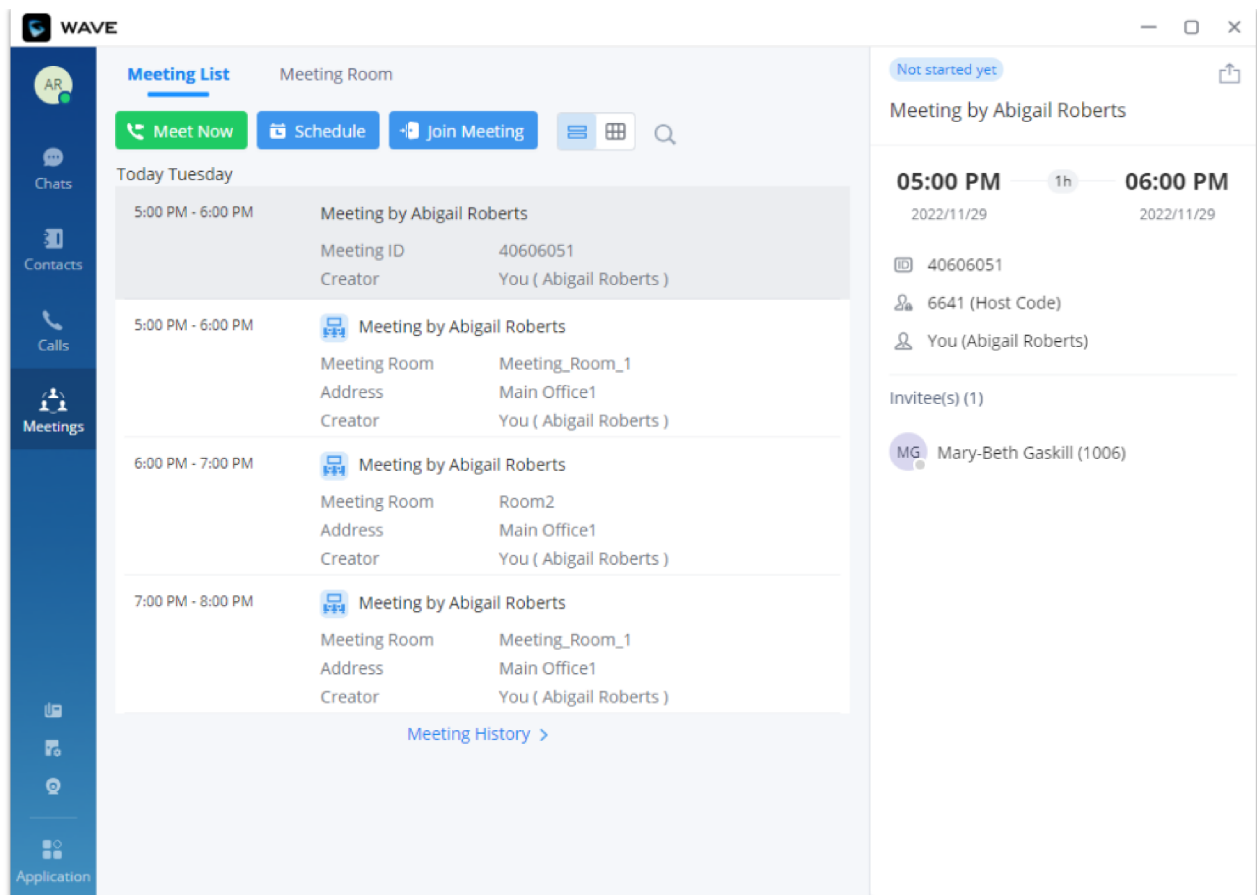
When the meeting starts, the user can click to view the meeting details to check the meeting agenda. Please see the screenshot below:



Meeting Agenda

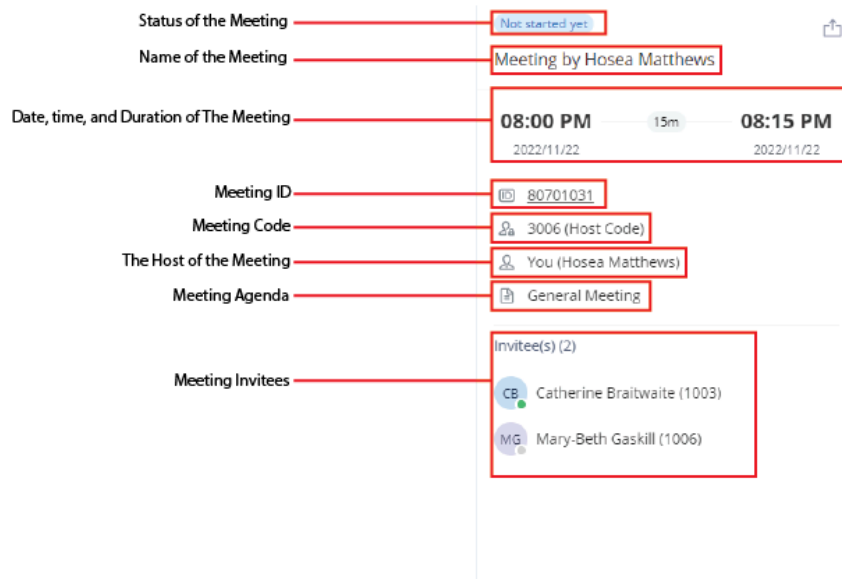
Meeting List

To view all the scheduled and ongoing meeting, click on **Meetings** tab, then click on **Meeting List**. The following window will be displayed.



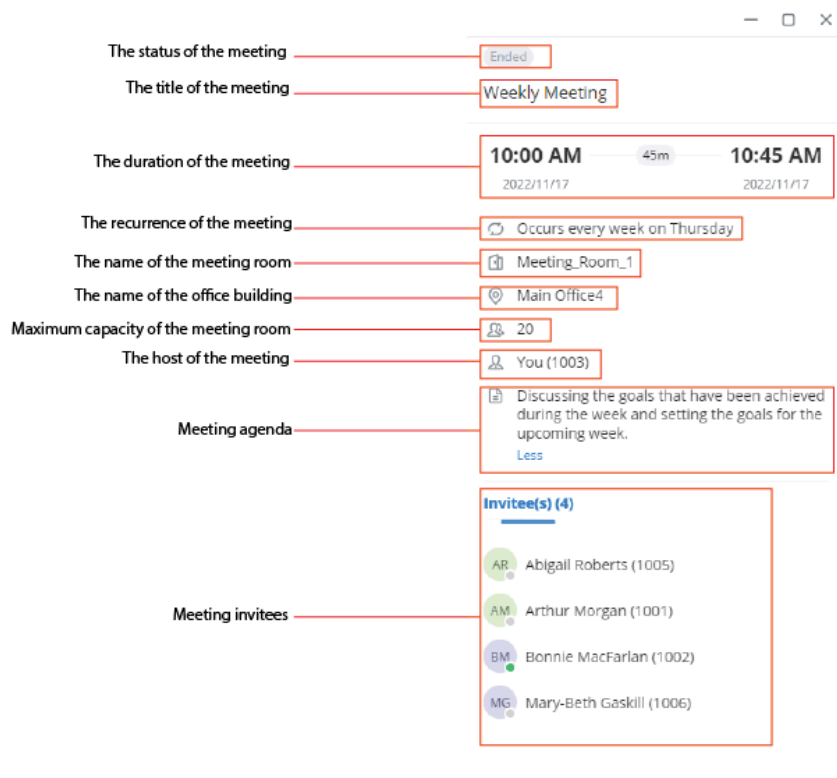
Meeting List

o **Virtual Meeting:**



Virtual Meeting Information

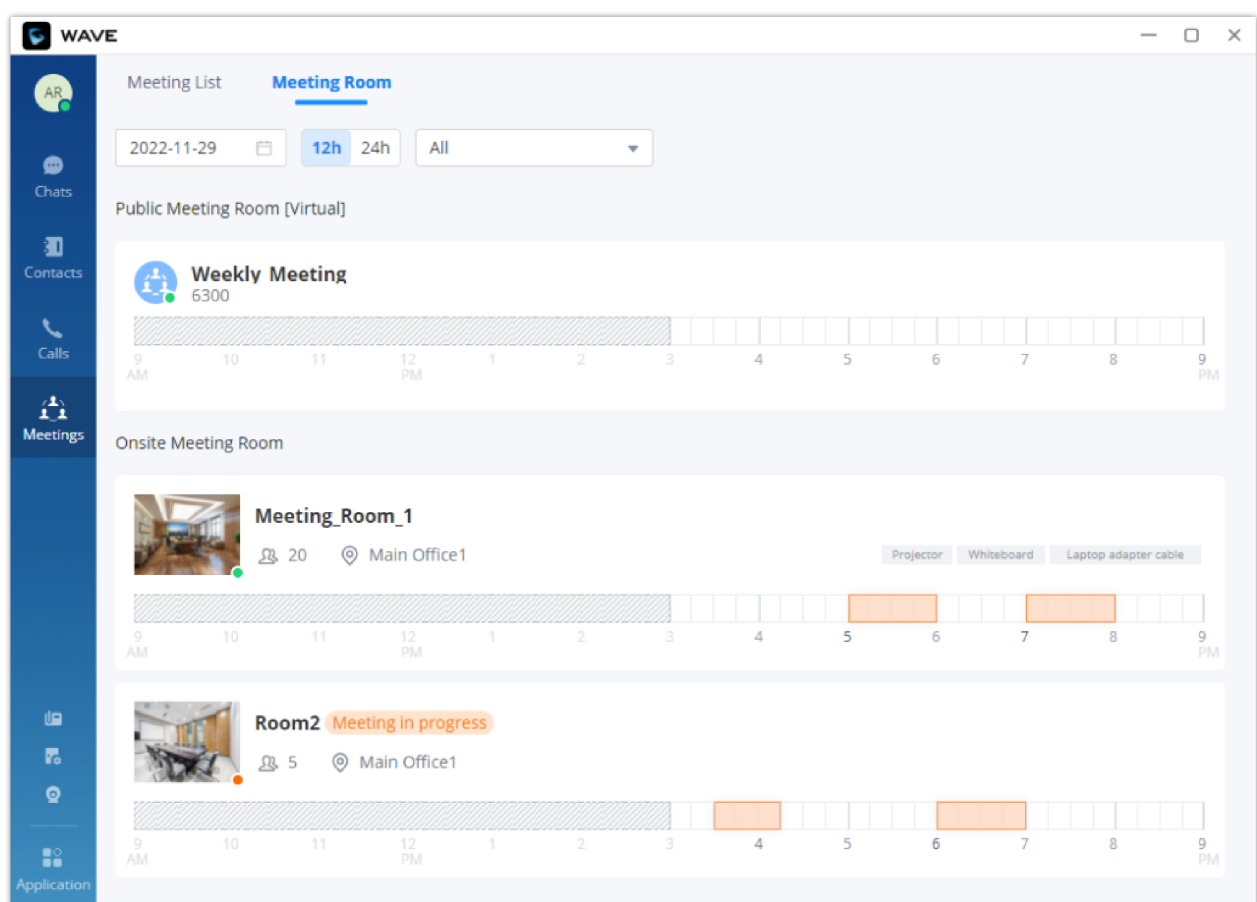
o **Onsite Meeting**



Onsite Meeting Information

Meeting Room

To view all the rooms that have been created for meetings (this includes virtual and onsite meeting rooms), navigate to **Meetings** tab then click on **Meeting Room**.

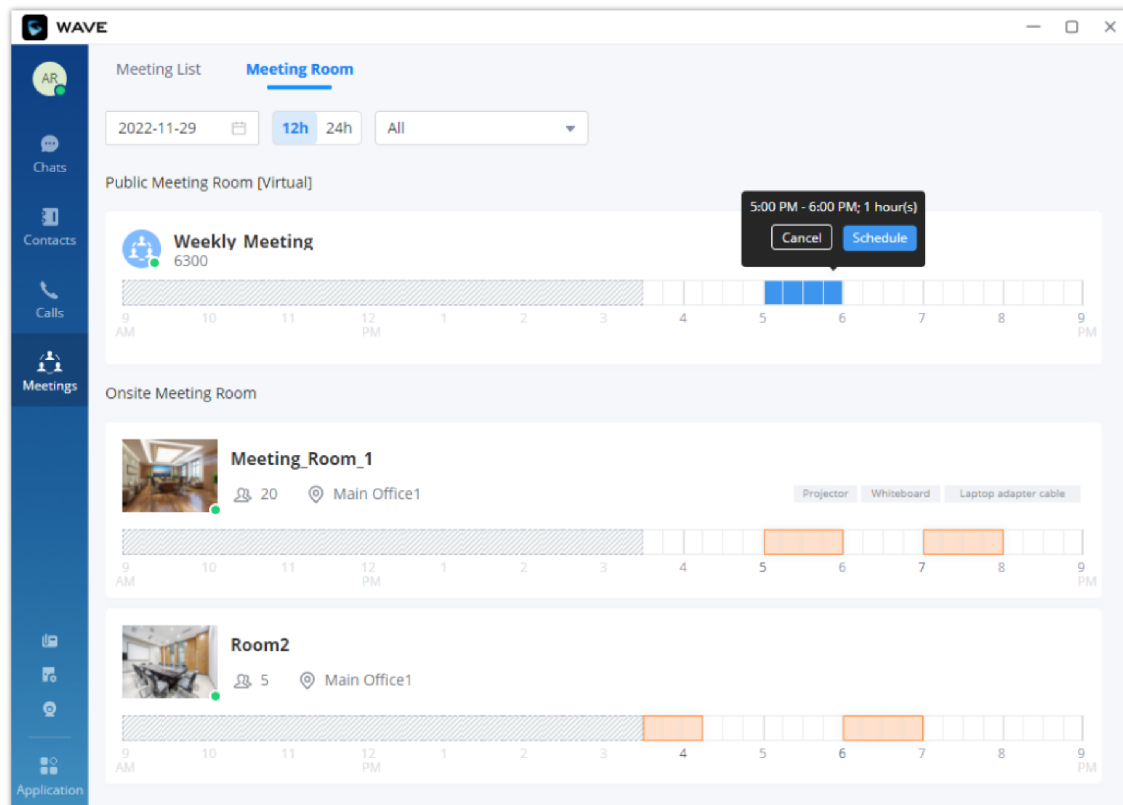


Onsite Meeting Meeting Room

From this window, you can directly schedule meetings. Select a time interval to start scheduling the meeting.

Public Room

The user can click the **"Meeting"** menu on the left side of the Wave application main interface to open the meeting interface. The user can click **"Public Room"** tab on the top of the meeting interface to access to the list of the public meeting rooms in the current UCM. Please see the figure below:



Meeting Room List

The timeline is displayed under each public meeting room. The blank field represents the vacant period, and the blue field represents the period that has been scheduled. It supports to click to switch the date , and the user can also switch the time range displayed in the timeline by clicking **"12h/24h"**.

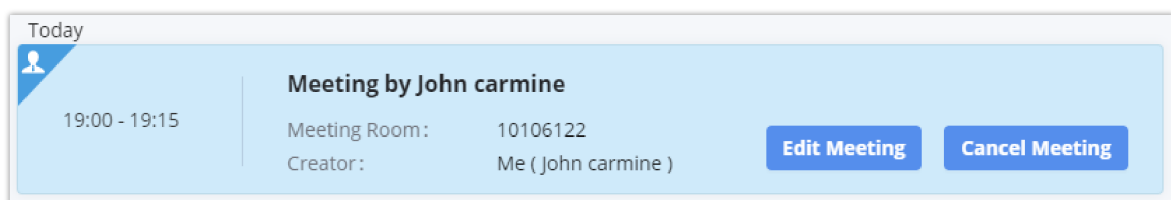
The user can select a specific meeting room and click button **Join Meeting** to access to the public meeting room. If there is a meeting in the current public meeting room, the user will be directed to the current meeting. If there is no meeting in the current meeting room, the user will join the meeting as a participant.

Edit/Cancel Meeting

Only the meeting creator can edit/cancel the meeting.

Step 1: The user can click the **"Meeting"** button on the left side of the main interface to access to the meeting list interface.

Step 2: Move the cursor to the wanted meeting and click **"Edit Meeting"** or **"Cancel Meeting"**.



EditCancel Meeting

Step 3: After editing/canceling the meeting, the user can click **"OK"** button to apply the changes, and the meeting modification notification will be sent to the invitees immediately.

Note

If the user edits any information of the meeting, including invitees, meeting property, if the user selects the email notification option, the system will send the emails to all invitees automatically.

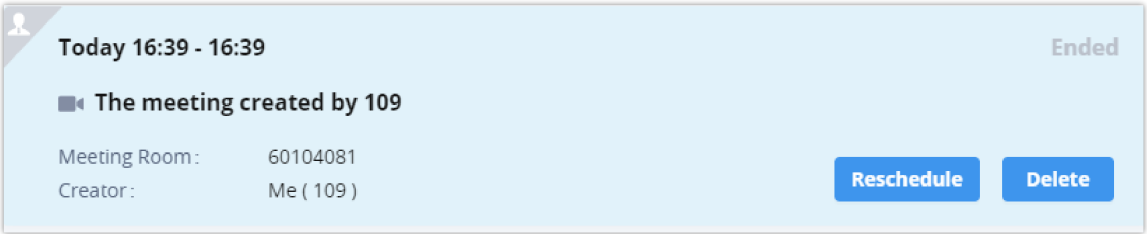
Reschedule Meeting

For the “**Ended**” meetings, the user can reschedule the meetings from Wave application.

Step 1: The user can click the “**Meeting**” button on the left side of the main interface to access to the meeting list interface.

Step 2: Find the “**Ended**” meeting in the calendar.

Step 3: Move the cursor to the meeting and click “**Reschedule**” button or click the “**Reschedule**” button on the meeting details interface.



Reschedule Meeting

Step 4: The user will be directed to the meeting rescheduling interface, and the current meeting subject, invitees, meeting property information will be filled in the corresponding fields automatically.

Step 5: The user can click “**Schedule Meeting**” button to reschedule the meeting as a new meeting.

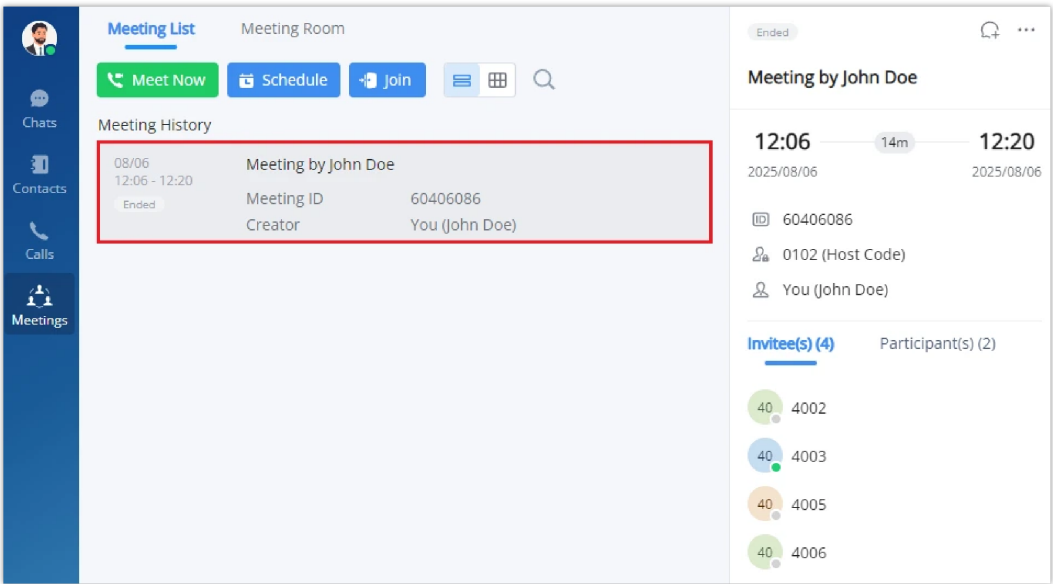
Reopen Meeting

For historical meetings, the creator can immediately reopen the meeting from the Wave application. Upon reopening, the original participants are automatically invited, and the creator is directed straight to the meeting interface.

This differs from the **Reschedule** option, which opens the schedule meeting interface to create a new meeting instance.

Step 1: The creator clicks the “**Meetings**” button on the left side of the main interface to access the meeting list.

Step 2: Locate the “**Ended**” tagged meeting in the meeting history.



Step 3: Move the cursor over the meeting and click the “**Restart**” button.

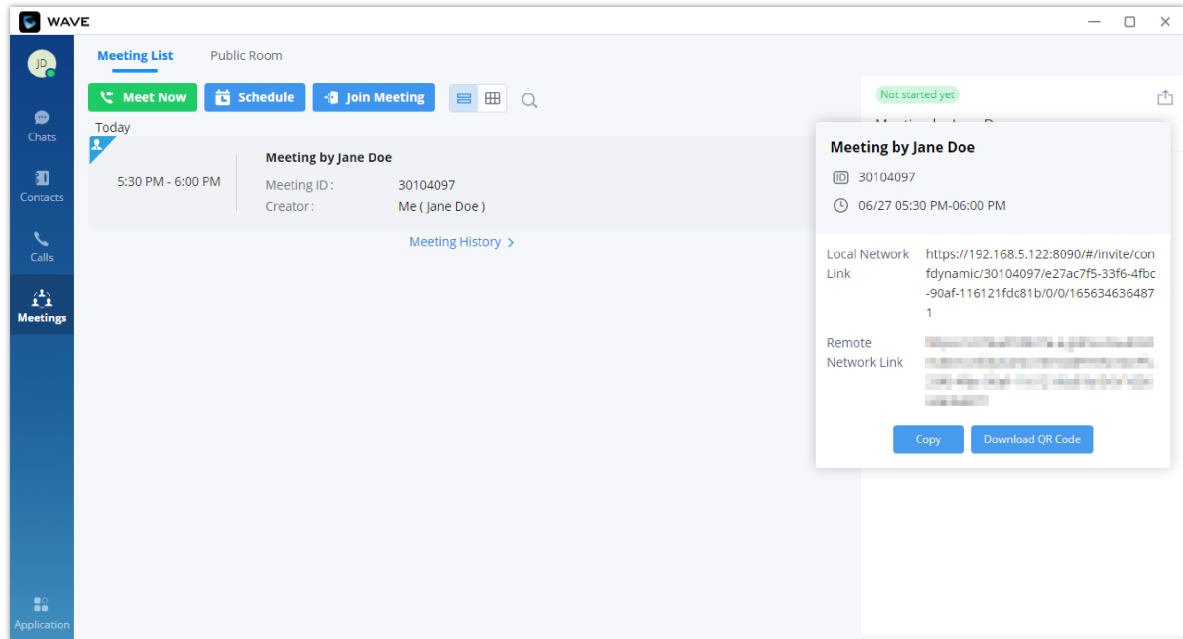


Step 4: After reopening, the creator is directed to the instant meeting interface.

Step 5: The participants from the original meeting will be automatically invited once the meeting is reopened.

Share Meeting

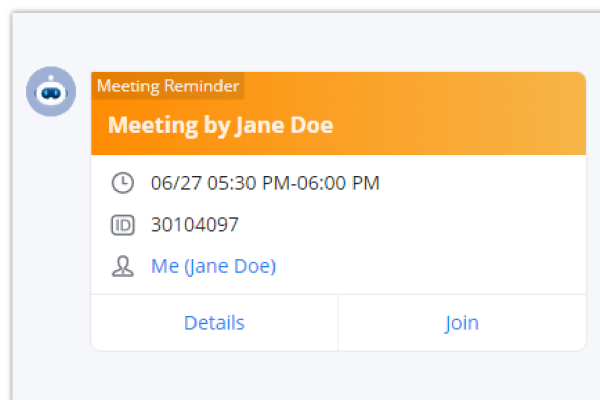
In the meeting details interface, the user can click the share button  on the right upper corner to copy the meeting information, or the user can download the meeting QR code, and send the meeting information to the contacts through chat, email, etc.



Share Meeting

Join Meeting

Method 1: In the chat interface in Wave application, the user can click “**Meeting Assistant**” to find the meeting notification which will be sent to the invitees 10 minutes before the meeting starting time and click “**Join**” button to join the meeting.



Join via Meeting Notification

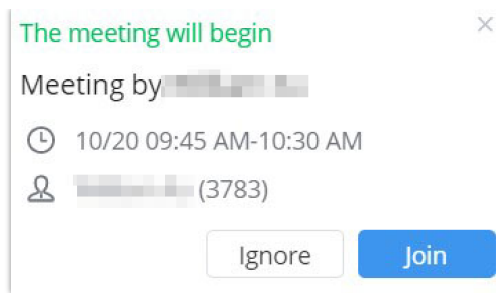
Method 2: In the meeting list in Wave application, the user can find the meeting which has invited the user and click “**Join**” to join the meeting.

Method 3: In the “**Meeting Room**” list of the meeting interface in Wave application, the user can click to join the public meeting room directly.

Method 4: The user can enter the meeting number to join the meeting directly through dial panel.

Method 5: The user can join the meeting by click “**Join**” button in the meeting invitation email.

Method 6: The user can click “**Join**” button in the meeting invitation in the lower right corner of the Desktop to join the meeting.



Meeting Invitation

Join Meeting via Link

If users do not have UCM extension to log in Wave desktop, the users can join meeting via link. The link can be obtained from the meeting invitation email or from the meeting organizer/participant who shares the link directly.

The meeting invitation email supports direct meeting access through the embedded join link. When users click the meeting URL from the notification email, the system automatically authenticates the meeting session using the embedded meeting credentials without requiring the configured meeting password, this simplifies the joining process and improves user convenience.

After the users join meeting via link, the users can change the display name after opening participant list and selecting the current name.

Complete Meeting

On the meeting list, the meeting creator can click **Completed** button to end the meeting which is currently in progress. Then, the meeting will be ended directly.



End Meeting

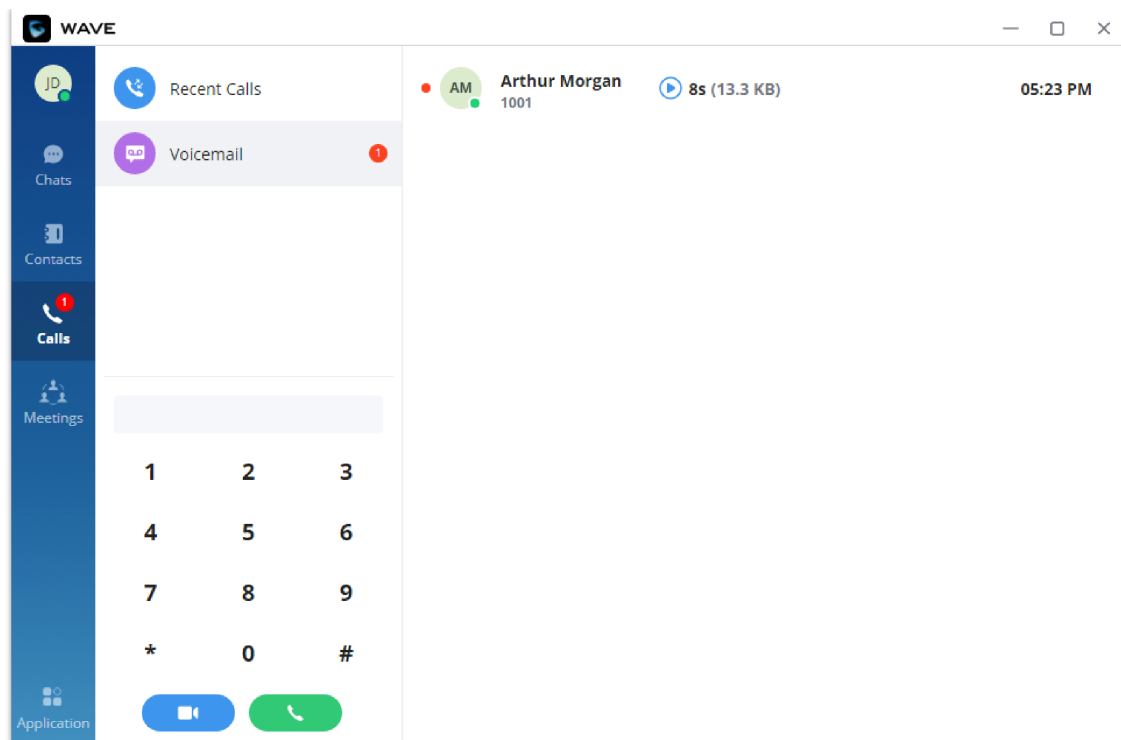
VOICEMAIL

Users can click on the **"Calls"** menu on the left side of the Wave application UI and click **"Voicemail"** menu to view all voicemail of the current Wave account.

In **"Voicemail"** module, users can check all voicemail received by the account, including the common voicemail and urgent voicemail.

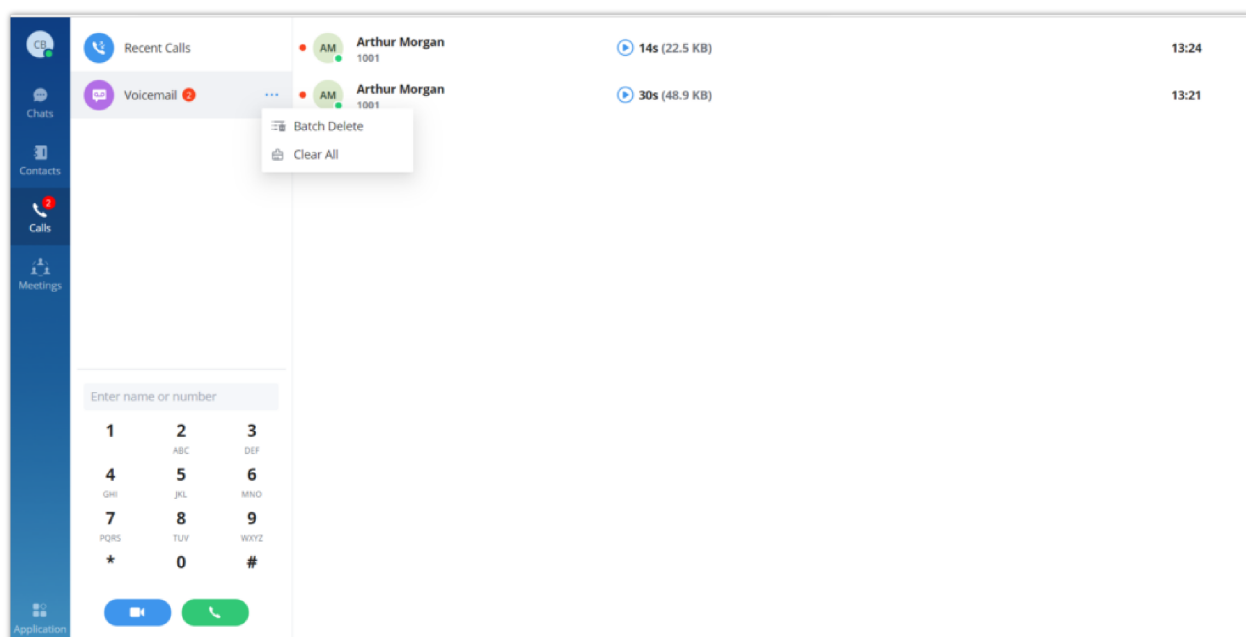
Users can play the voicemail, set the voicemail to read, and download/delete the voicemail.

Users can also dial to the contacts and send messages to the contacts from this interface. Please refer to the screenshot below for the voicemail interface:

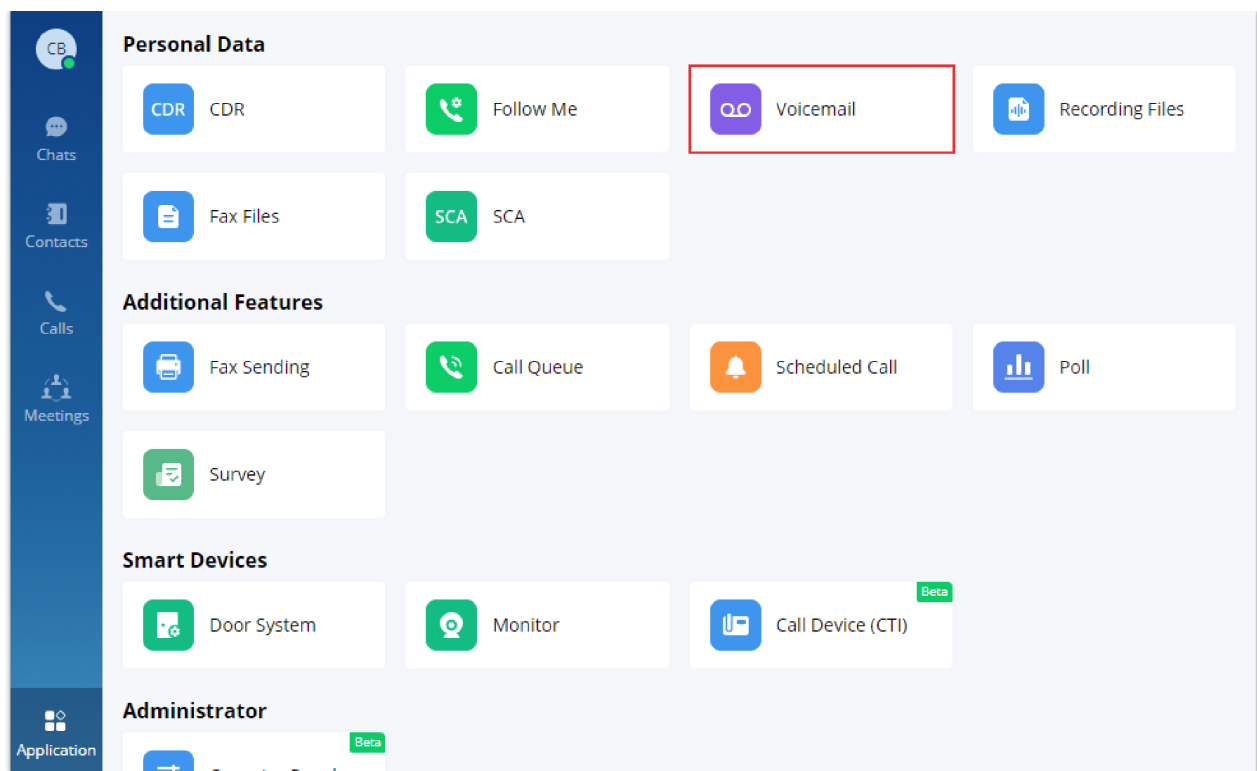


Voicemail Interface

The users can delete all the voicemails or select the ones to be deleted in batches. Please refer to the screenshot below.

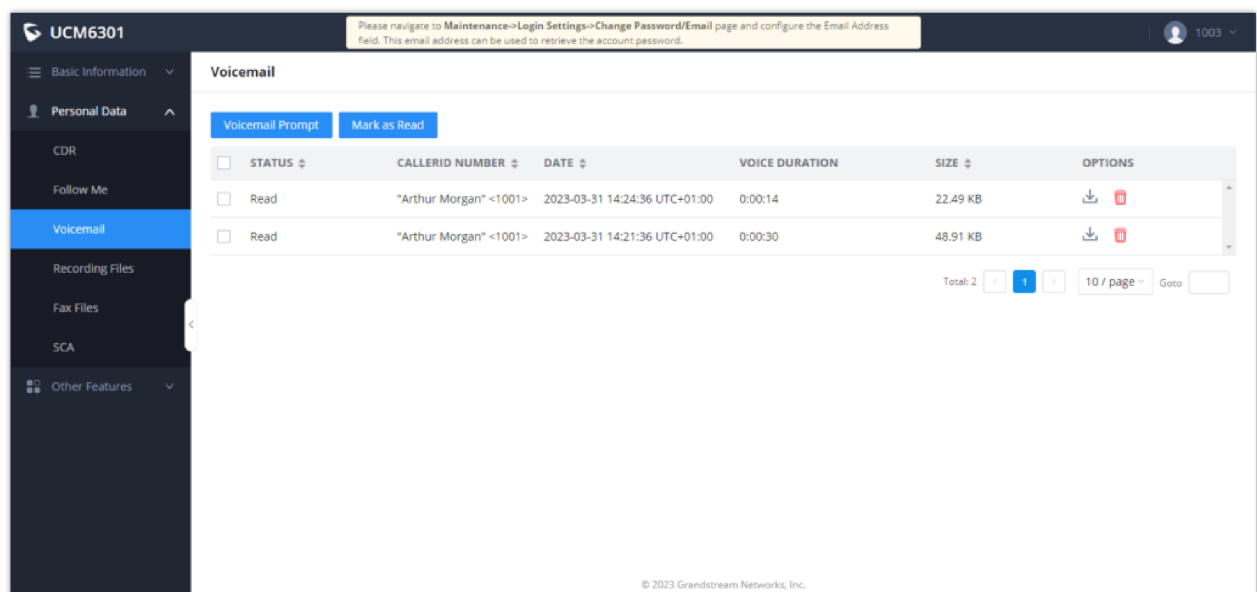


Users can click "**Application**" tab on the left side of the application UI and click on "**Voicemail**" module to access to the user portal interface on the UCM Web UI.



Application Voicemail

Then the UCM user portal page will open on which the user can download or delete the voicemails received.

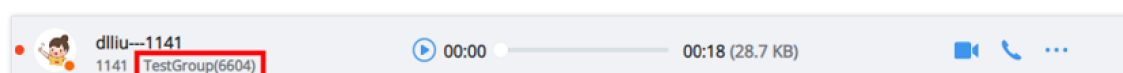


UCM User Portal Voicemail

1. Open keypad on Wave desktop, enter the voicemail access code. For example, *98 is the default feature code on UCM for users to access voicemail box.
2. Follow the IVR from UCM to enter the voicemail box and password.
3. If the password is correct, users will be able to hear voicemail options and listen to the voicemail.

Note: The voicemail access code and voicemail password are pre-configured in UCM. Please contact UCM admin to obtain the voicemail access code and password.

When a user is added to one or multiple voicemail groups, the user can view the name of the voicemail group on which the voicemail has been received directly on Wave. Please see the screenshot below.



Voicemail

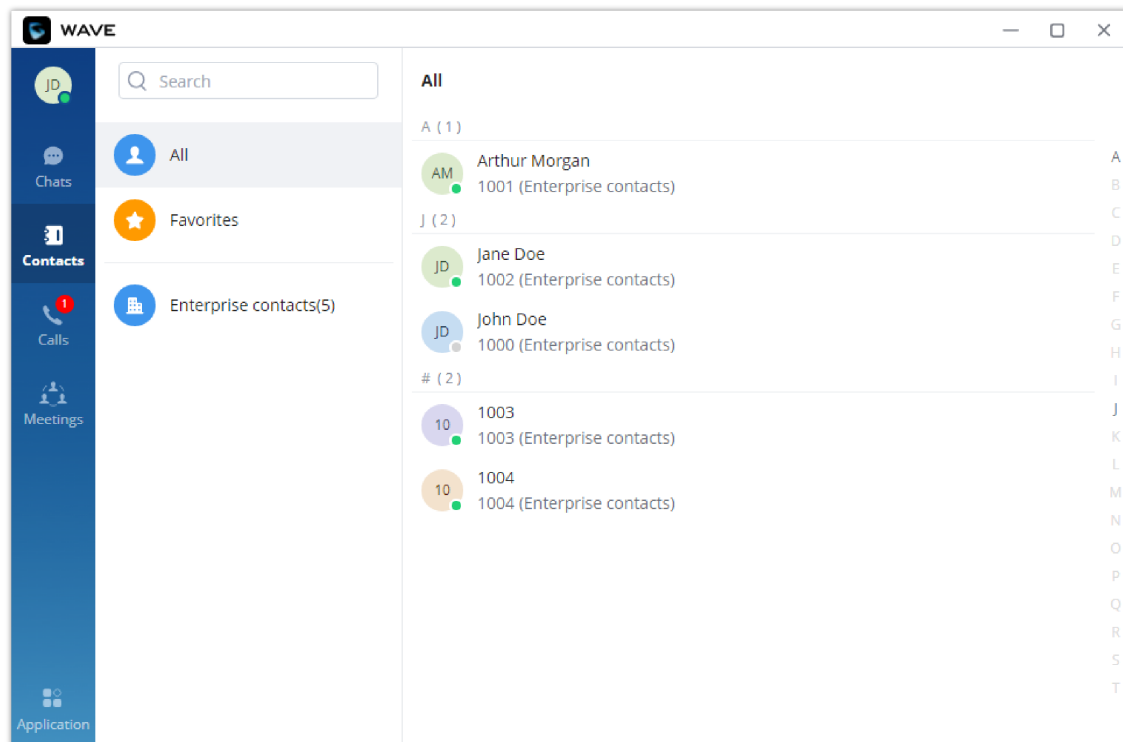
CONTACTS

Using Wave Contacts feature, you can browse two repertoires of contacts. The first one is Enterprise Contacts. In this repertoire, you will be able to see all the extensions registered on the UCM, LDAP server as well as extensions from peered UCM devices. The second type of contacts is Personal Contacts, in this category the user can add his/her personal contacts.

Search Contacts

Users can enter username or number to search contacts. On the search result, users can click to view contact details, click on

 to initiate video call or click on  to initiate audio call.

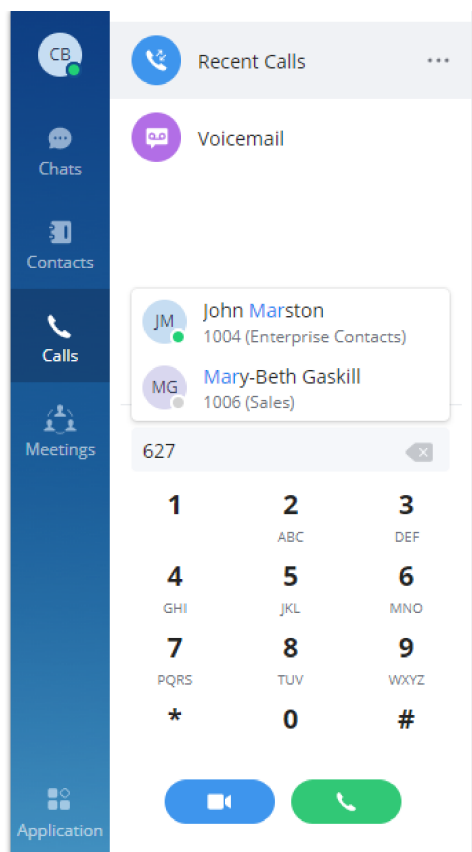


Contacts

Note

The multi-level department structure in the contacts book is configured by the administrator of the UCM enterprise platform. If the CloudIM has been enabled, the Contacts module will display the contacts for other UCM devices.

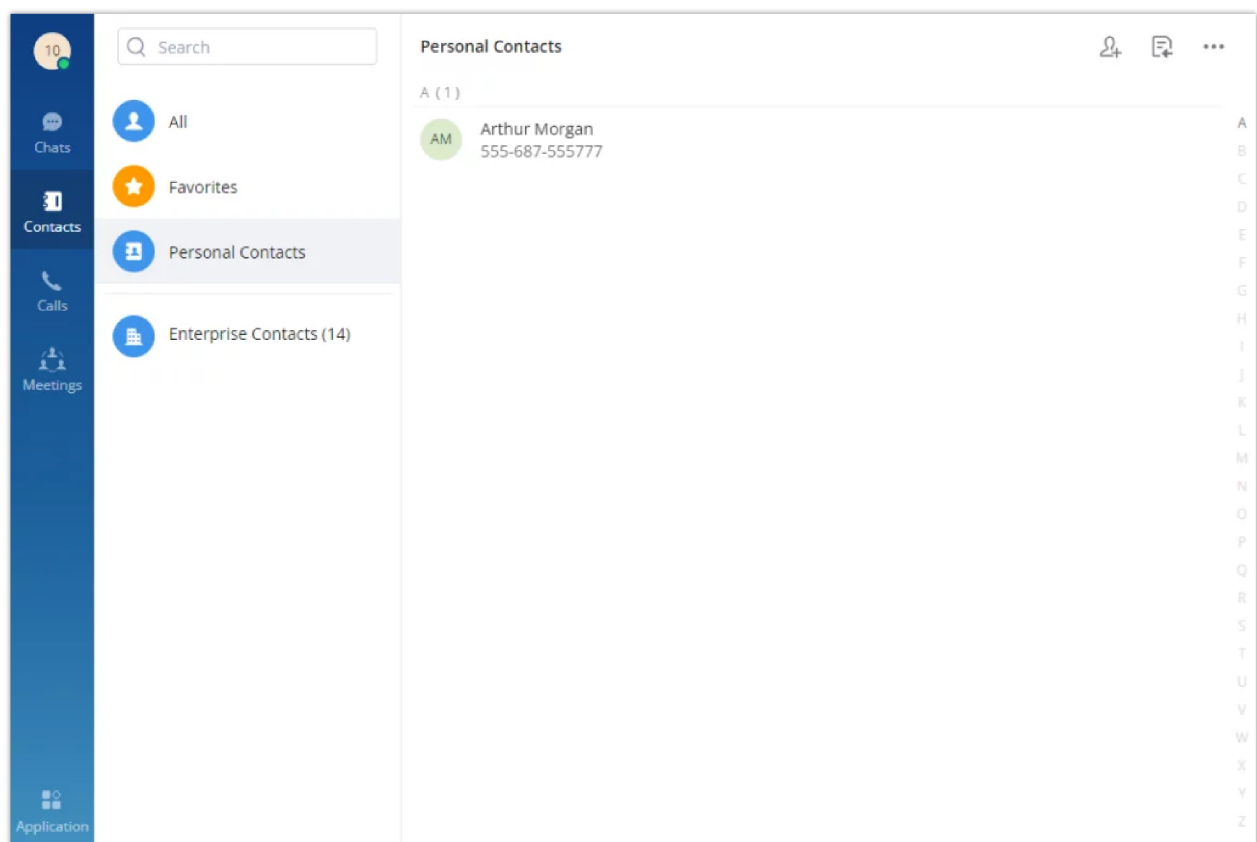
The user can also use T9 contact search by entering the numbers which map to the dial pad letters existing in the contact name as the example below shows.



T9 Contact Matching

Personal Contacts

Users can search for specific contact or a specific number to dial under Contact Tab and Recent Calls Tab.



Contact Search

-  : Add personal contact
- 

: Click on this icon to import a list of contacts



: Export the list of personal contacts

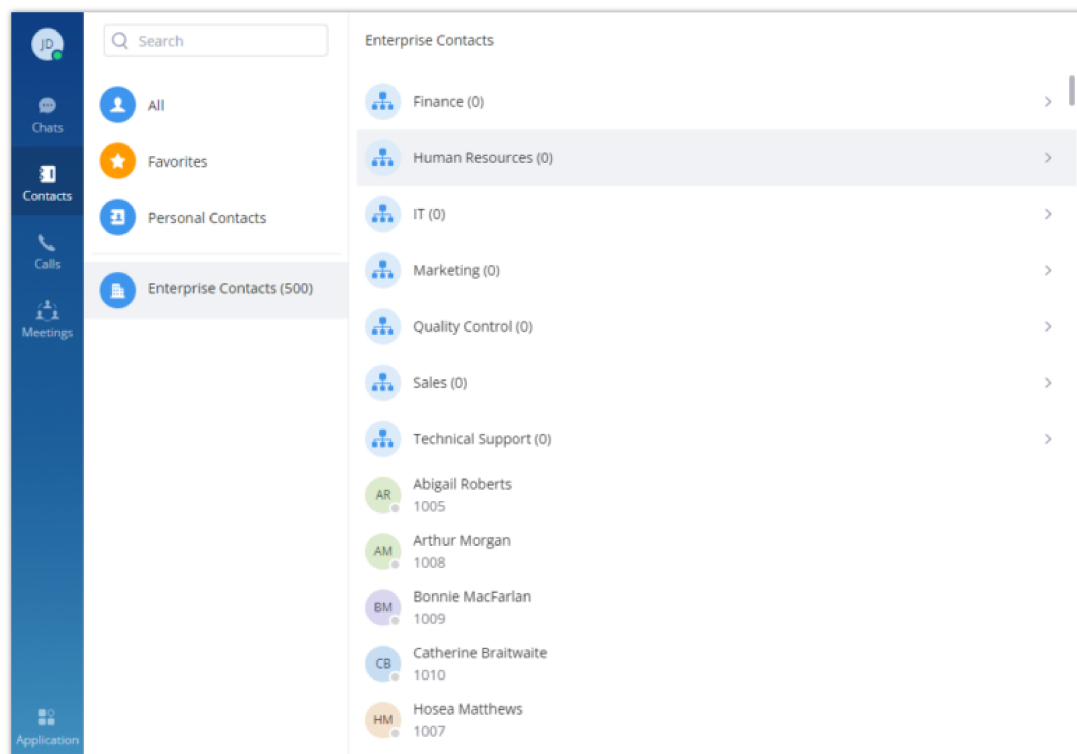


: Delete selected personal contacts

Note

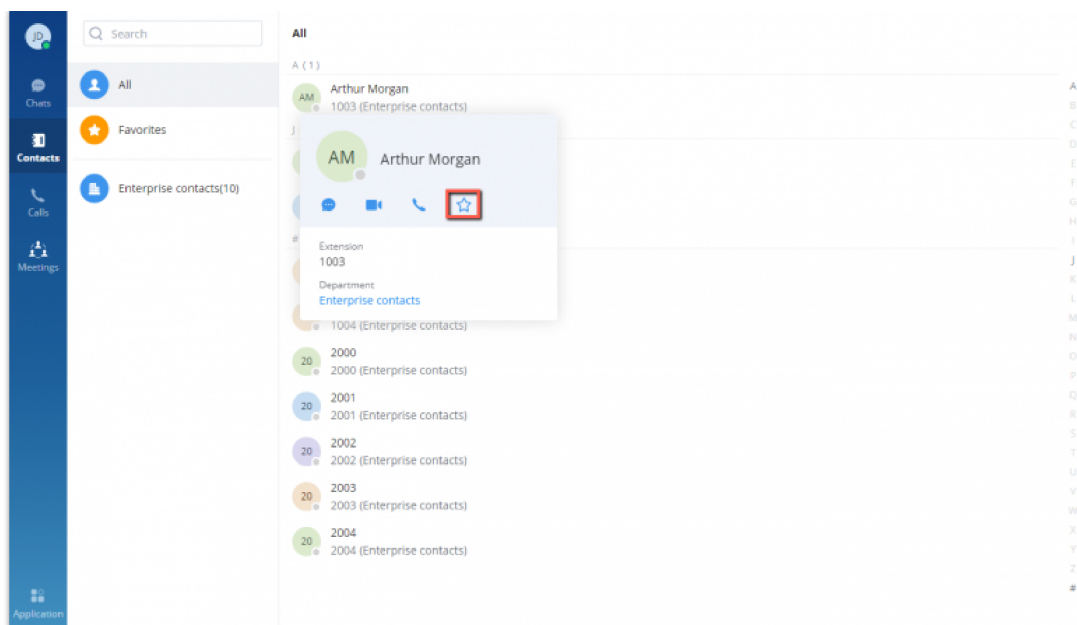
The user can add up to 200 personal contacts.

- **Enterprise Contacts**



Enterprise Contacts

1. In the search bar, enter the number or username to search.
2. Click on the search result. The details of this contact will show on the right.
3. For the search result, click on  to make a video call, and click on  to make an audio call.
4. Also, by clicking on the contact, you can add it to your favorite contact tab as shown below.

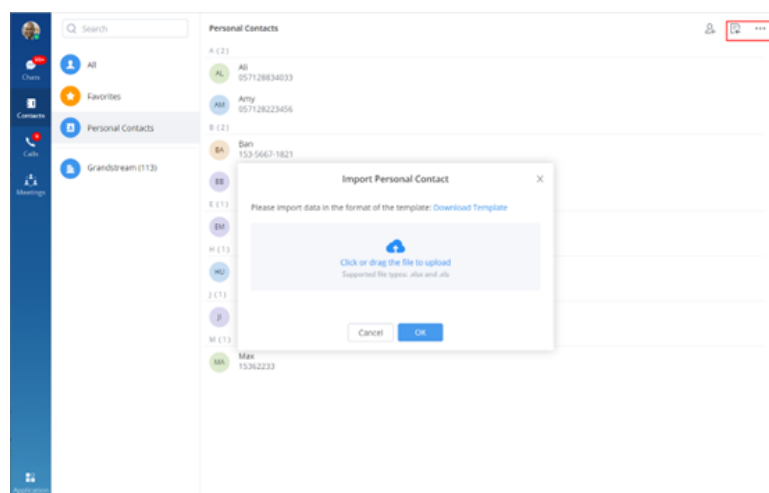


Favorite Contacts

Import/Export Personal Contacts

You can click the button  on the right upper corner to import contacts to Personal Contacts in batches. You can also click the button  to select the exported contacts or delete contacts in batches.

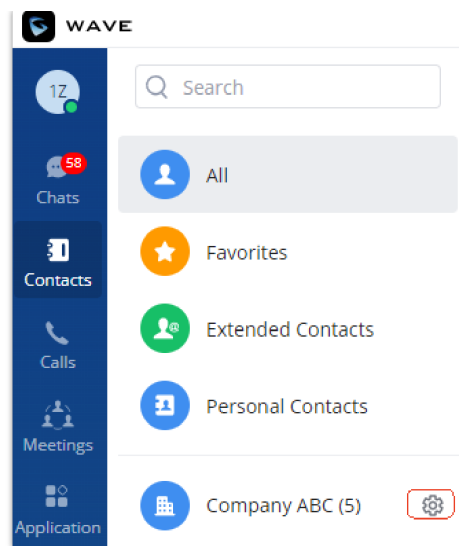
Note: It is recommended to import contacts in the template format to prevent import errors.



Import Personal Contacts

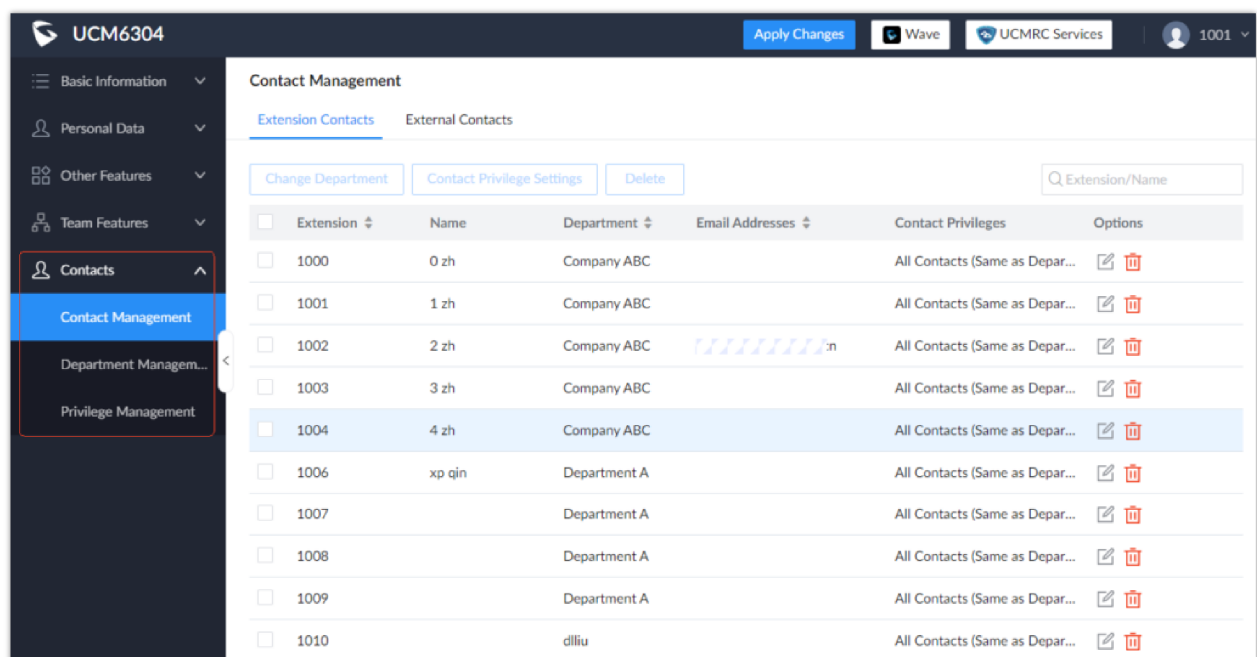
Manage Contacts from Wave App

The Wave administrator can manage all contacts of the UCM SIP server, also including the departments and permissions. by clicking the configuration icon highlighted below



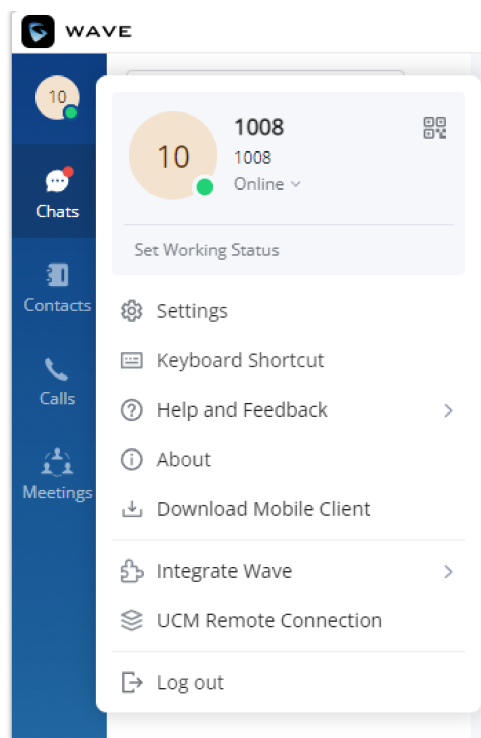
Manage Contacts from Wave App

The wave administrator will then be redirected to a web portal page where he can further configure the contacts settings.



SETTINGS MENU

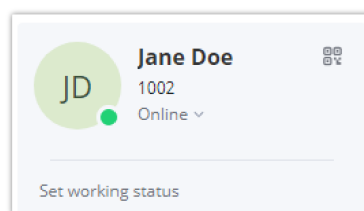
The Settings menu is on the left side of the Wave application's main UI. Users can click the user icon to open the Settings menu, the menu includes Account Information, Account Settings, Call Settings, Audio/Video Device, Language, Launch on system startup option, Help and Feedback, Export logs option, About, Download mobile client, Integrate Wave, UCM Remote Connection and Log out options.



Settings Menu

Account Information

Account information screenshot is shown as follows:



Account Information

- The Account Information interface displays the username, QR code, SIP number and personal status.
- Users can scan the SIP account QR code with the Wave mobile version to quickly log in the account.
- Users can set the personal status, which can be divided into account status and working status, and the status will be displayed in the contacts book and chat module.

Settings

General

Account Settings

The account settings allow you to change the Account Info or the Account Password, and manage login behavior.

Account Settings

Account Info

Open the account configuration page to modify settings

Edit

Account Password

Change your account password

Change

Login Device Management

>

Simultaneous Login with Same Client Type



Account Settings

Account Info

Press "Edit" button to be redirected to the account settings interface in the UCM management platform, and you can go to "Personal Configuration" tab to fill in the personal basic information. Then, the updated information will be saved and applied to Wave application.

The screenshot displays the UCM6301 Personal Configuration interface. At the top, a navigation bar includes the UCM6301 logo, a menu icon, and a user profile icon labeled '1008'. Below the navigation bar, a sidebar on the left lists various configuration categories: Basic Information, User Information, Account Settings (highlighted), Extensions, Personal Data, and Other Features. The main content area is titled 'Account Settings' and contains two tabs: 'Personal Config' (selected) and 'Change Password'. The 'Personal Config' tab shows a form with fields for Username (1008), Fax, Email Address (marked with a red asterisk), First Name, Last Name, Home Number, and Mobile Number (with a dropdown for country code '+1'). At the bottom of the form are 'Cancel' and 'Save' buttons. A footer note at the bottom right reads '© 2023 Grandstream Networks, Inc.'.

Account Settings Personal Config

Account Password

Press "Change" button to be redirected to the account settings interface in the UCM management platform, and you can go to "Change Password" tab to update your Wave account password.

UCM6301 | Personal Config

Please navigate to [Maintenance->Login Settings->Change Password/Email](#) page and configure the Email Address field. This email address can be used to retrieve the account password.

UCM6301

Basic Information

User Information

Account Settings

Extensions

Personal Data

Other Features

Account Settings

Personal Config

Change Password

Enter Current Password

Enter New Password

Re-enter New Password

Cancel Save

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Account Settings Change Password

o Login Device Management

In this section, the user can view the open sessions for their extensions. We highly recommend that the user checks this setting regularly. In case any open session raises suspicion for the user, the user can terminate the session and quickly change their password.

Settings

General

Notification

Audio

Video

Settings

Account Settings

Account Info

Open the account configuration page to modify settings

Edit

Account Password

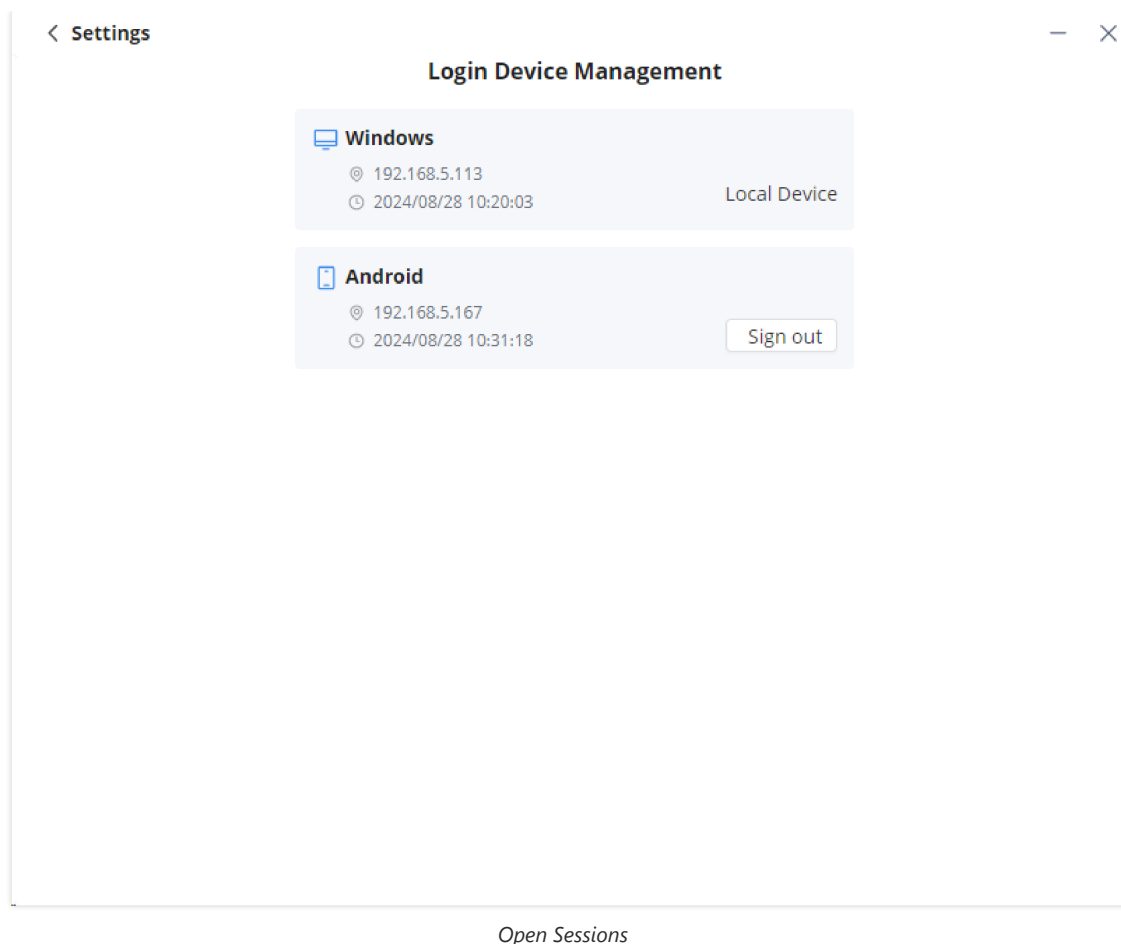
Change your account password

Change

Login Device Management

2 >

Wave Desktop Settings



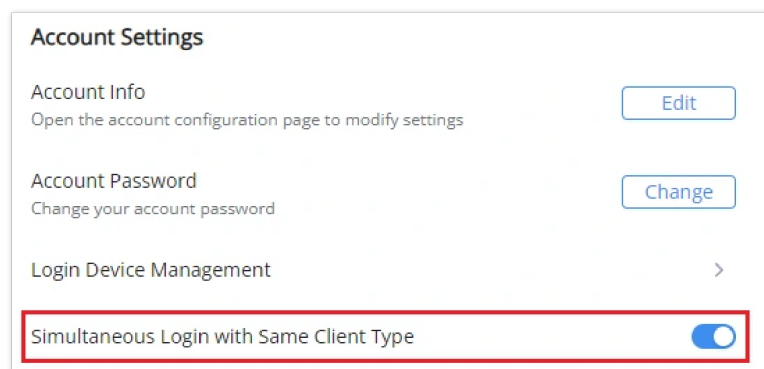
Open Sessions

Note

If the user wishes to terminate a specific session, he/she can click on "Sign Out"

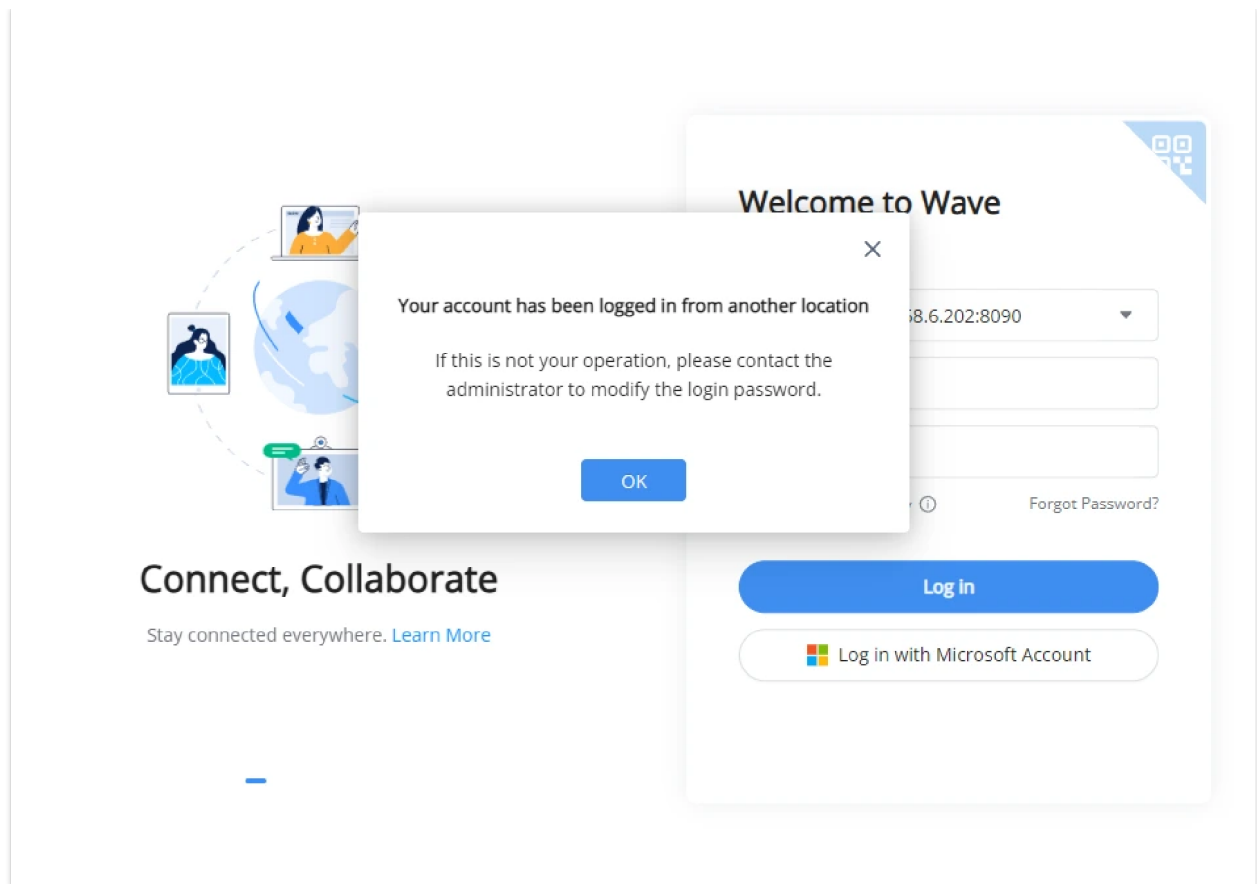
◦ Simultaneous Login with Same Client Type

This setting allows users to log into multiple Wave clients of the same type at the same time, for example, being signed in on two different desktop apps or on multiple mobile devices.



Simultaneous Login with the Same Client Type Option

If disabled, logging into a second client of the same type will automatically log out the first.



Simultaneous Login Disabled Prompt

Note:

This setting is only available if the UCM administrator has assigned the permission to the extension. If the option does not appear, please contact the system administrator.

General Settings

The General Settings control the Wave Application behavior on startup and close.

General Settings

☒ Keep Application Running on Close

☒ Launch on System Startup

Startup Mode

Start in Foreground

Settings General Settings

- **Keep Application Running on Close**

When enabled, closing the application will keep the application running in the background allowing you to receive calls and chat messages... without having the application open.

- **Launch on System Startup**

Enable this option to have Wave launch automatically when the operating system boots up.

- **Startup Mode**

Select the startup mode when launching the Wave Application. Two options are available: "Start in Foreground" and "Start in Background".

- **Minimize Call Window by Default**

When this option is enabled, the call window will automatically minimize after the call is accepted. Otherwise, the call window will open in normal size upon answering a call.

Language

The Language settings section provides the following options:

Language

English ▼

☐ Spell Check

Language

1. **Language Selection:** Choose the application display language from the supported languages.
2. **Spell Check:** A checkbox to enable or disable automatic spelling suggestions while writing messages.

Note

Users cannot set the language during the call.

List of Supported Languages:

- English
- Chinese
- French
- Spanish (Latin America)
- Spanish (Spain)
- Italian
- Greek
- Arabic
- Russian
- German
- Polish
- Portuguese
- Vietnamese
- Thai
- Czech
- Turkish
- Hebrew
- Dutch
- Slovenian.

Theme

Users can customize the appearance of both the Main Interface and the Call Interface independently by selecting from different theme options.

Theme

Main Interface

Set the entire theme of the application (excludes add-in page)

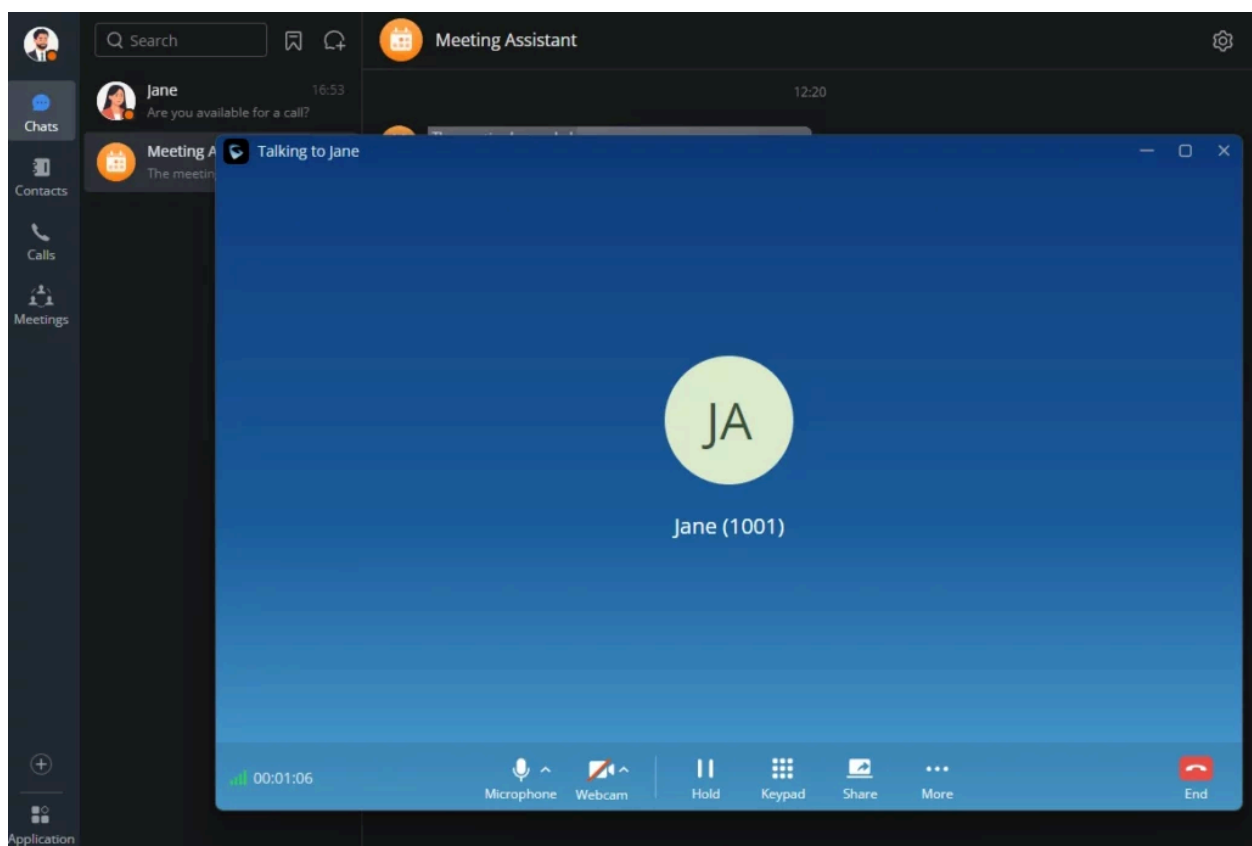
Use System Settings

Call and Meeting Interface

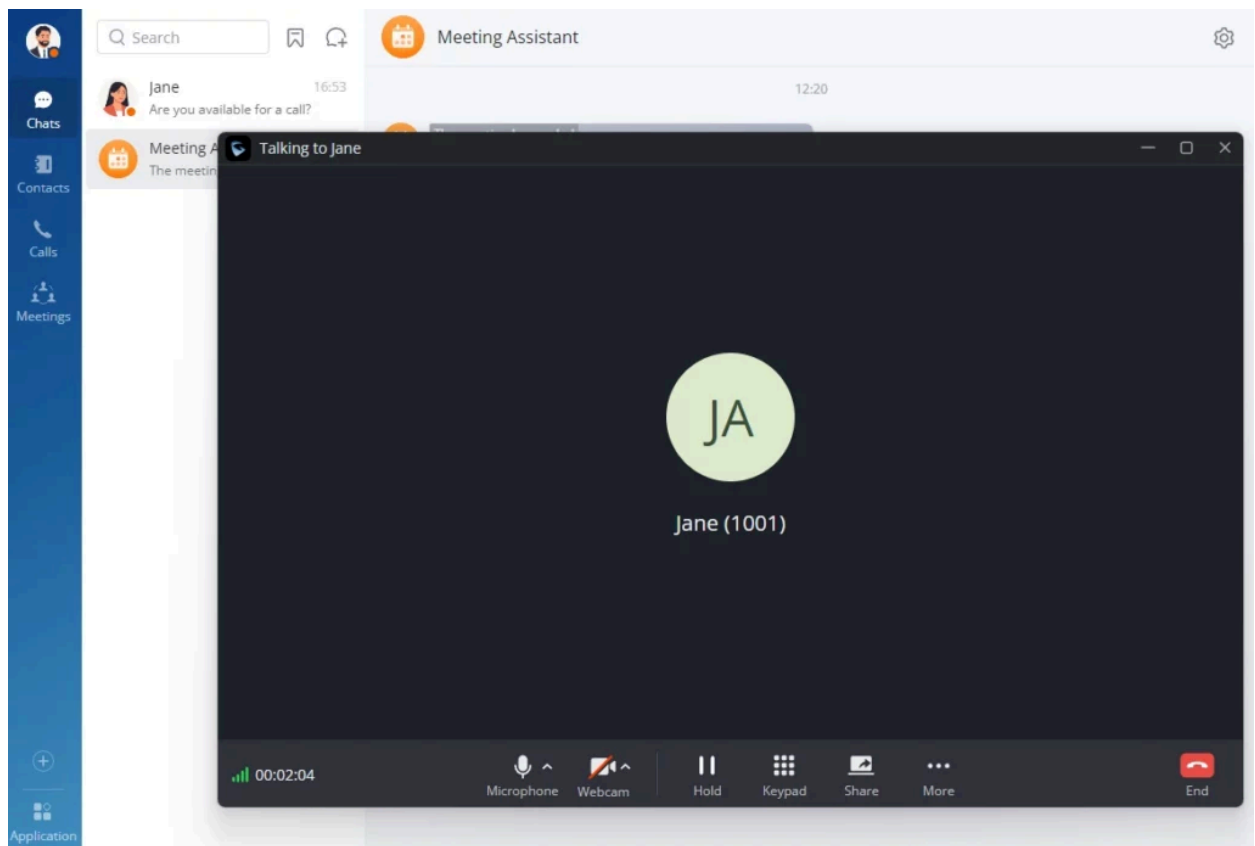
Use Wave Settings

General Theme Settings

- **Use System Settings:** The interface theme automatically matches the system's current theme.
- **Light:** Applies a bright, light-colored theme to the main/call interface.
- **Dark:** Applies a dark-colored theme for easier viewing in low-light environments.



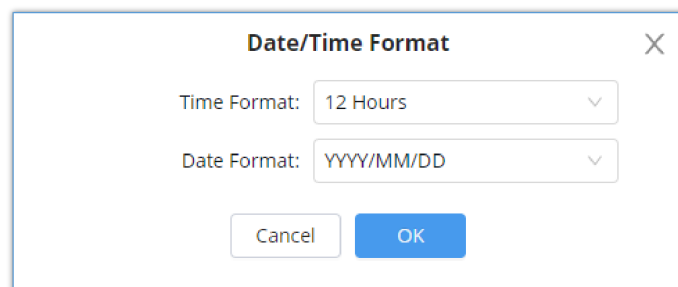
Main Interface in Dark Theme with Call Window in Light Theme



Main Interface in Light Theme with Call Window in Dark Theme

Date/Time Format

The Wave application allows you to change the date and time format.



Date/Time Format

Time Format options are:

- 12 Hours
- 24 Hours

Date Format options are:

- YYYY/MM/DD
- DD/MM/YYYY
- MM/DD/YYYY

Chat Display

The Chat Display Settings allow users to customize how chat sessions are displayed in the Wave application. These settings can improve chat navigation and user preference for message previews.

Chat Display

Show Previews in Chat List



Open Chat To

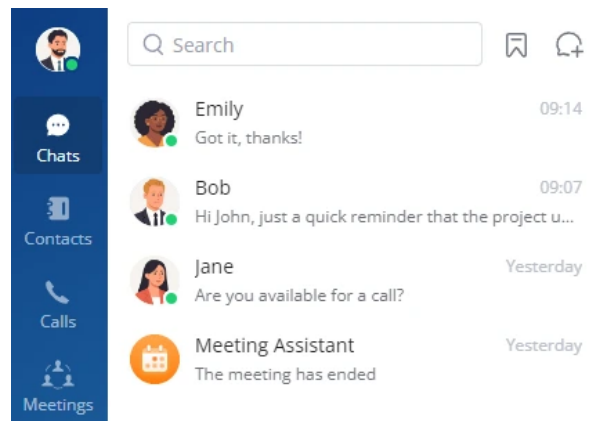
First New Message



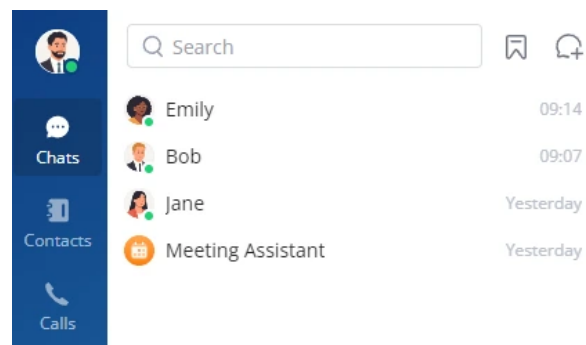
Chat Display Settings

◦ Show Previews in Chat List

When this option is enabled, a preview of the most recent message in each chat will be shown in the chat list. If disabled, only the contact name or group name will appear.



Chat Preview Enabled



Chat Preview Disabled

◦ Open Chat To

This setting determines where the chat window scrolls to when opening a session with unread messages:

First New Message: The chat will open at the top of the unread message list, starting from the first new message.

Latest New Message: The chat will open at the bottom, showing the most recent new message directly.

File Save Location

Users can configure where downloaded chat files are saved using the following settings:

File Save Location

Default Save Location

Not configured

Change

Ask about the save location of each file before downloading



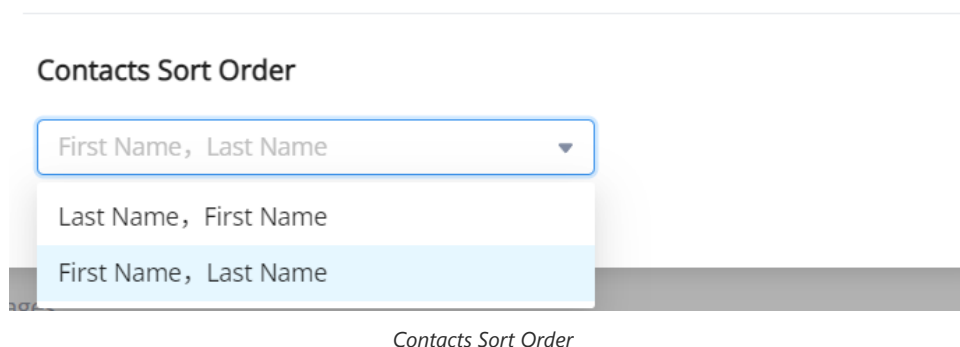
File Save Location Settings

- **Default Save Location:** Allows users to set a default folder for saving downloaded files. Click the “Change” button to select a new location.
- **Ask About the Save Location of Each File Before Downloading:** When enabled, users will be prompted to confirm or select a save location every time a file is downloaded. If not enabled, files will automatically be saved to the configured default location.

Contacts Sort Order

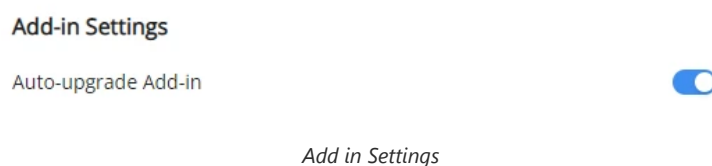
This option configures the sorting order of the Wave Contacts. Two options are available:

- First Name, Last Name
- Last name, First Name



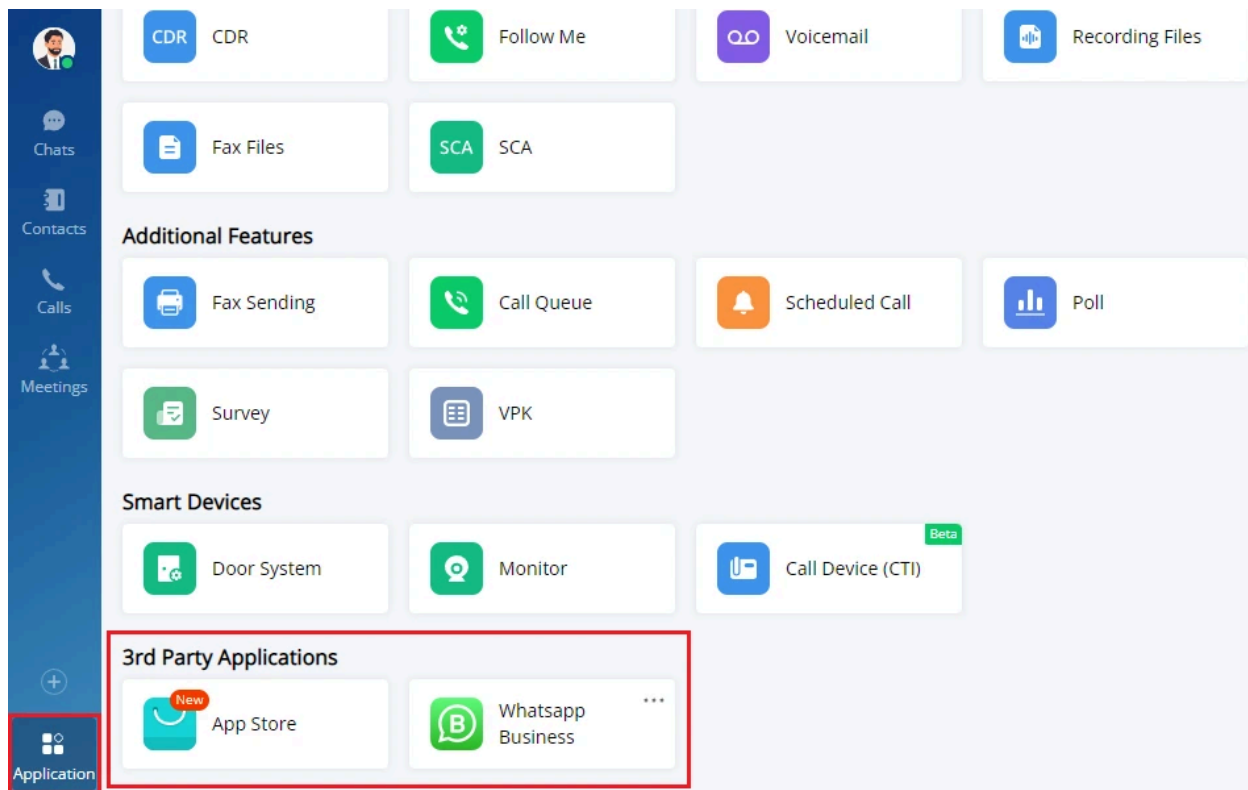
Add-in Settings

The Add-in Settings allow users to manage how third-party add-ins are updated within Wave:



When the “**Auto-upgrade Add-in**” option is enabled, any downloaded third-party applications (add-ins) will be automatically upgraded when a new version becomes available. If unchecked, users will need to manually update installed add-ins.

To view and manage available third-party applications, navigate to: **Application → 3rd Party Applications**.



3rd Party Applications List

3rd-Party Application Integration Service

Wave supports integration with external systems through an HTTP API listening service. This feature enables third-party applications to initiate core Wave functions such as calls and meetings.

Note:

This setting should only be enabled if you have a trusted third-party service configured to communicate with Wave.

3rd-party Application Integration Service

Enable HTTP API Listening Service

HTTP API listening service allows 3rd-party applications to initiate Wave calls, meetings, and other features.



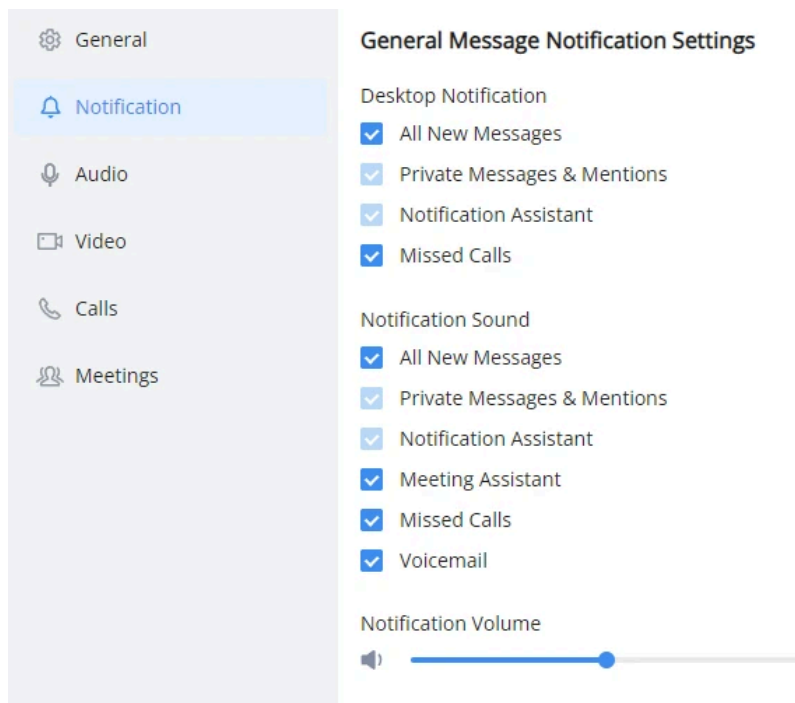
3rd Party Application Integration Service

Notification Settings

Wave can be configured to notify the user based on the preferences set. The user can set the preference to be notified for all the messages exchanged in the groups he/she is part of, direct messages, mentions or none at all.

The user can also configure Wave to play a notification sound when they receive a message, when they received an incoming call, or when they receive a reminder of a meeting.

General Message Notification Settings



General Message Notification Settings

- **Desktop Notification**

Check/uncheck Desktop Notification for “All New Messages”, “Private Messages & Mentions”, “Notification Assistant” and/or “Missed Calls”

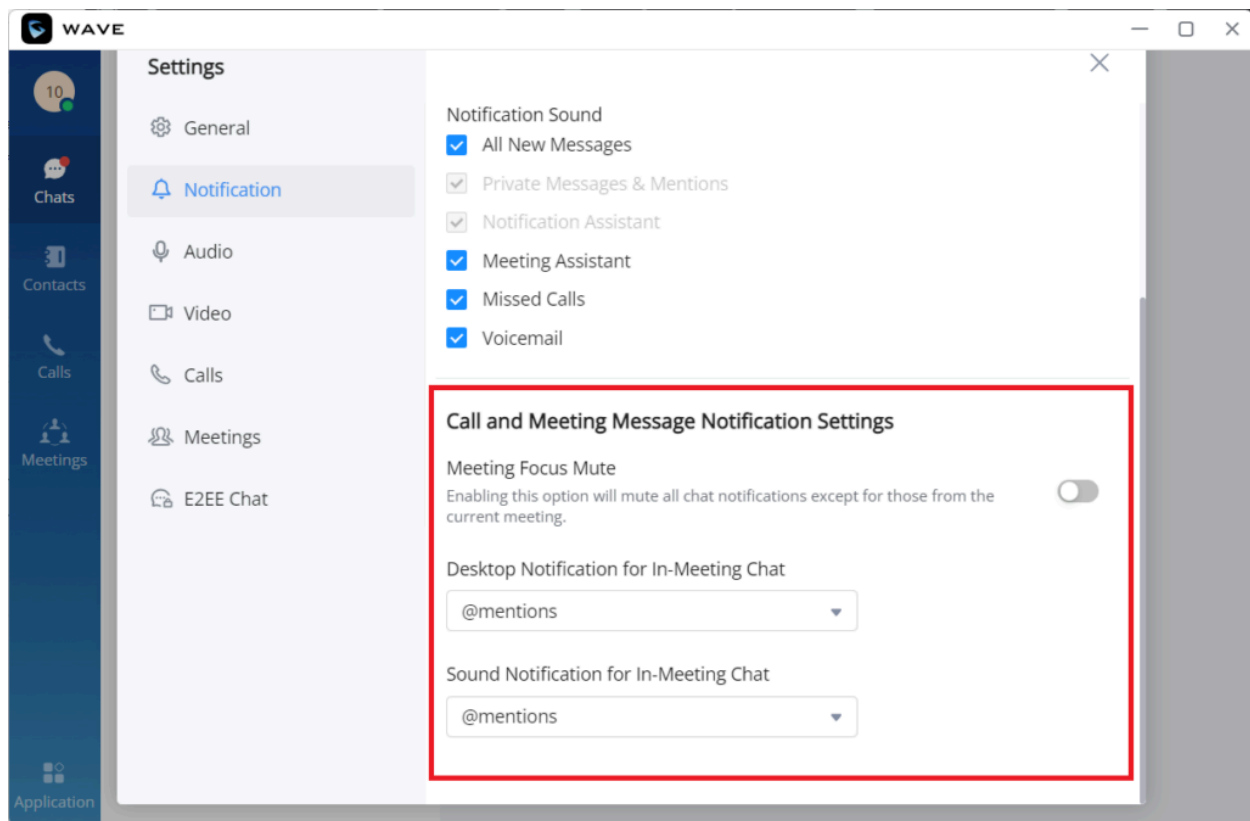
- **Notification Sound**

Check/uncheck Notification Sound for “All New Messages”, “Private Messages & Mentions”, “Notification Assistant”, “Meeting Assistant”, “Missed Calls” and/or “Voicemail”

- **Notification Volume**

The Notification Volume slider allows users to adjust the sound level for notifications received in Wave, such as incoming messages, calls, and meeting alerts.

Call and Meeting Message Notification Settings



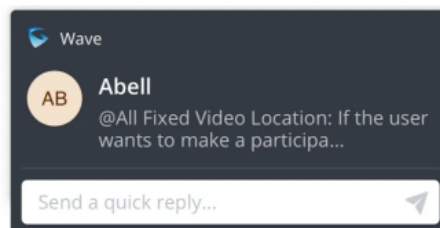
Call and Meeting Message Notification Settings

- **Meeting Focus Mute**

Enabling this option will mute all chats notifications except for those from the current meeting.

- **Desktop Notification for In-Meeting Chat**

Select the condition to display the Desktop Notification for In-Meeting Chat: "All New Messages", "@mentions" or "None". The desktop notification looks as below:



Desktop Notification for In Meeting Chat

The user can directly reply to the message from the notification.

- **Sound Notification for In-Meeting Chat**

Select the condition to play the Sound Notification for In-Meeting Chat: "All New Messages", "@mentions" or "None".

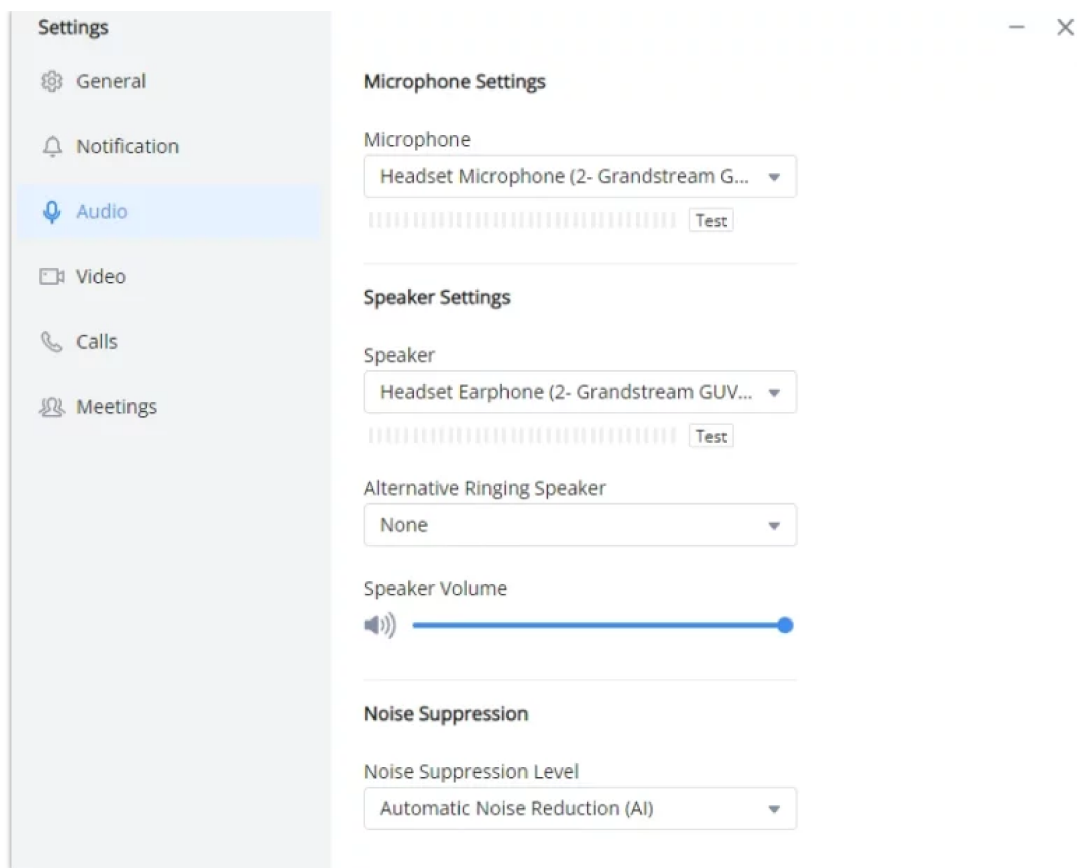
Audio Settings

When the device is connected to multiple audio devices, the user can select audio device through audio settings.

For PC client users, the application allows users to select the alternative ringing speaker. When the user receives an incoming call, the preferred and alternative speakers ring at the same time.

Reference Scenario: The PC connects to a headphone, but the user does not wear the headphone. The alternative ringing speaker is set, when the user receives an incoming call, the user can hear the ring tone from the PC's built-in speaker.

Step 1: The user can click the user icon then click on "**Settings**", move the cursor to "**Audio/Video Device**" option, and click "**Audio Settings**" to enter the microphone/speaker settings interface, as the figure shows below:



Alternative Ringing Speaker

Step 2: Go to “**Alternative Ringing Speaker**” option and click to set the alternative speaker.

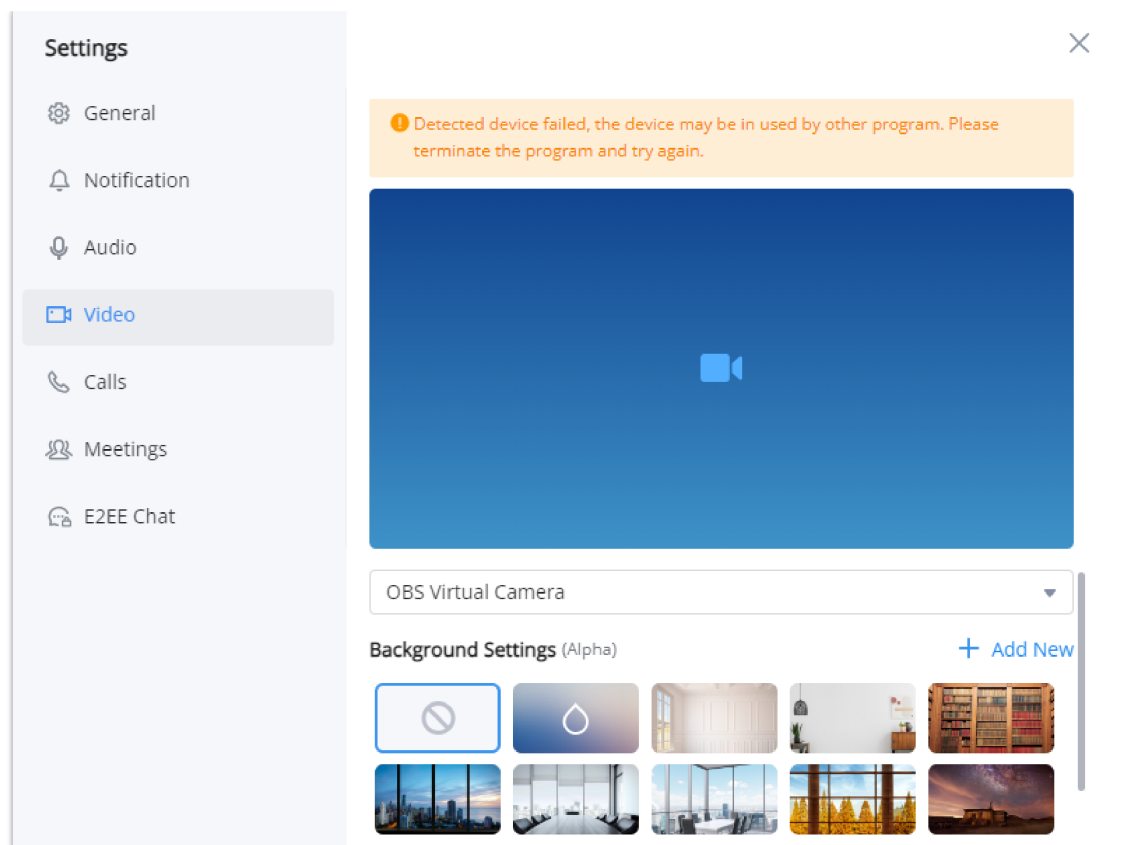
Step 3: Click “**OK**” button to apply the changes. The preferred and alternative speakers will ring at the same time when there is an incoming call.

Note

1. When the user first time logs into Wave application, the system will ask the user to set up an audio device.
2. Wave Desktop users can enable noise suppression during meetings. Available options include Medium, High, and Automatic Noise Reduction (AI), which provides intelligent background noise filtering.
3. Once a call is established, only the preferred speaker device is used.
4. A microphone test option is available, allowing users to record their voice and play it back through the selected output device to verify performance.

Video Settings

Video settings screenshot is shown as below:



Video Settings

When the PC connects to multiple camera devices, the user can select the video device by "Video Settings". The user can also set the virtual background in Wave application.

Step 1: The user can click the user icon to enter the settings menu, move the cursor to "**Audio/Video Device**" option, and click "**Video Settings**" to enter the camera settings interface, as the figure shows below.

Step 2: The user can select the camera and set the virtual background.

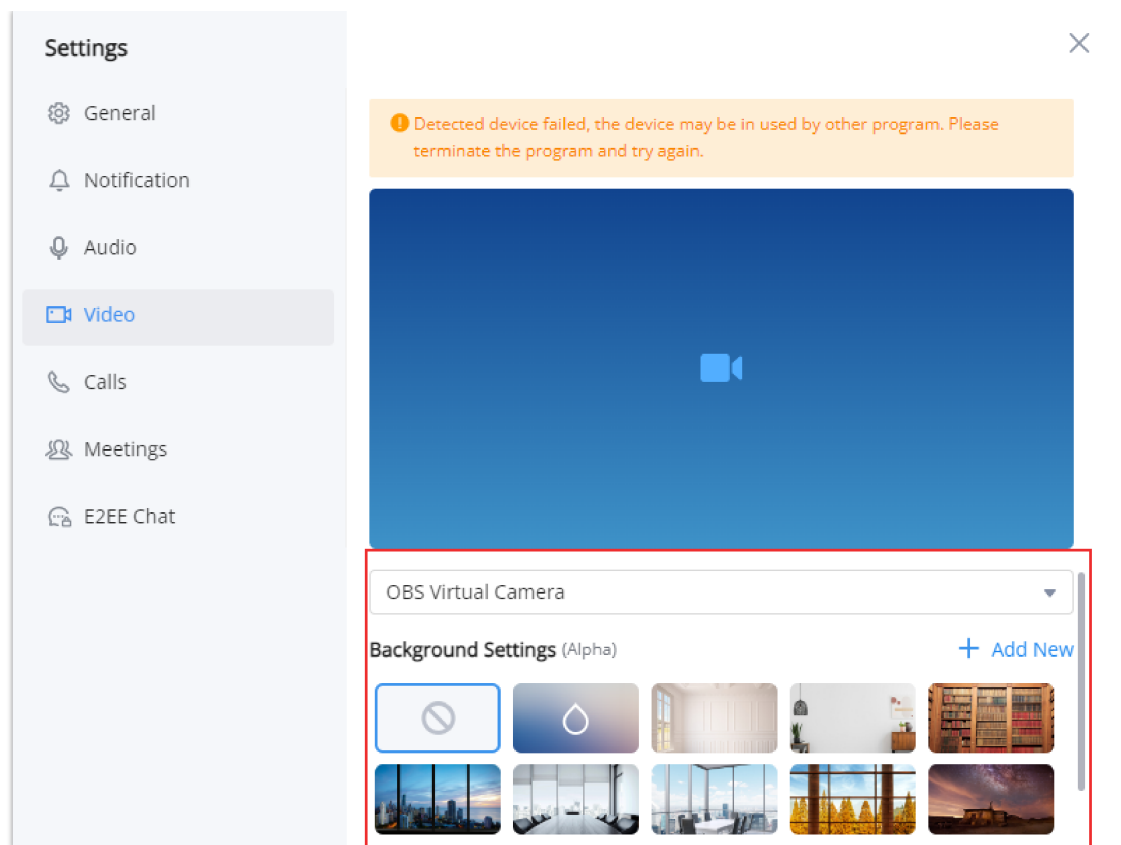
Step 3: The user can view the preview result and save/apply the changes. When the virtual background is set, the setting will be saved locally in the application, and the virtual background will be applied for each call/meeting.

When the user first time logs into Wave application, the system will ask the user to set up a video device.

Virtual Background Settings

In meetings and peer-to-peer calls, the user can set the virtual background in the application locally and the virtual background will replace the background in the camera and send to the remote client.

Step 1: The user should click on the profile image, then select "**Settings**", then chose "**Video**" from the list of settings.



Virtual Background

Step 2: Users can select the images in the library or customize the uploaded images to create a virtual background.

Step 3: Customize Uploaded Image: Click the button [+ Add New](#) on the virtual background settings interface to open the local file selection window, and the user can select and customize the image to upload.

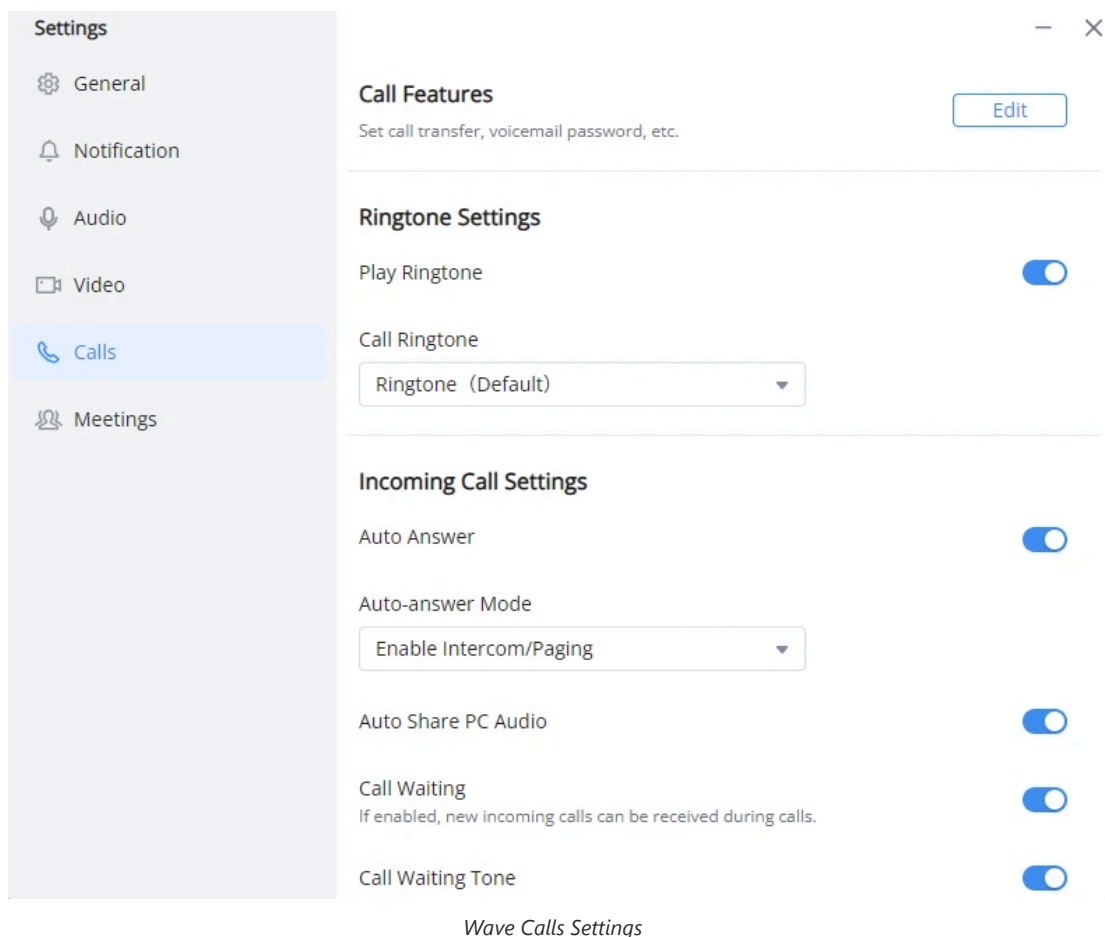
Step 4: The user can view the preview result and save/apply the changes. When the virtual background is set, the setting will be saved locally in the application, and the virtual background will be applied for each call/meeting.

- Remove Background
- Fuzzy Background

There is no background image by default. The limit of the size of custom uploaded image is 20MB, and the upper limit of the image amount is 10 images. Users can upload images for multiple times. Each uploaded image will generate a new background, the length and width of the image is adaptive 16:9 and the image will be saved locally. The suggested fuzzy background color should be set to avoid being similar as the color of the actual scene and clothes.

Calls Settings

The **Calls Settings** section allows users to configure various call-related behaviors and preferences to enhance their calling experience on Wave Desktop.



Wave Calls Settings

Call Features

Allows to set Call Transfer, voicemail password, etc. Press “Edit” button to be redirect to the UCM management page.

Ringtone Settings

- **Play Ringtone:** Check/uncheck to whether play ringtone.
- **Call Ringtone:** Select the ringtone to play for incoming calls. Custom ringtone is supported.

Incoming Call Settings

- **Auto answer:** Enable this option to have Wave answer the calls received automatically without user interaction.
- **Auto-answer Mode:** determines how incoming calls are automatically handled when **Auto Answer** is enabled. Two options are available:
 - **Always:** All incoming calls are auto-answered.
 - **Enable Intercom/Paging:** Only intercom or paging calls are auto-answered.
- **Auto Share PC Audio:** When enabled, the system automatically shares your PC’s audio whenever a call is auto answered.
- **Call Waiting:** If enabled, new incoming calls can be received during calls.
- **Call Waiting Tone:** If enabled, a tone will be played when there is a call waiting.

Dial Plan Settings

- **Dial Plan Rules**

Enable/disable dial plan rules. Only applicable to the Call tab’s dial pad.

- **Dial Plan Settings**

Set the dial plan rules grammar for the number dialed. You can either enable the dial plan to have Wave take it into consideration, or to ignore completely when dialing numbers.

Here are the valid values:

1, 2, 3, 4, 5, 6, 7, 8, 9, 0, *, #, T,+, A-Z, a-z

Dial Plan rules:

- xx – Any 2-digit number
- xx+ – At least 2-digit number
- xx. – At least 1-digit number
- xx? – 1-digit or 2-digit number
- ^ – Reject
- T – Delay call after matching
- | – Or
- + – Add + to the number
- [3-5] – Dial the number 3, 4, or 5
- [147] – Dial the number 1, 4, or 7
- <2=011> – When the dial number is 2, it is replaced with 011
- Set \{x+\} – All all digital numbers to make outgoing calls
- "+character" – It indicates a fixed character. **Note:** it does not need to be added in front of * and #, and it cannot be added in front of T^,; and |
- Set \{X+\} Allow all 0-9, A-Z, a-z inputs with at least one character

Example:

- Example 1: {[369]11 | 1617xxxxxx} – Allow 311, 611, 911, any 10-digit call that starts with 1617 to make the outgoing calls.
- Example 2: {^1900x+ | <=1617>xxxxxx} – It will refuse to dial numbers starting with 1900, and adding the prefix 1617 when dialing any 7-digit number
- Example 3: \{ax+\} – It will dial a number starting with a and followed by at least 1-digit
- **Ignore Dial Plan**

If enabled, outgoing calls will ignore dial plan rules.

- **Dial Tone**

Enable this option to play a tone for each key when dialing a number using the number pad.

Call Interface Customization

- **Call Toolbar**

You can also customize the buttons to be displayed at the bottom toolbar of the call interface, and put common buttons at the bottom bar and display permanently. You can set up on **Settings** -> **Calls**, and select the preferred buttons to be displayed.

Press "Edit" to customize the call toolbar.

Display on Call Toolbar

- | | | |
|--|--|--|
| ☒ Microphone | ☒ Webcam | ☒ Hold |
| ☒ Keypad | ☒ Share | ☐ Transfer |
| ☐ Record | ☐ N-Way Conference | |



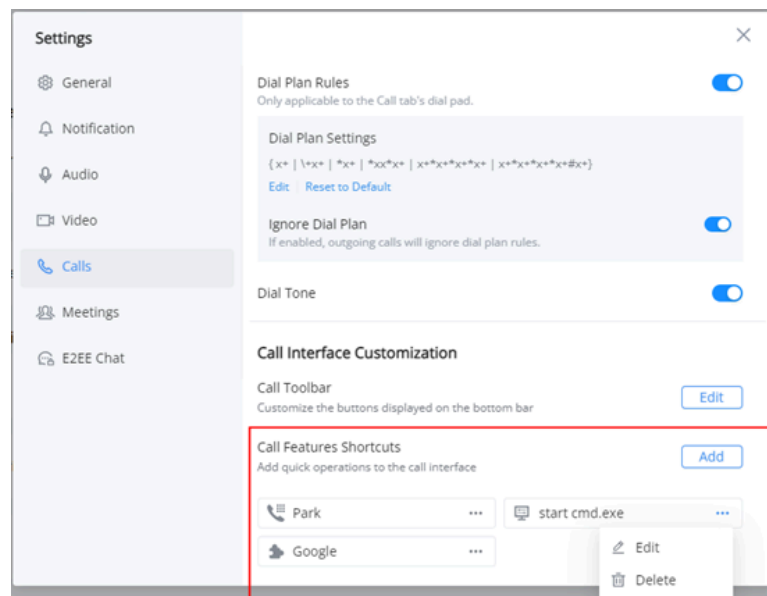
Cancel

OK

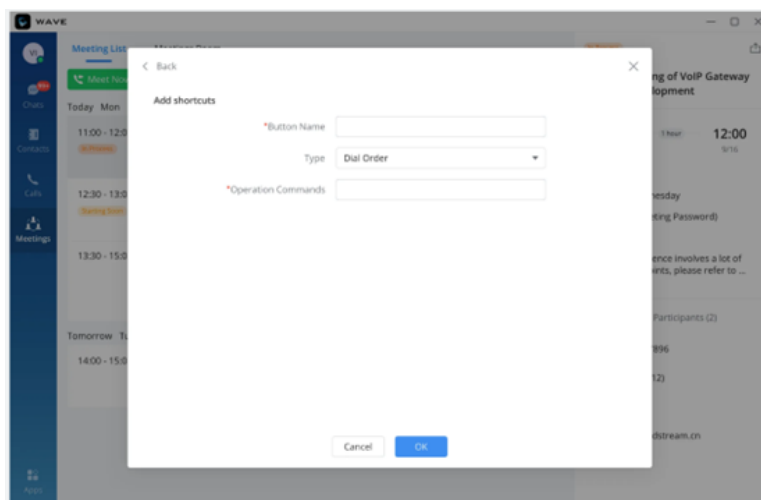
Call Toolbar Customization

◦ Call Feature Shortcuts

You can set shortcut keys such as DTMF and add-in commands, which are commonly used on the call interface. After the shortcut keys are set, you can perform operations during a call or meeting with one-click. Users can configure this feature in **Settings -> Calls**.

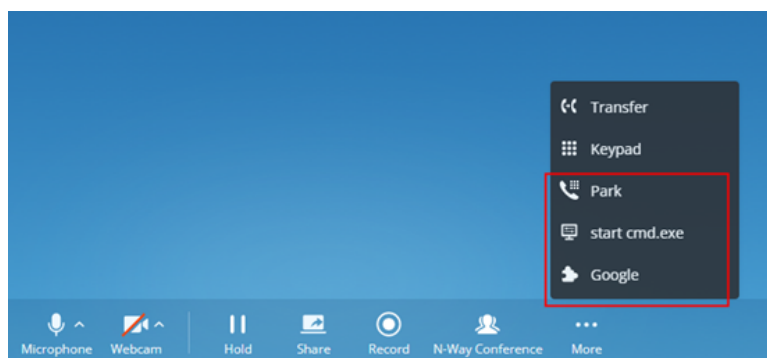


Call Features Shortcuts



Add Shortcuts

After setting the shortcut key, you can click the “More” option on the Call/Meeting interface to view the key.

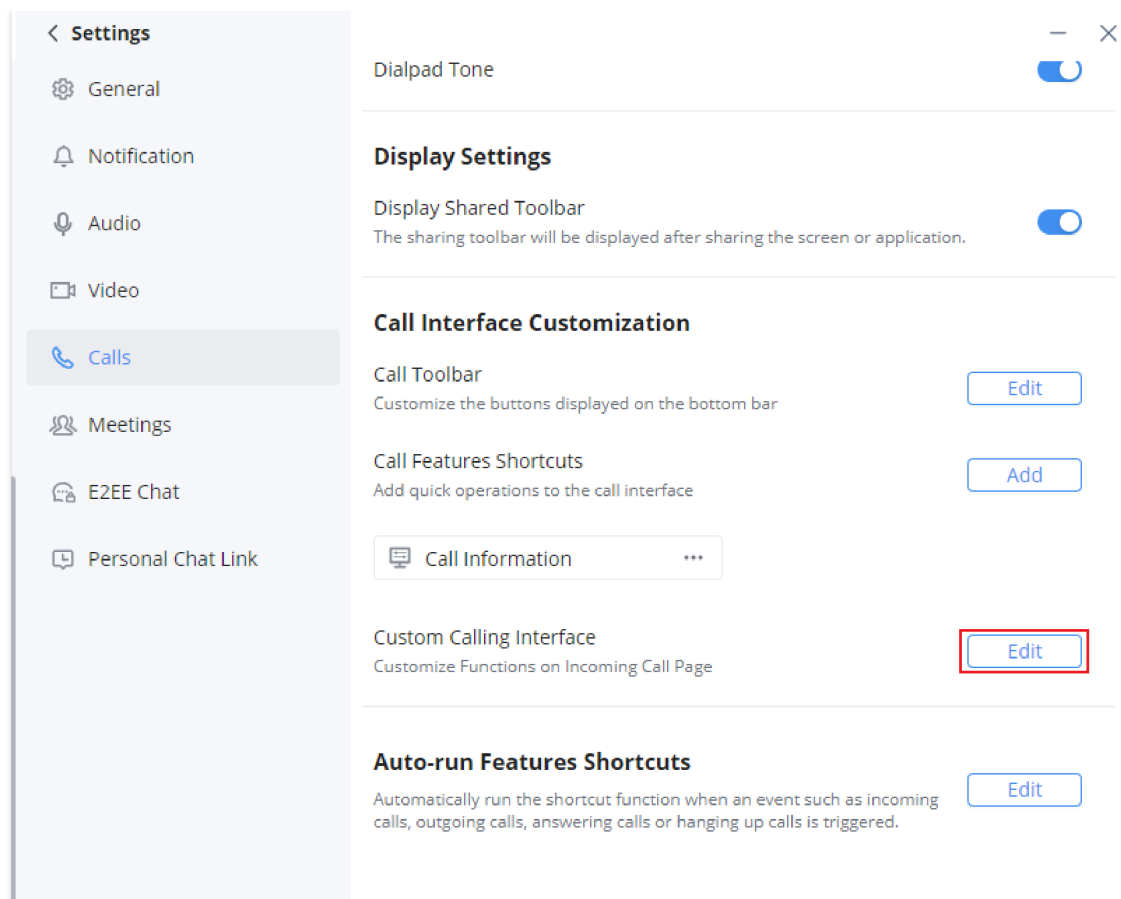


Using Shortcuts

Button Name	You need to fill in the display name of the button on the interface.
Type	• Dial Order: Dial command, i.e. enter the DTMF feature code such as #72 1001 (parking on the slot 1001). • System Instructions: Support basic Shell commands of the system, such as start cmd.exe, explorer “C:Program Files”. • Embedded Add-in Command: Currently, it only supports executing the installed Wave add-ins. If you have already installed Google Drive add-in, you can set up to run Google Drive.
Command	Enter the feature code or enter the system command, or select the add-in to run.

Click the button ... following the shortcut key on the Settings page to modify/delete the shortcut key.

◦ Custom Calling Interface

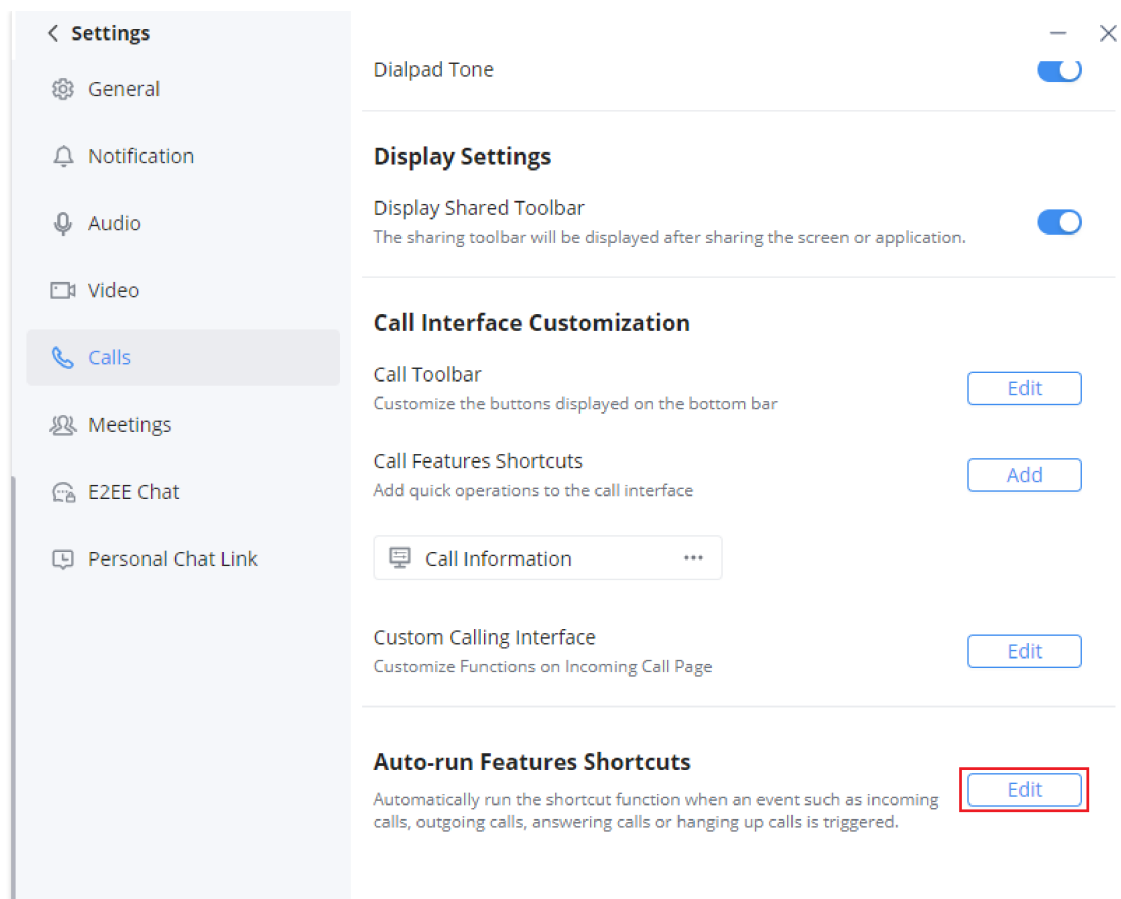


Call Settings

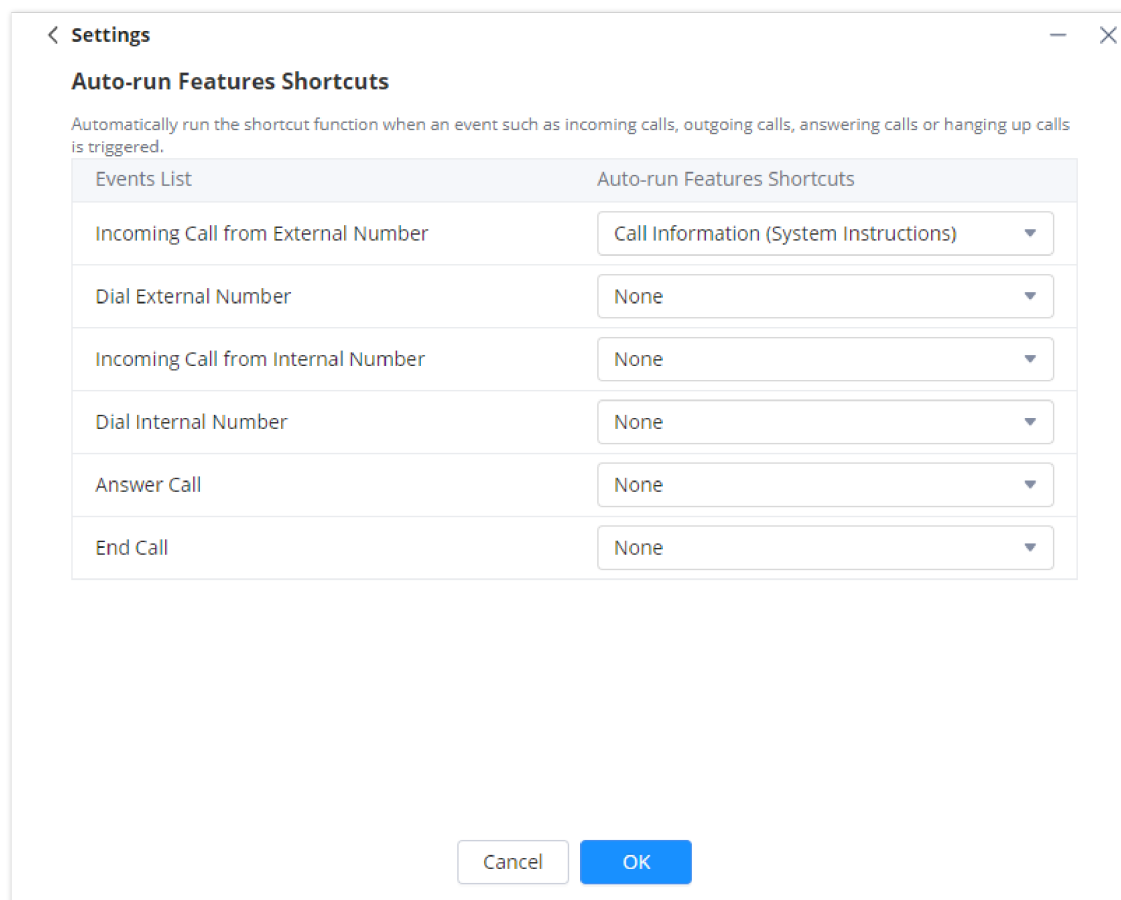
Auto-run Features Shortcuts

After creating a feature shortcut, you can configure to trigger the feature shortcut when a specific event occurs. To configure this feature, please follow the steps below.

1. Click your profile avatar, then click "Settings". Click on "Calls" category to open the settings related to calls, find "Custom Calling Interface" then click **Edit**.



Call Settings



Auto run Features Shortcuts

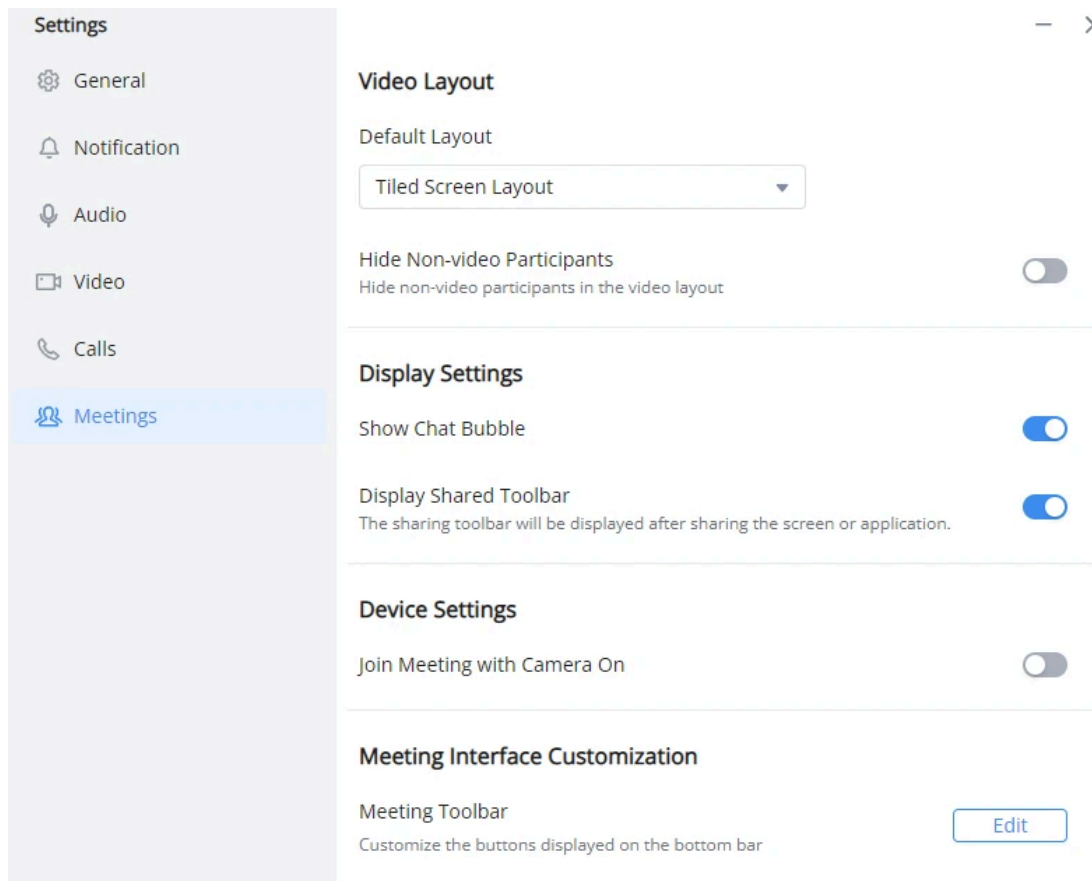
The type of events which can trigger the features shortcuts are the following:

- **Incoming Call from External Number:** When a call comes in from a contact in the company address book, including personal contacts.
- **Dial External Number:** When a call is made from a contact not in the company address book, including personal contacts.

- **Incoming Call from Internal Number:** When a call comes in from a contact in the company address book.
- **Dial Internal Number:** When a call is made from a contact in the company address book.
- **Answer Call:** When the call is connected, when the call is established for incoming or outgoing calls.
- **End Call:** When the call ends.

Meetings Settings

The **Meetings Settings** section provides comprehensive options to customize meeting user experience in Wave. Users can tailor video layouts, display preferences, interface elements, and shortcut keys to optimize meeting interactions.



Wave Meetings Settings

Video Layout

- **Default Layout**

Select the default layout in Meetings: “Tiled Screen Layout” (Default) or “Speaker Layout”.

- **Hide Non-video Participants**

Check to hide non-video participants in the meetings video layout. (Disabled by default)

Display Settings

- **Show Chat Bubble**

Check/uncheck to enable/disable displaying the chat bubbles during meetings. (Enabled by default)

- **Display Shared Toolbar**

Check/uncheck to enable/disable displaying the sharing toolbar. (Enabled by default)

The sharing toolbar will be displayed after sharing the screen or application.

Device Settings

◦ Join Meeting with Camera On

When enabled, your camera will automatically turn on as soon as you join a meeting, allowing participants to see your video without needing to activate it manually. (Disabled by default)

Meeting Interface Customization

◦ Meeting Toolbar

You can also customize the buttons to be displayed at the bottom toolbar of the meeting interface, and put common buttons at the bottom bar and display permanently. You can set up on **Settings -> Meetings**, and select the preferred buttons to be displayed.

Press "Edit" to customize the meeting toolbar.

< Back

X

Display on Meeting Toolbar

☒ Microphone

☒ Webcam

☒ Chats

☒ Participants

☒ Raise Hand

☒ Share

☐ Layout

☐ Resolution

☐ Keypad

☐ Record Meeting

☐ Poll

☐ Survey



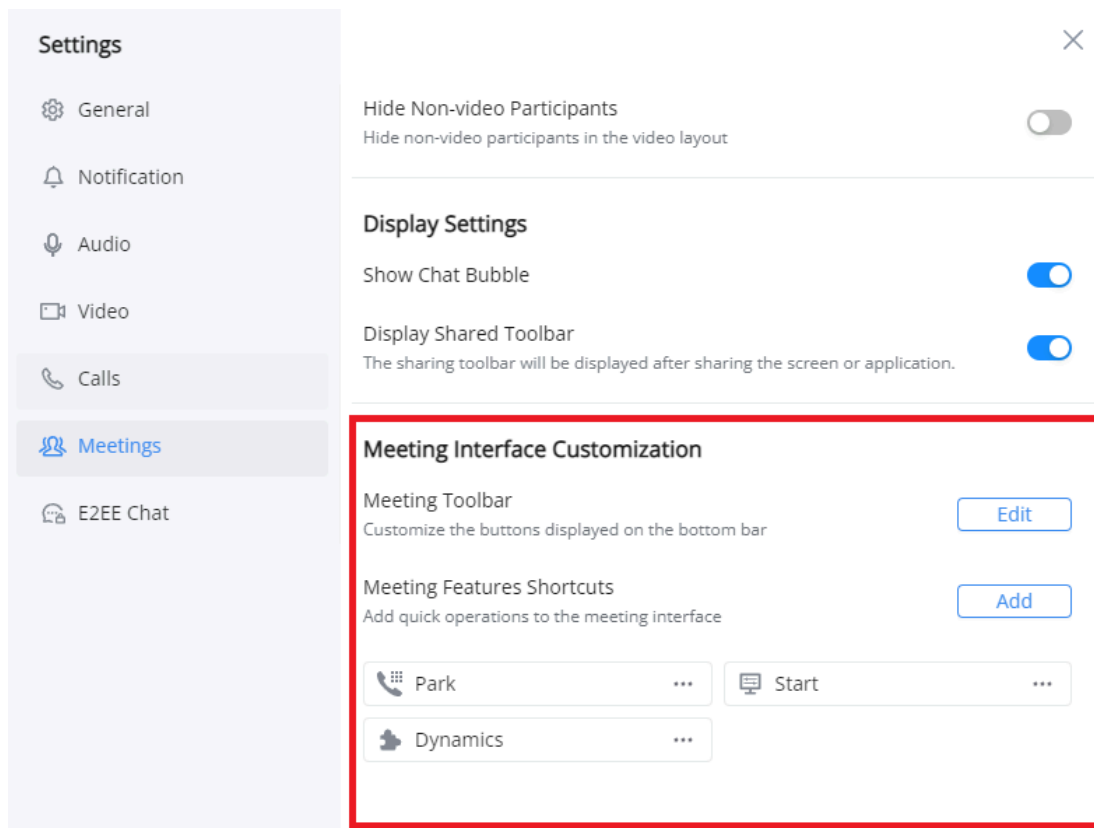
Cancel

OK

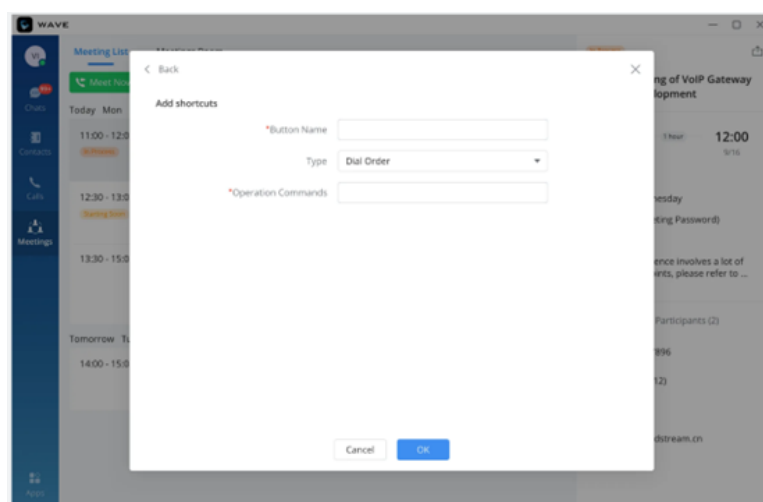
Meeting Toolbar Customization

◦ Meeting Feature Shortcuts

You can set shortcut keys such as DTMF and add-in commands, which are commonly used on the meeting interface. After the shortcut keys are set, you can perform operations during a meeting with one-click. Users can configure this feature in **Settings -> Meetings**.

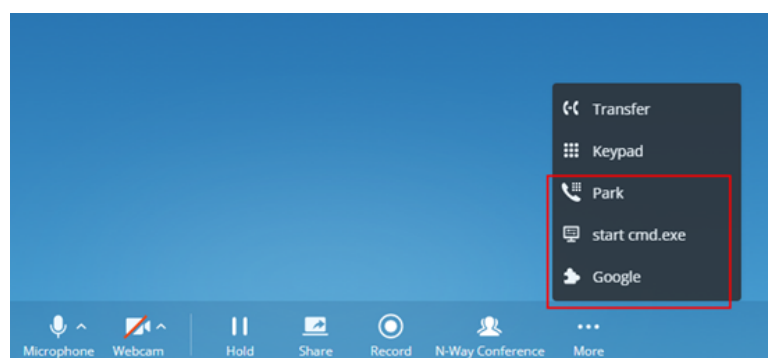


Meeting Features Shortcuts



Add Shortcuts

After setting the shortcut key, you can click the "More" option on the Call/Meeting interface to view the key.



Using Shortcuts

Button Name	You need to fill in the display name of the button on the interface.
-------------	--

Type	• Dial Order: Dial command, i.e. enter the DTMF feature code such as #72 1001 (parking on the slot 1001). • System Instructions: Support basic Shell commands of the system, such as start cmd.exe, explorer "C:Program Files". • Embedded Add-in Command: Currently, it only supports executing the installed Wave add-ins. If you have already installed Google Drive add-in, you can set up to run Google Drive.
Command	Enter the feature code or enter the system command, or select the add-in to run.

Click the button

following the shortcut key on the Settings page to modify/delete the shortcut key.

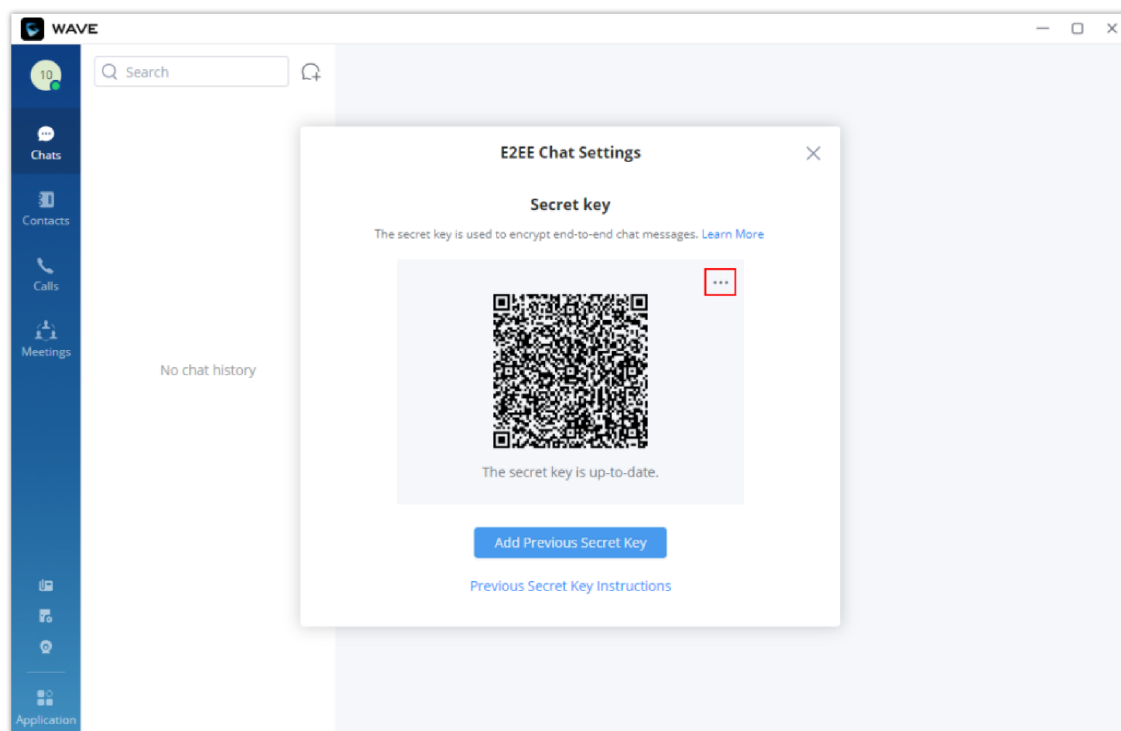
E2EE Chat Settings

Sync Secret Key

If the user wants to use another device to log in and the local secret key is not up to date, the user needs to sync the secret key before using the E2EE chat feature. The user can synchronize the secret key by exporting it then importing it in the other device. Please follow the sections **Export a secret key** and **Import a secret key** below.

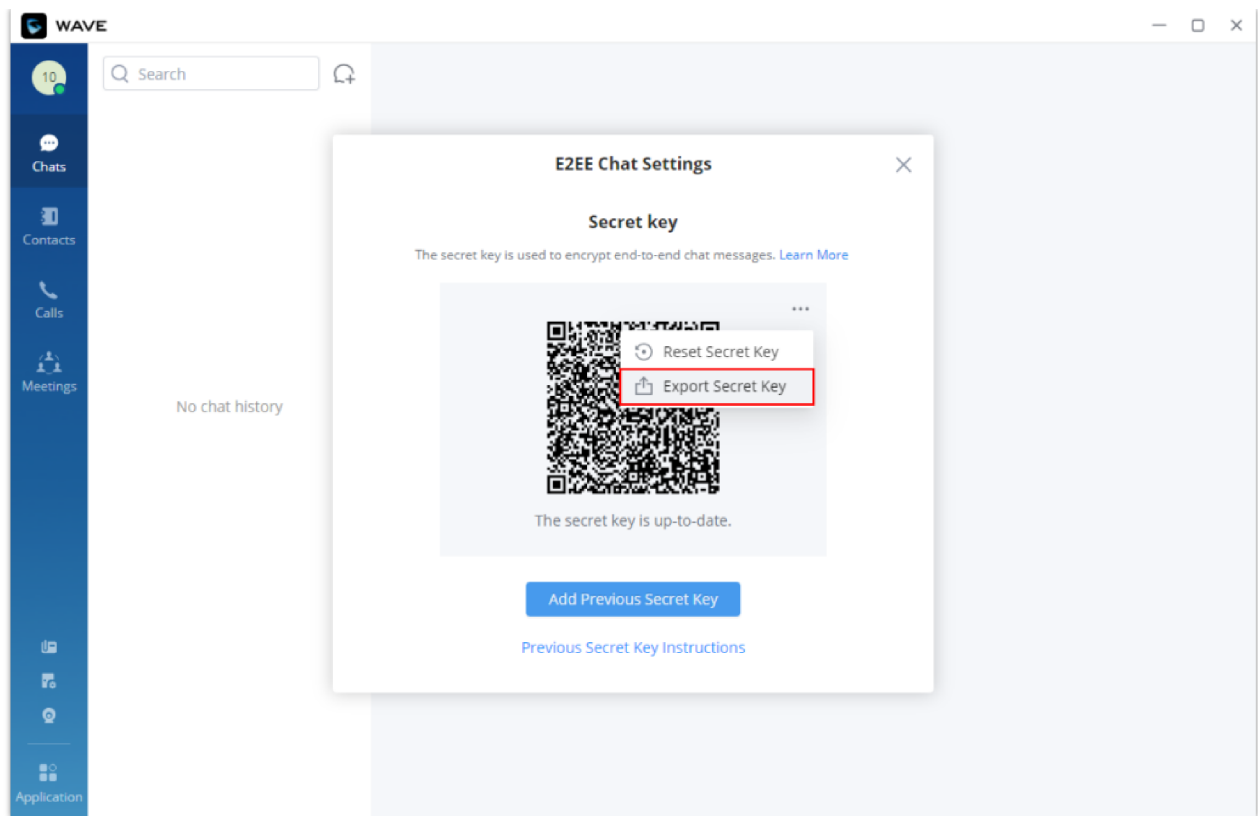
Export Secret Key

Wave allows exporting the privacy key from one device to another, to do that, please click on your profile picture on Wave Desktop interface to open Wave Settings menu, then click on **E2EE Chat Settings**. The following window will appear:



E2EE Chat Settings Secret Key

Select the **Export Secret Key**.

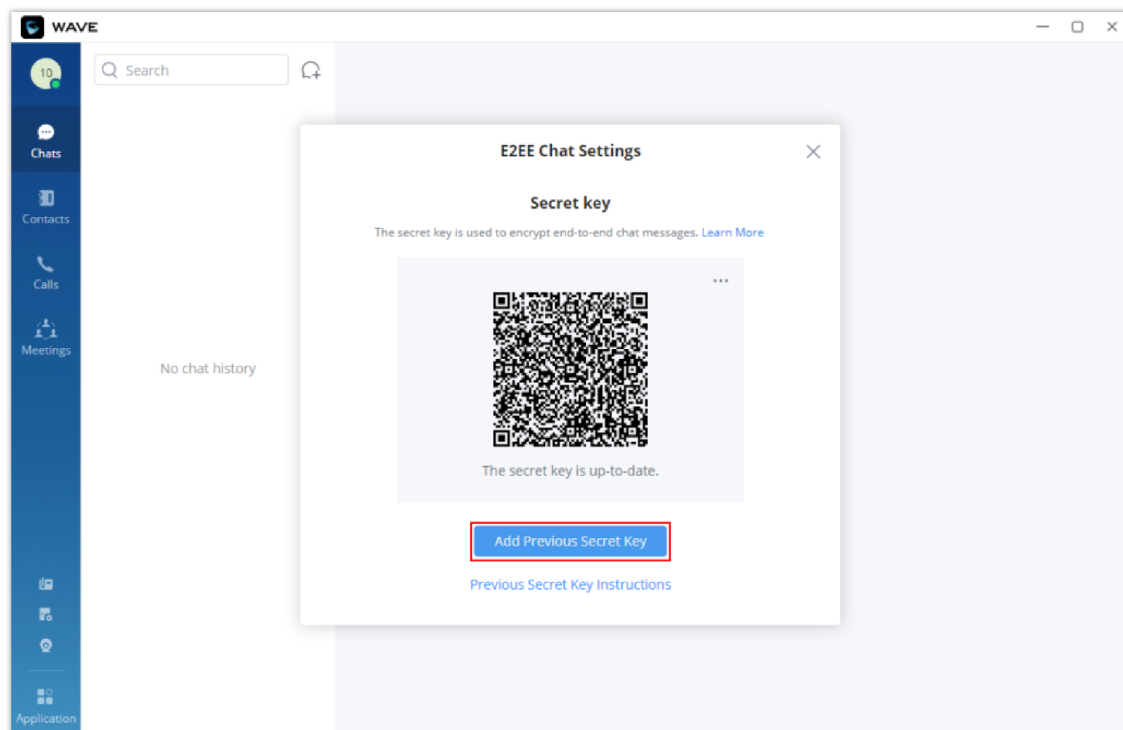


Export Secret Key

Then select the directory where you want to save the key file, then click **Save**.

Add Previous Secret Key

To import a secret key, click on **Add Previous Secret Key** as the screenshot below shows

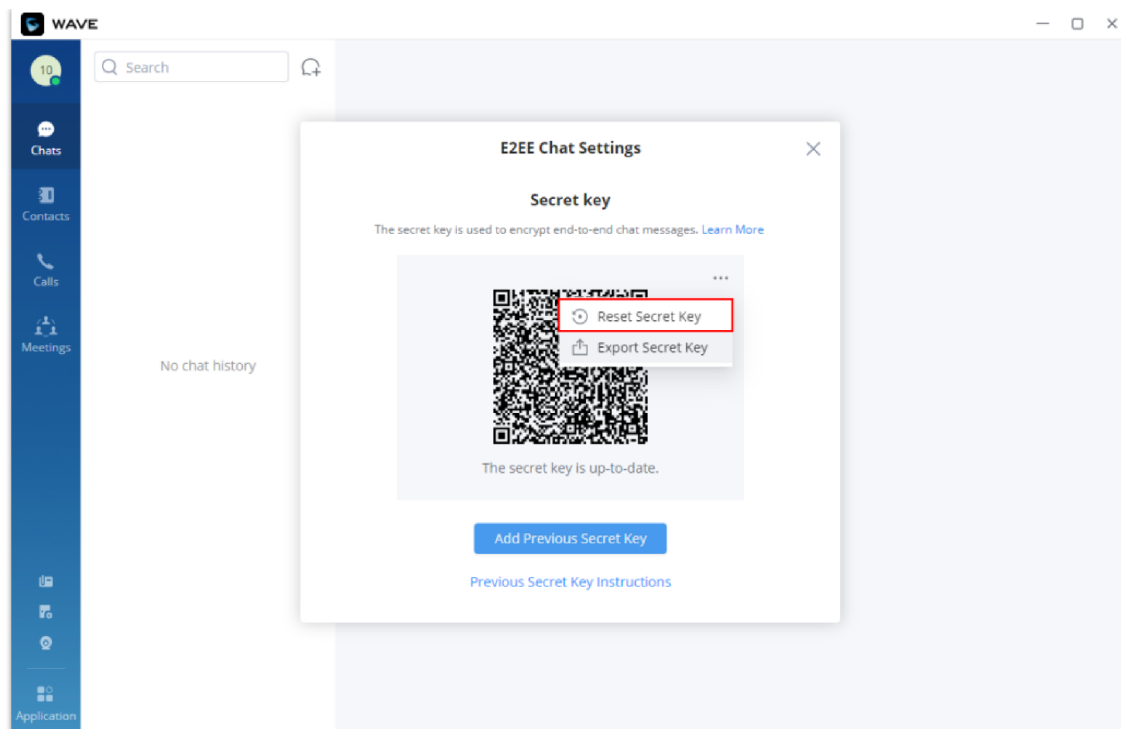


Add Previous Secret Key

Select the secret key from the location where it is stored, then click on **Open**, and the key will be imported to Wave Desktop.

Reset Secret Key

To reset Wave end to end encryption to the initial key, open E2EE Chat Settings, click on the three dots on the top right side of the key window and then select **Reset Secret Key**.



Reset the Secret Key

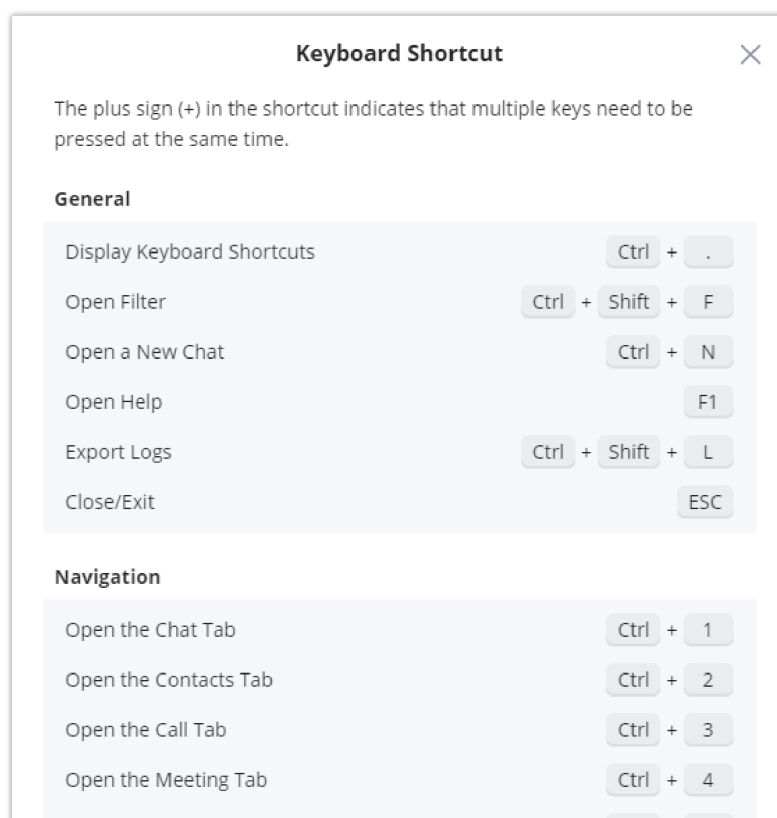
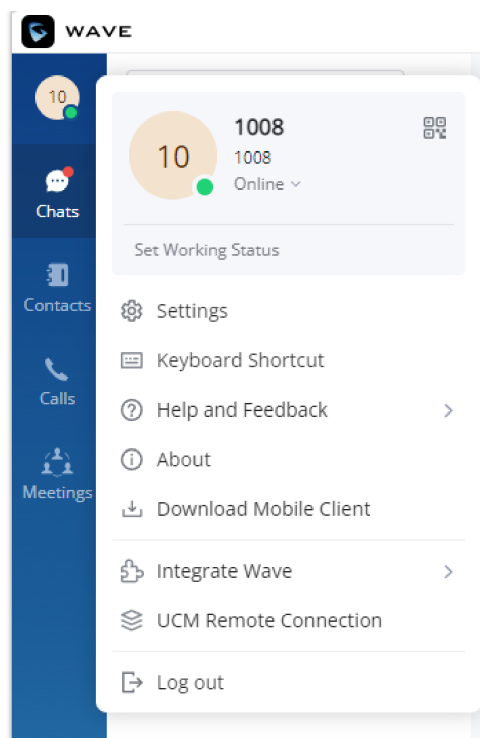
Keyboard Shortcuts

Wave desktop supports performing many actions quickly by using keyboard shortcuts. These are the keyboard shortcuts and the actions that they correspond to.

General	
Display Keyboard Shortcuts	Ctrl + .
Open Filter	Ctrl + Shift+ F
Open a New Chat	Ctrl + N
Open Help	F1
Export Logs	Ctrl + Shift + L
Close/Exit	ESC
Navigation	
Open the Chat Tab	Ctrl + 1
Open the Contacts Tab	Ctrl + 2
Open the Call Tab	Ctrl + 3
Open the Meeting Tab	Ctrl + 4
Open the Application Tab	Ctrl + 5
Message	

Search Current Chat	Ctrl +F
Enter Compose Box	Alt + Shift + 2
Attach File	Ctrl + O
Edit Last Sent Message	Ctrl + Arrow up key
Send Message	Available options: • Enter (Shift + Enter to start another line) • Shift + Enter (Enter to start another line)
Calls and Meetings	
Toggle Mute	Ctrl + Shift + M
Temporarily Unmute	Long press the button Space
Display Shared Toolbar	Ctrl + Shift + Space
Invite Participants	Ctrl + Shift + P
Open Meeting Chat	Ctrl + Shift + S
Raise/Lower Hand	Ctrl + Shift + K
End Call/Leave Meeting	Ctrl + Shift + Q
Speed Dial	Select the number or email on the desktop or application and press the shortcut to dial to the selected number or email. Ctrl + Shift + E
Answer	Ctrl + Shift + H

To open the list of keyboard shortcuts, please click on your profile picture, and choose “Keyboard Shortcut” from the list.



Keyboard Shortcuts

Help and Feedback

Users can go to the settings menu and click “**Help and Feedback**” to display the, What’s New, help, feedback, and exporting logs menu.

What’s New

A popup window will display the new features introduced in the current version.



Live Chat

Live Chat feature allows your customers to send messages or call you with one-click. You can create a Live Chat in your UCM and integrate links into your websites or applications to reach your customers at anytime and anywhere. [Learn More](#)

[View All](#)

[Next](#)

User Guide

If the user has any questions while using Wave application, the user can click "**User Guide**" option to go to the official website of Grandstream and view the user guide of Wave application.

Feedback

If the user encounters any problems with Wave application, or the user wants to share any suggestions about Wave application, the user can click "**Feedback**" option to connect to the Grandstream Feedback System. It allows users to share feedback and we can collect questions/suggestions from users, so that we can provide better using experiences for users.

Feedback

✕

* Please enter your feedback

You can directly paste screenshots and web pictures here as attachments

+

(File type: zip, tar, rar, xls, xlsx, txt, docx, doc, jpeg, jpg, png, pdf, mp4, avi, wav, csv, gz)

☐ Upload the system log at the same time, so as to better locate the problem

Feedback Category

Select

* Please enter your email address so that we can contact you in time.

test@gmail.com

✕

Cancel

Submit

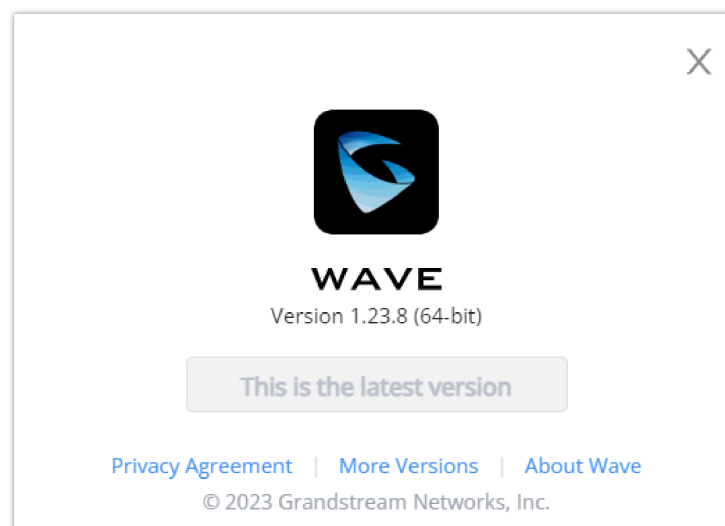
Feedback Interface

Export Logs

Users can go to the settings interface and click "Export Logs" option to export the application logs. If the user encounters any issues about the Wave application, the user can export the logs and save them in the PC. The exported logs can help users to troubleshoot the issues so that we can offer users better using experiences.

About

- Users can go to the settings interface and click "**About**" to get more details about the Wave application.
- Display the current version of the Wave application.
- If there is an updated application version, the user can click "**Update Version**" to upgrade the application.
- The user can click on "**Privacy Terms**" to view the privacy terms of Wave application.
- The user can click on "**Help**" to direct to Grandstream Official website to view the Wave application user manual.



About

Download Mobile Client

Users can download Wave application from Grandstream Official website. When the application has been downloaded to the local PC, the user can follow the instructions to install the application.

<https://fw.gdms.cloud/wave/download/>

Intergrate Wave

Users can learn about the available Add-in API and SDK for further development to integrate Wave with other platforms. When clicked, the user will be redirected to the corresponding instruction guide.

- Add-in Development Instructions
- SDK Development Instructions

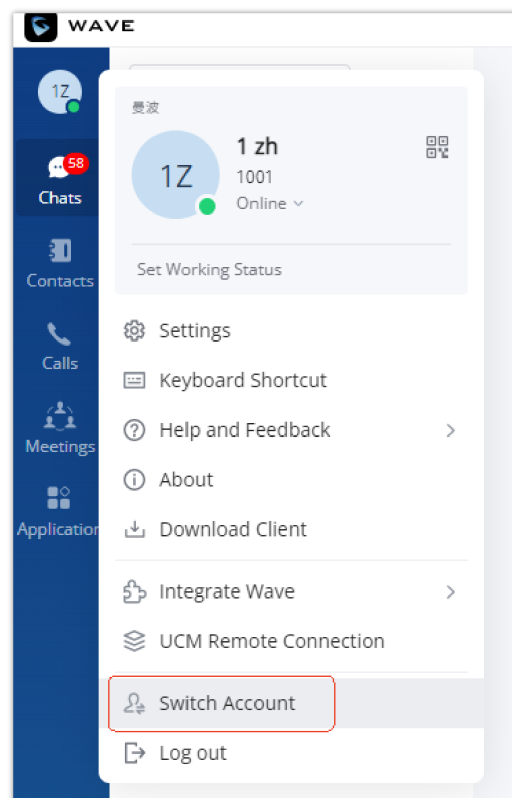
UCM Remote Connection

Users can learn more about UCM RemoteConnect services by accessing this menu.

The users will be redirected to UCMRC website: <https://ucmrc.gdms.cloud/home>

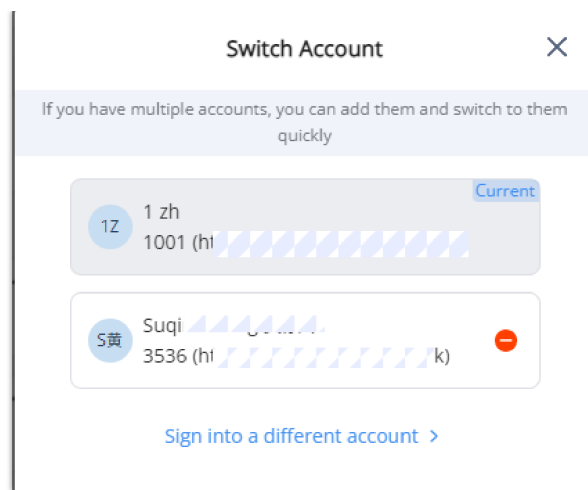
Switch Account

Users can switch between different accounts configured on the WAVE application. When clicking on *Switch Account*, a list of already added accounts will be displayed.



Switch Account

The user can then either select the account they want to connect with or create a new user account by entering the server address and WAVE extension credentials.

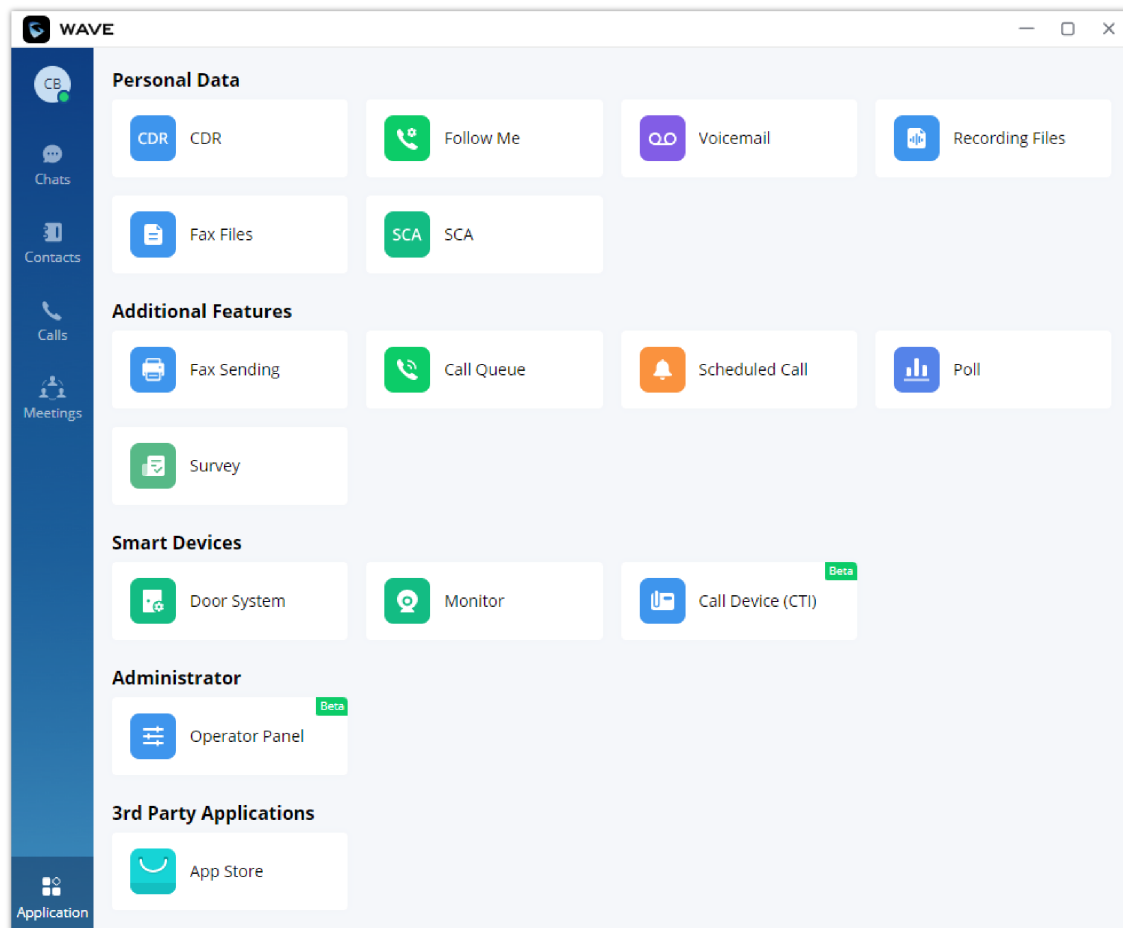


Log out

Users can click "**Log out**" to jump to the login interface and log in again.

APPLICATIONS

More applications interface screenshot is shown as below:



Application

Users can click "More" button on the left menu on the main application UI to view more applications. It includes personal services, value-added services, and smart devices. Users can also set door system and monitors according to the requirements.

AI Feature Integration

The Wave Desktop application includes AI-powered capabilities designed to enhance user experience and productivity. Depending on the deployment and enabled services, these features can assist with smart suggestions, content generation, automated responses, or intelligent search enhancements.

The AI service on Wave desktop will provide additional value to enterprises with the following functionalities:

- Call/Meeting transcription & summary
- Voicemail transcription
- Voice prompt generation via TTS (text-to-speech)

The new AI services will require the RemoteConnect AI add-ons to use. Users can find the application entry in the Web UI of UCM and the GDMS account to apply for the GS AI service.

Please refer to the RemoteConnect pricing page under <https://cloud.grandstream.com/plans> for details.

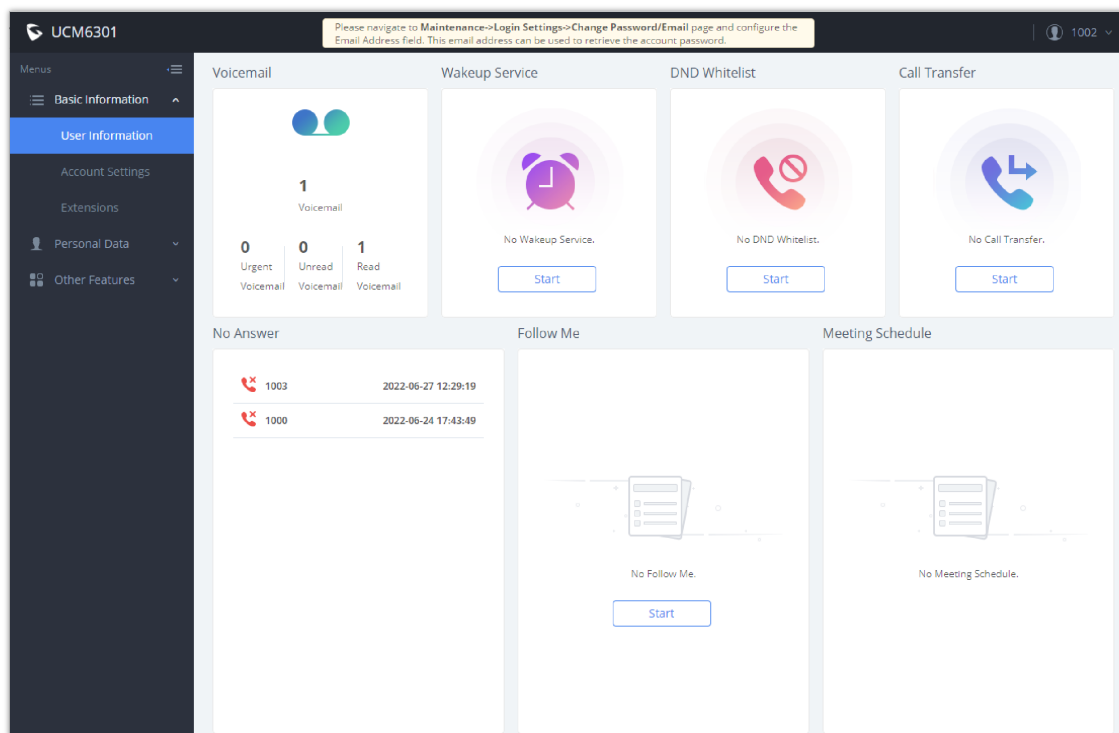
For more information on AI implementations and features used with the Grandstream IPPBX, please refer to the below guide:

- [PBX GS AI Features Guide](#)

Services

The services include personal services and value-added services.

The Wave application integrates UCM's User Portal functionality. Users can directly enter the User Portal interface through the services entry. Please see the screenshot below:



User Portal Interface

Users can set the following personal services and value-added services:

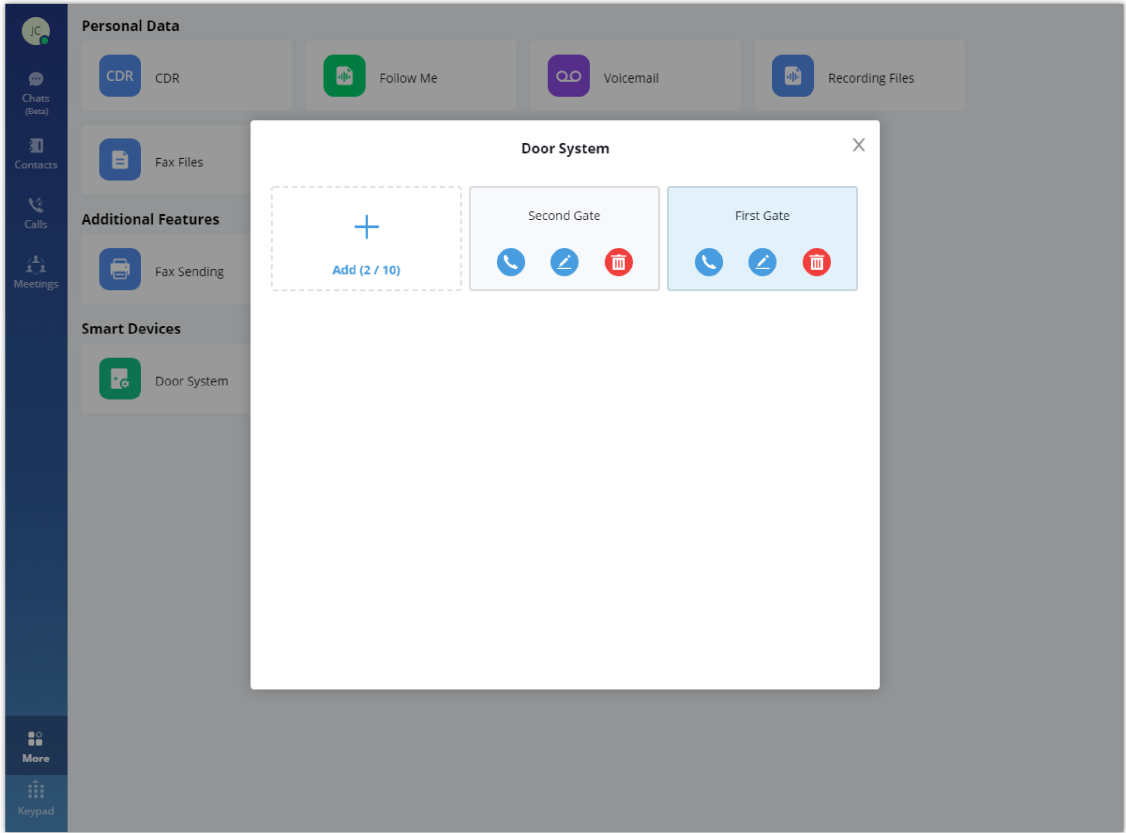
- CDR
- Follow me
- Voicemail
- Recording Files
- Fax Files
- SCA
- Fax Sending
- Call Queue
- Wakeup Service

For more information about the services, please refer to the UCM User Portal Guide in Grandstream official website.

Smart Devices

Door System

Please follow the instructions below to set up the door system:



Door System Interface

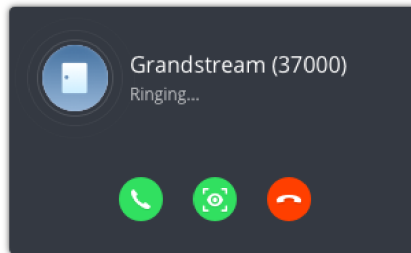
Users can click "Add" button to set up the relevant parameters for door system. Please see the screenshot below:

A screenshot of the 'Add Door System' form. It has a title bar 'Add Door System'. Below it are two required fields: '* Name:' with a text input 'Please enter the door system name' and '* Number:' with a text input 'Please enter'. There are two sections for door locks. The first is 'Door Lock 1' with 'Display Name:' (input: 'Please enter') and 'Password:' (input: '0-8 characters'). The second is 'Door Lock 2' with 'Display Name:' (input: 'Please enter') and 'Password:' (input: '0-8 characters'). At the bottom are 'Cancel' and 'OK' buttons. On the left, a partial view of the 'Add (0 / 1)' button from the previous screenshot is visible.

o **Notes**

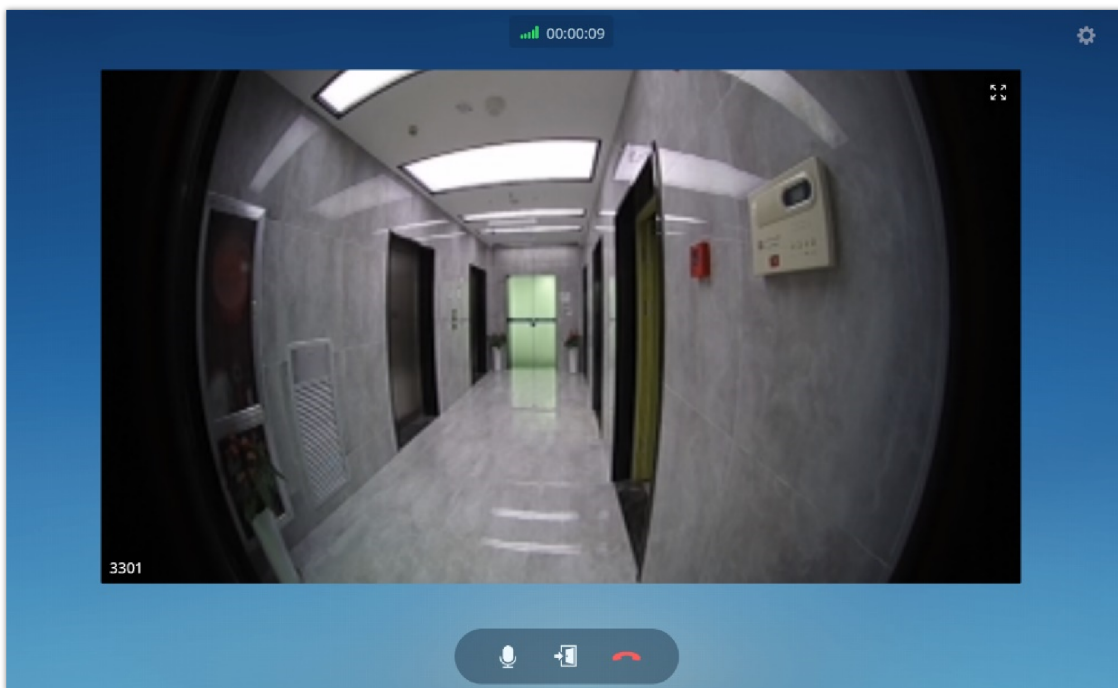
- o Users need to set the correct password to open the door for door system.
- o The user needs to go to GDS Web UI -> Door System Settings -> Basic Settings -> enables DTMF option so that the user can see the "Open Door" option once the user receives an incoming call from the GDS device in the Wave application.

When the door system is set up, the user can receive an incoming call from the door system once someone rings the doorbell. Please see the screenshot below:



Ringing by Door System

The user can click  button to answer the call, and initiate the video call, as the screenshot shows below:



Video from Door System

Users can click  button to open the door.

Note

This function is only supported by Grandstream GDS Door System products and certain third-party door systems.

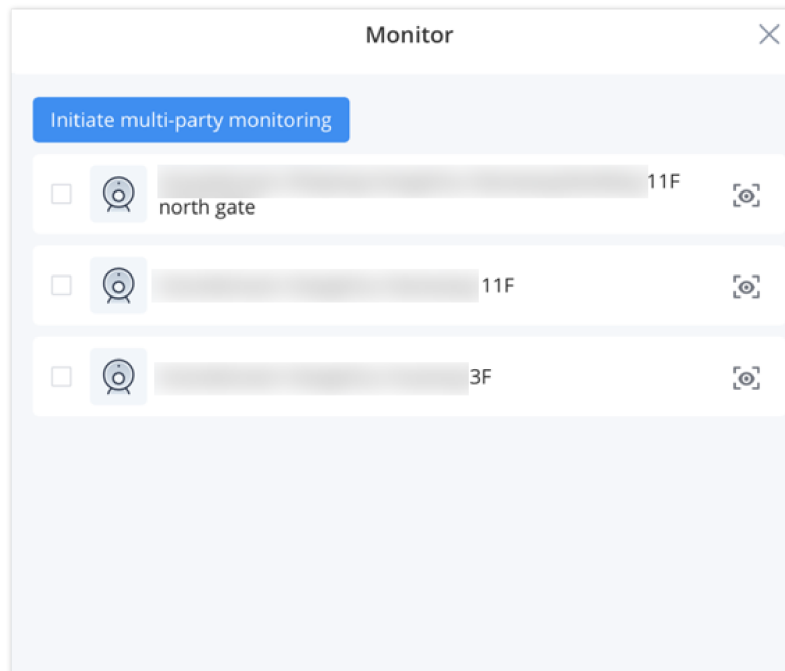
Monitor

This feature allows the user to use the monitoring devices which have been added to the UCM. These devices and permissions are handled by the UCM. To know how to configure these devices on the UCM side, please refer to this guide below.

Note

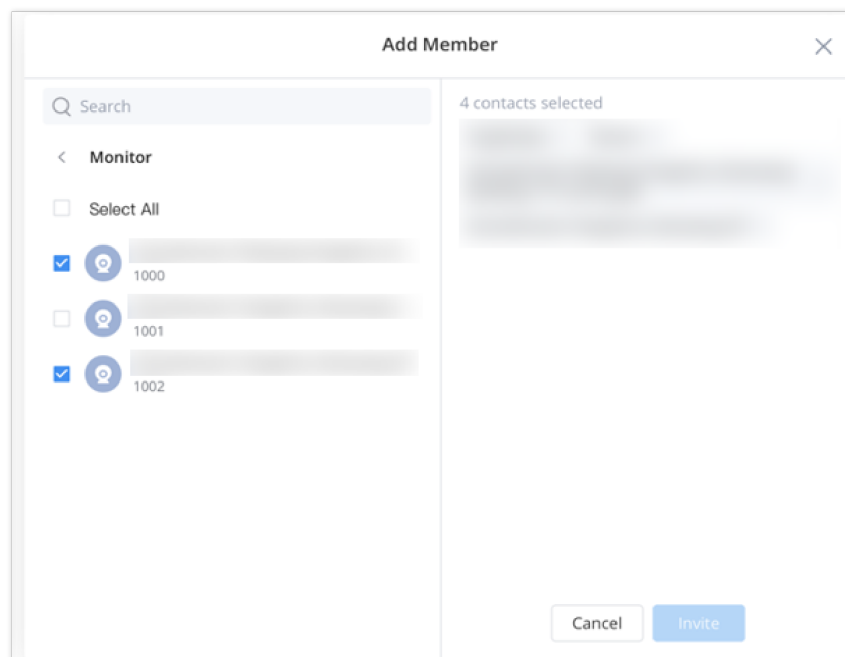
These devices are considered like any other extensions, they can be called through Wave or any other Grandstream phone. They can as well be invited to meetings as participants.

When multiple cameras are configured on the UCM and the user is allowed to access all the cameras. The user can initiate multi-party button using one button.

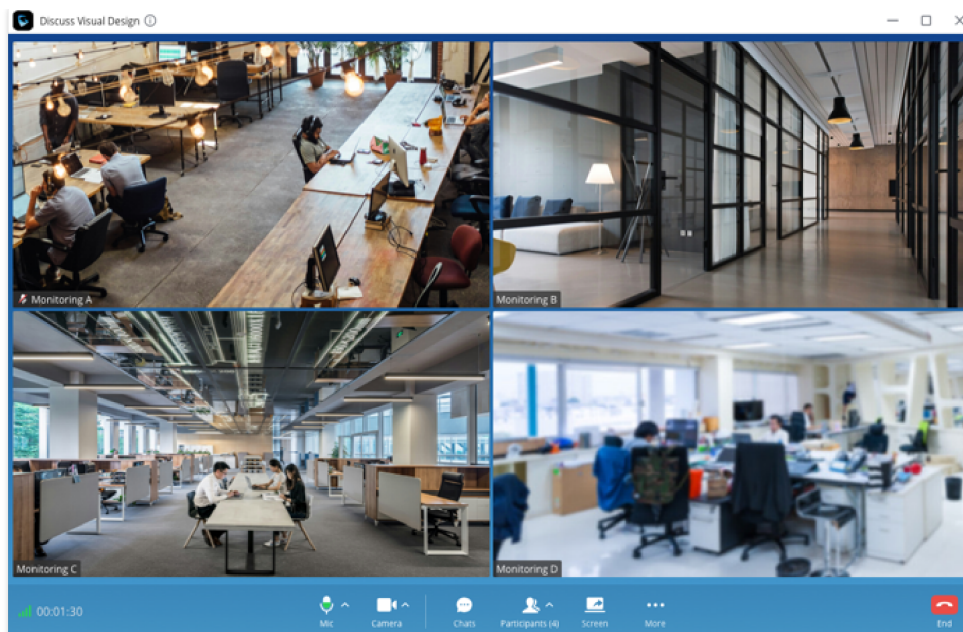


Monitor

The user can select the IP camera feeds and can select an extension to invite once the call has been initiated.



Add Member



Monitoring

CTI Mode

CTI mode allows the user to manage calls received on the desk phone through the Wave Desktop client. For example, if you receive a call on your desk phone, you can choose to answer it or reject it through the Wave Desktop.

When the user enables the CTI function, the DND status in the Wave account and the desk phone will be synchronized. If the user sets DND in the Wave Desktop application, the same account in the Desk phone will be set as DND; If the Desk phone disables DND status, the same account in the Wave application will disable the DND function at the same time.

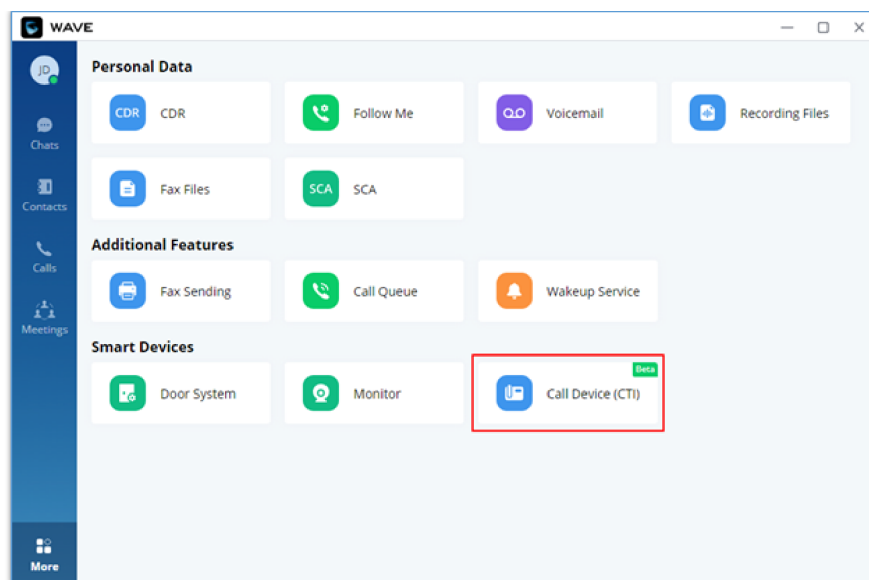
For the point-to-point call, if the user has enabled the CTI function, the user can dial/end the call, or answer/reject the call through the Wave application for the Desk phone.

If the user joins the meeting through the Wave Desktop client, the account in the Desk phone will also join the meeting simultaneously. During the meeting, if the user mutes/unmutes the microphone through the Wave Desktop application, or end/leave the meeting, the account in Desk phone will also mute/unmute, or end/leave the meeting simultaneously.

Notes

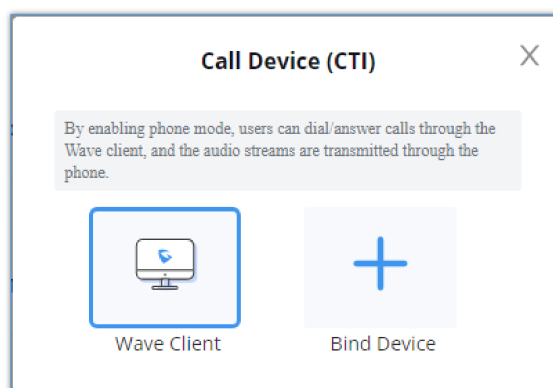
- Please make sure that the CTI/Affinity function is enabled on the desk phone to be able to bind it.
- Both the desk phone and the Wave Desktop client should have the same account configured and logged on respectively.

First you need to go to "More" tab on your Wave Desktop client, then select CTI Mode.



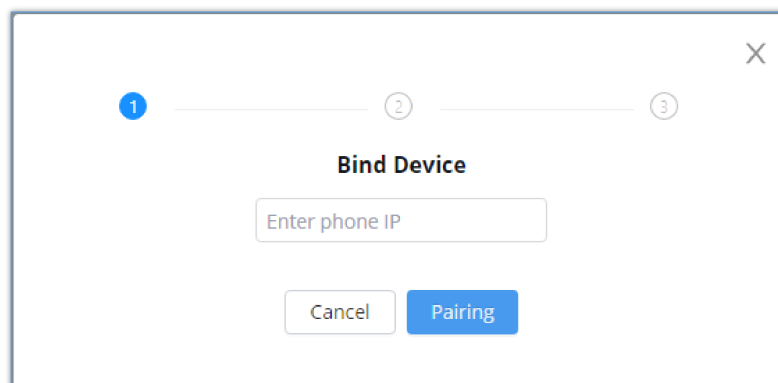
CTI Mode

Then click on "Bind Device".



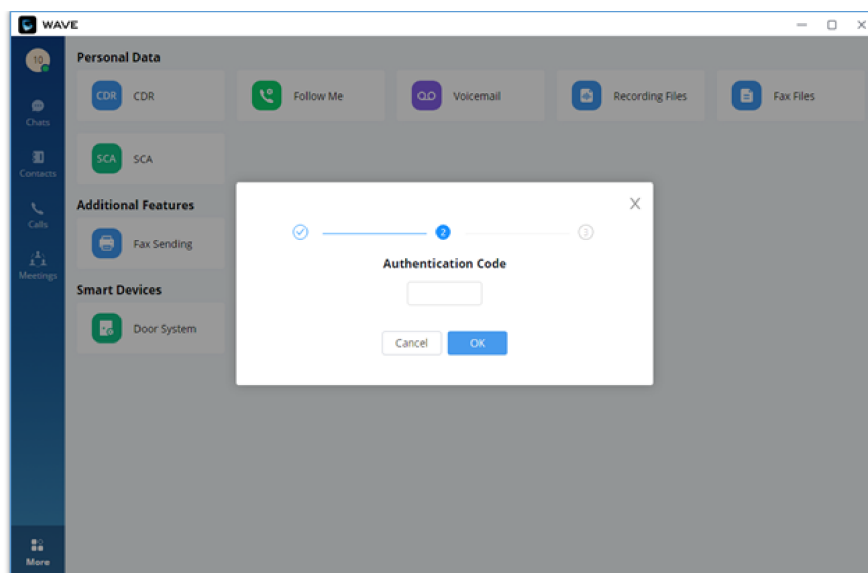
Bind Device

Enter your desk phone IP address.



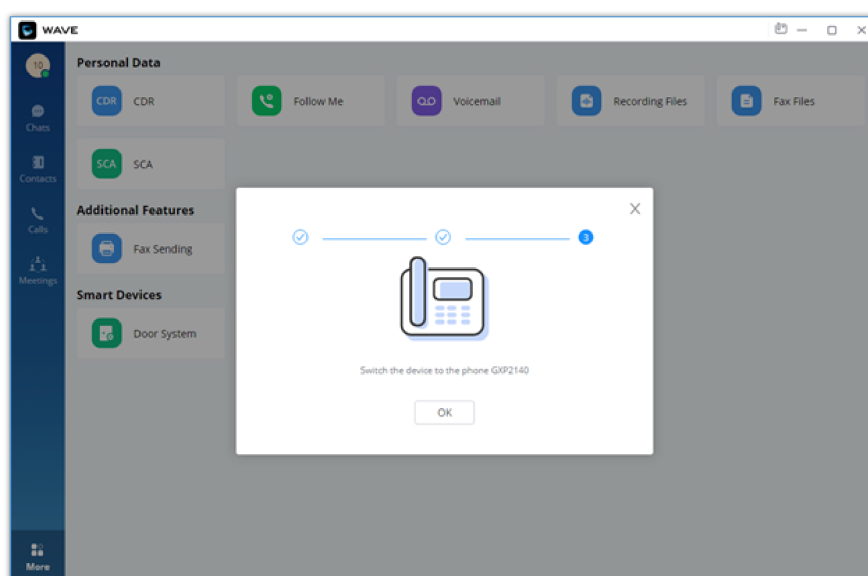
Enter the IP Address

Then enter the authentication code that is displayed on your desk phone's screen



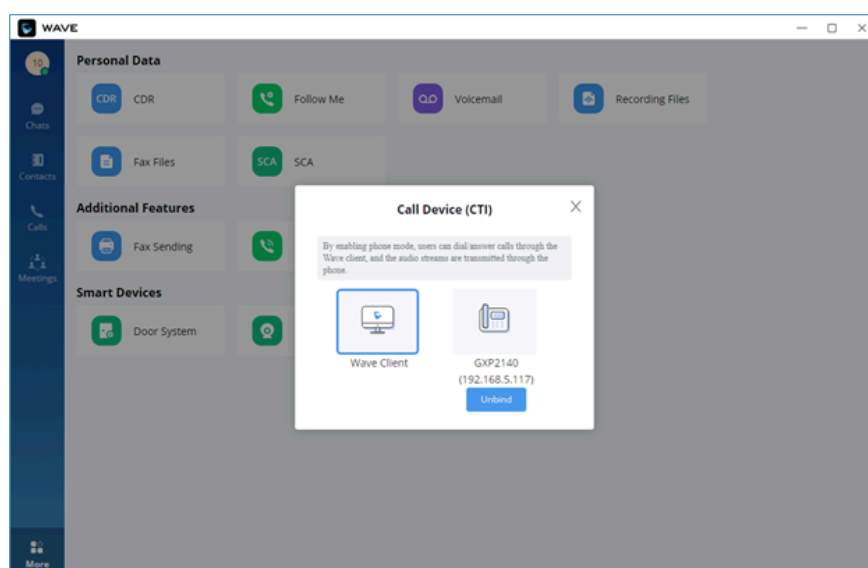
Enter the Authentication Code

Once that's done, this prompt will appear informing you that the binding has been established successfully



Binding Successful

You can choose which device to receive the call on. To do that, go to the top right-hand corner of the screen and click on the call device icon , then pick which device you want to receive the calls on.



Select a Device

Note

CTI Mode is supported on several Grandstream desk phones, while other models are not. Please refer to the list below to see which models are supported on which firmware versions.

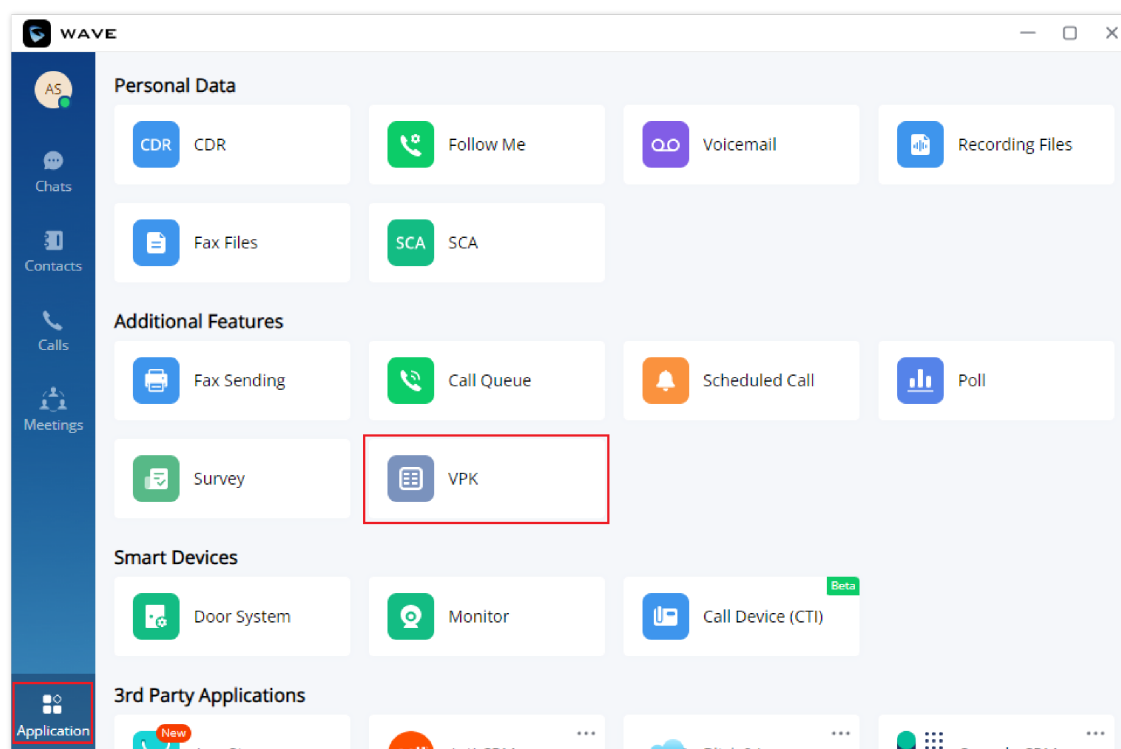
- **GRP260X, GRP261X (starting GRP2614 and higher models), GRP262X, GRP263X, GRP265X, GRP267X Series** – The required firmware version is 1.0.1.X and later.
- **GXP21XX series** (GXP2130, GXP2135, GXP2140, GXP2160, GXP2170) – The required firmware version is 1.0.9.X or later.
- **GXV34XX series** (GXV3450, GXV3470, and GXV3480 with firmware version 1.0.1.33 or later).

VPK

Wave Desktop offers Virtual Programmable Keys to set virtual keys which offer shortcut for certain functionalities. The user can set a Speed Dial, Busy Lamp Field (BLF), Eventlist BLF, Call Park, Feature Codes, and Intercom.

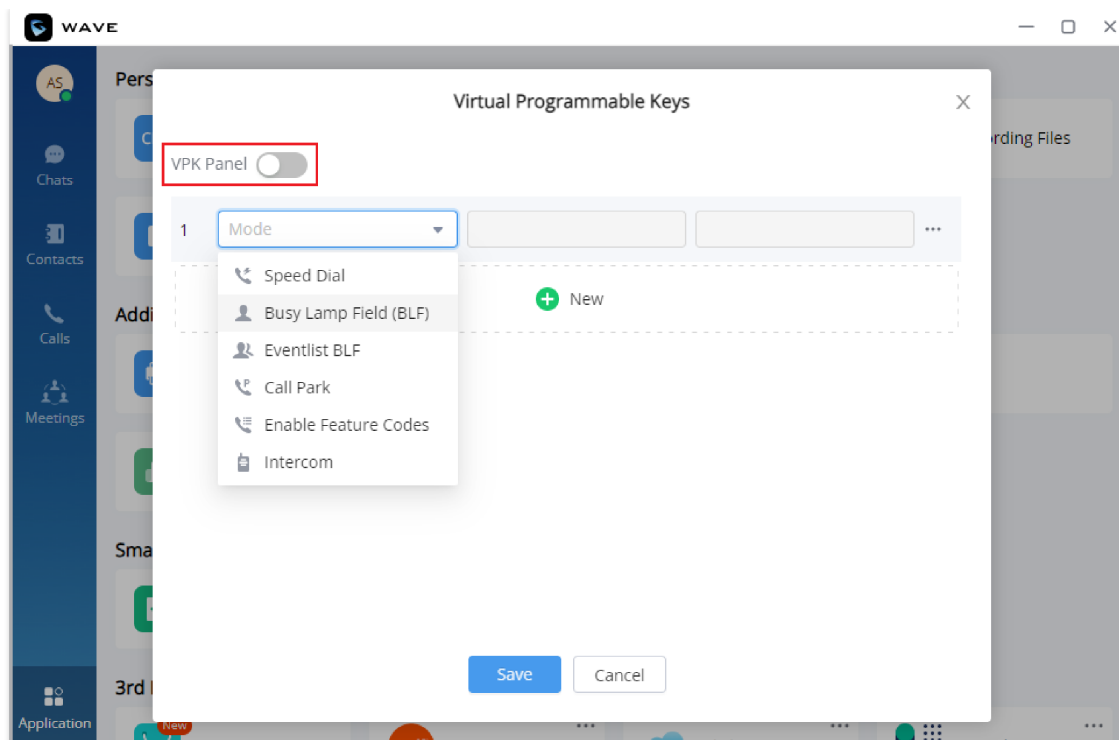
To set this feature, please follow the steps below.

1. On Wave Desktop, click on the “Application” tab on the left sidebar, then click on VPK.



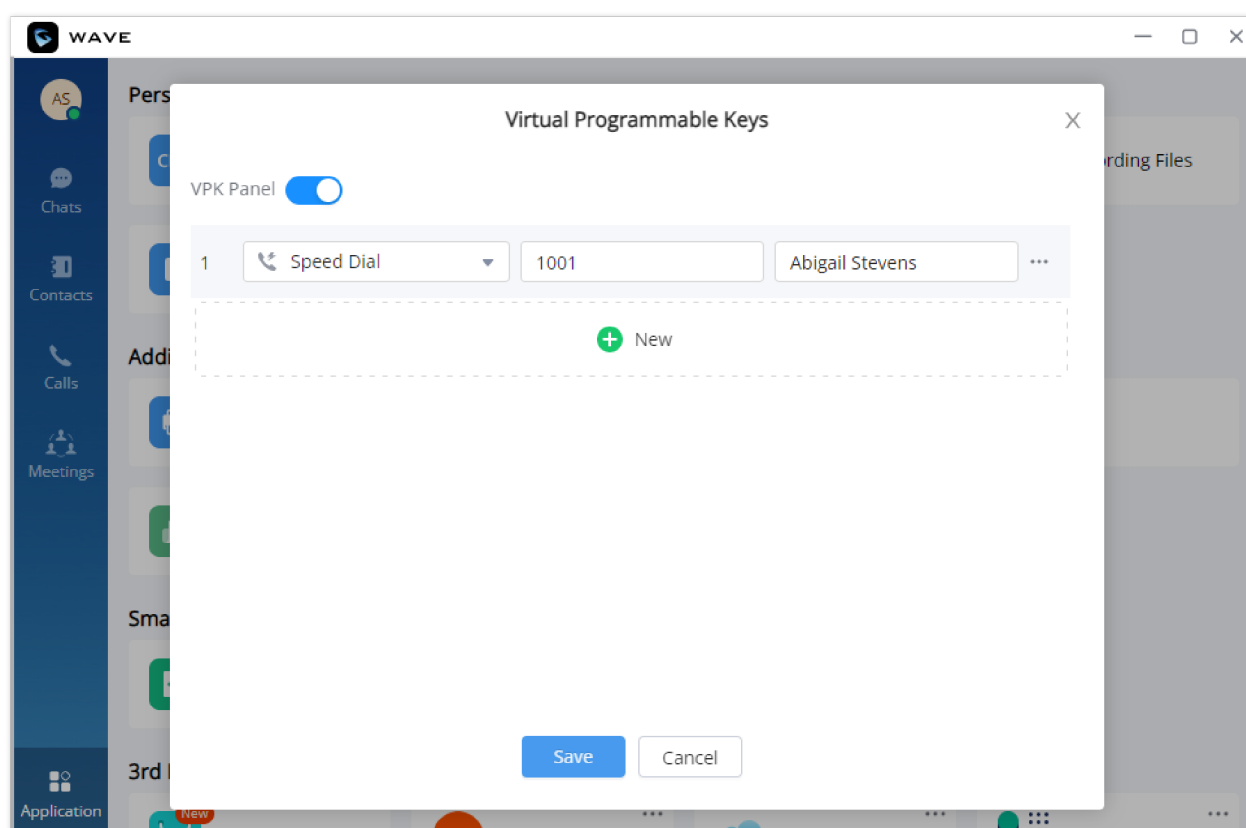
Wave Applications

2. On the VPK window, please enable the feature by toggling on the slider highlighted in the screenshot below.



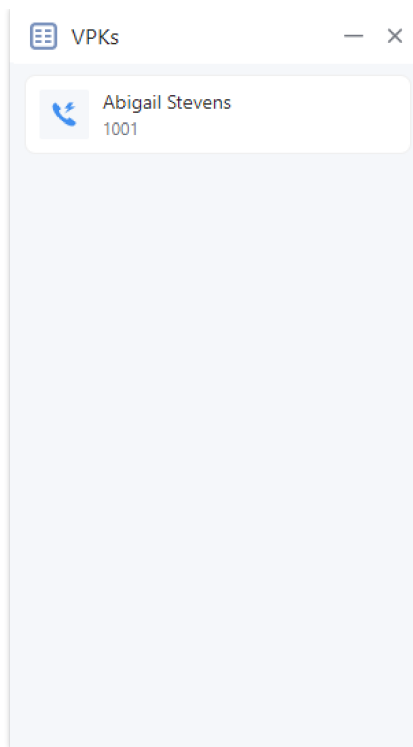
Virtual Programmable Keys

3. Select a VPK and configure it accordingly. Then click "Save".



Virtual Programmable Keys Configuration

4. Once configured, a window of the list of all VPKs will be open, and the user can use this window to quickly click on the VPKs.



Virtual Programmable Keys List

The following table outlines the different Virtual Programmable Keys that can be configured and their different states.

VPK Mode	Description	Icon	State
Speed Dial	Speed Dial mode allows to set a key for one touch dialing; configured number will be dialed once VPK is pressed.		No state changes
Busy Lamp Field (BLF)	Busy Lamp Field (BLF) mode allows to monitor status (available, ringing, busy) of an extension.		Online
			Icon flashing, ringing
			Busy
			Offline
Call Park	This feature allows to park/pick up the call, and can be also used to monitor parking lots via VPK button's LED. ● If the Value field is set with a parking lot (e.g. 701, 702, ...), the VPK will be used to monitor call parking; the phone will send a SUBSCRIBE to monitor the configured parking lot and park/retrieve calls. ● If the Value field is set with a parking lot (e.g. 700, 600, ...), the VPK will not monitor call parking; and can only park calls, not retrieve them. Note: Please go to UCM first to enable the configuration "Use Parking Slot as Extension".		Available
			Icon flashing, Busy
			Offline
			Not monitored status
Intercom	Allows to set a VPK as intercom button to a specific destination with auto-answer instruction.		No state changes

Eventlist BLF	Eventlist BLF allows to monitor a list of extension similar to BLF, administrator needs to configure Eventlist BLF on UCM server side and provide Eventlist BLF URI on the Wave.		Online
			Icon flashing, ringing
			Busy
			Offline
Enable Feature Codes	Allows you to select a Feature Code. The administrator needs to enable the corresponding Feature Codes on the UCM server.		No state changes

Operator Panel

The Operator Panel in the Wave application is used as a call management platform, including the Extension module, Call module, Ring Group module, Call Queue module, Parking Lot module, and Voicemail Group module, as the screenshot shows below:

In the Operator Panel, the administrator who has permission can manage calls from this module. The administrator needs to get permission from UCM Web UI -> Call Features -> Operator Panel and add the administrator's Wave account in the Operator Panel list before using this function. The administrator can simply click/drag the calls/extensions to manage incoming/outgoing multiple calls in real time, which greatly improves the call management efficiency for users.

The administrator who has the permission can click the "More" menu on the left side of the Wave application UI and click "**Operator Panel**" to access the management platform.

Call

Caller	Called	Status	Call Duration	Type	Options
3114 (Queen)	7852 (Georg)	Ringling	00:00:01	Internal	[Icons]
3789 (Elizabeth)	5657	Ringling	00:00:07	Internal	[Icons]
7856	1000 (zizu 1)	Ringling	00:01:06	Internal; Ring Groups	[Icons]
3334 (Paul)	DefaultLot: 702	Talking	00:06:31	Internal; Parking Lots	[Icons]
3897 (Steven)	5678	Talking	00:08:56	Internal; Voicemail	[Icons]
3333	15963124789	Talking	00:09:14	External	[Icons]
3725 (Tina)	dzlzu: 3512 (Wilson)	Talking	00:10:02	Internal; Call Queues	[Icons]

Ring Groups

6300 (zizu 1)	2/2
6301 (zizu 2)	10/12
6302 (zizu)	10/10

Call Queues

6400 (dizu 1)	2/10
6401 (dizu 2)	10/12
6302 (dizu)	10/10

Parking Lots

700 (DefaultLot)	2/10
800 (Default...)	9/10
801	00:01:34
56789000	[Icons]
802	
803	
804	

Voicemail Groups

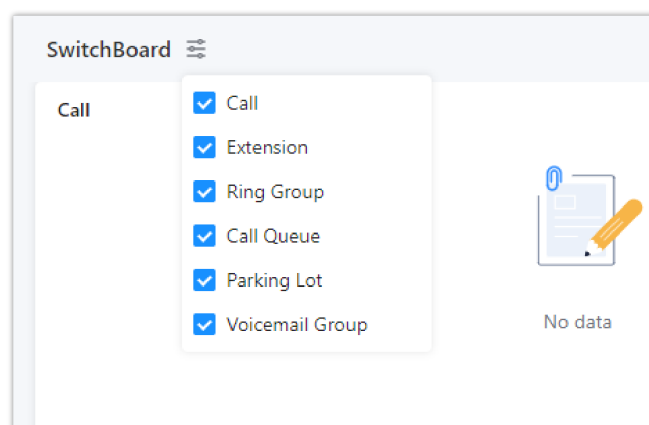
6500 (VM1)	2/10
6501 (VM2)	10/12
6502 (VM3)	10/10

Extensions

- Group 2 (4)
 - 3733 (Julie)
 - 3789 (Elizabeth)
 - 3725 (Tina)
 - 3725 (Tina)
- Group 1 (5)
 - 3556 (Helen)
 - 3512 (Willson)
 - 3333
 - 8956
 - 3545 (Kim)
 - 3897(Steven)
 - 3456 (Owen)

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Operator Panel



Switchboard Panels

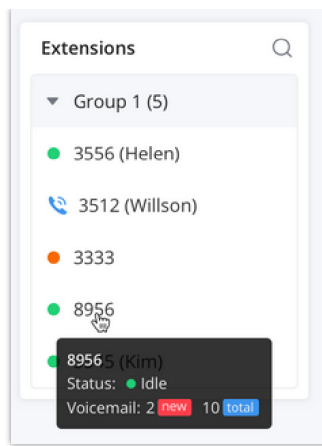
Note

If the user wants to use the Operator Panel function, the user needs to obtain permission from the calls administrator and the enterprise UCM administrator. For more details, please refer to the User Guide of UCM devices on the Grandstream official website.

Extension

The Extension list will show all extensions and extension groups you have permission for management, including extensions/extensions group names, and the extensions status.

The administrator can move the mouse over the extension to view the status of the extension, received voicemail messages, and the number of unread voicemail messages.



Extension

- ● : Idle
- 📞 : Ringing
- ● : Call in progress
- ● : Offline

Call

The Call module displays all calls allocated to local management extensions, ringing groups, call queues, parking lots, and voicemail. The administrator can pick up the call, monitor the call, transfer/park/end the call, as the screenshot shows below:

WAVE					
Call					
Caller	Called	Status	Call Duration	Type	Options
3114 (Queen)	7852 (Georg)	Ringing	00:00:01	Internal	📞 🔄 📞
3789 (Elizabeth)	5657	Ringing	00:00:07	Internal	📞 🔄 📞
7856	1000 (zlzu 1)	Ringing	00:01:06	Internal; Ring Groups	📞 📞
3334 (Paul)	DefaultLot: 702	Talking	00:06:31	Internal; Parking Lots	📞 📞
3897 (Steven)	5678	Talking	00:08:56	Internal; Voicemail	📞
3333	15963124789	Talking	00:09:14	External	📞 🔄 📞 📞
3725 (Tina)	dzlzu: 3512 (Wilson)	Talking	00:10:02	Internal; Call Queues	📞 🔄 📞 📞

Call Module

- 📞 : **Call Pickup.** Users can click the button to answer the call.
- 📞 : **Monitoring.** Users can click the button to monitor the call, including Call Monitoring, Whisper Monitoring, and Barge Monitoring.
- 🔄 : **Transfer.** Users can click the button to transfer the call, including Blind Transfer and Attended Transfer.
- 📞 : **Call Park.** Users can click the button to park the call in the corresponding parking lot.
- 📞 : **End.** Users can click the button to end the call.

Call Pickup

When one of the managed extensions receives an incoming call, and the call is not answered, the administrator can pick up the call on the Operator Panel.

Step 1: The user can click 📞 button to pick up the ringing call on the Operator Panel. The system will transfer the call to the administrator.

Step 2: The call is answered successfully in the administrator's client.

3114 (Queen)	7852 (Georg)	Ringing	00:00:01	Internal	
3789 (Elizabeth)	5657	Ringing	00:00:07	Internal	

Call Pickup

Note

The call pickup permission needs to be assigned in the UCM management platform > **Call Features** > **Feature Codes** > **Feature Codes** and enable the "Pickup on Ringing Prefix" option, the default setting is "***". The UCM administrator can modify this option from the UCM Web UI. Once the option is enabled, the administrator can pick up all calls of managed extensions.

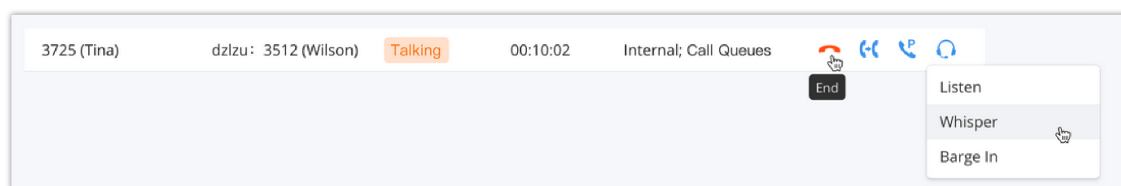
Call Monitoring

The monitoring methods include Call Monitoring, Whisper Monitoring, and Barge Monitoring. The administrator can select to monitor the calls based on different service scenarios.

- **Call Monitoring:** The administrator can monitor the call directly. The line of the administrator will be muted; neither the caller nor the callee can hear the audio from the administrator.
- **Whisper Monitoring:** The administrator can select to join the caller or callee side to assist the caller or callee through the call. Only the monitored extension can hear the audio from the administrator during the call.
- **Barge Monitoring:** The administrator can join the call to assist the caller and callee through the call. Both the caller and the callee can hear the audio from the administrator.

Step 1: On the Operator Panel, select the call that the user wants to monitor.

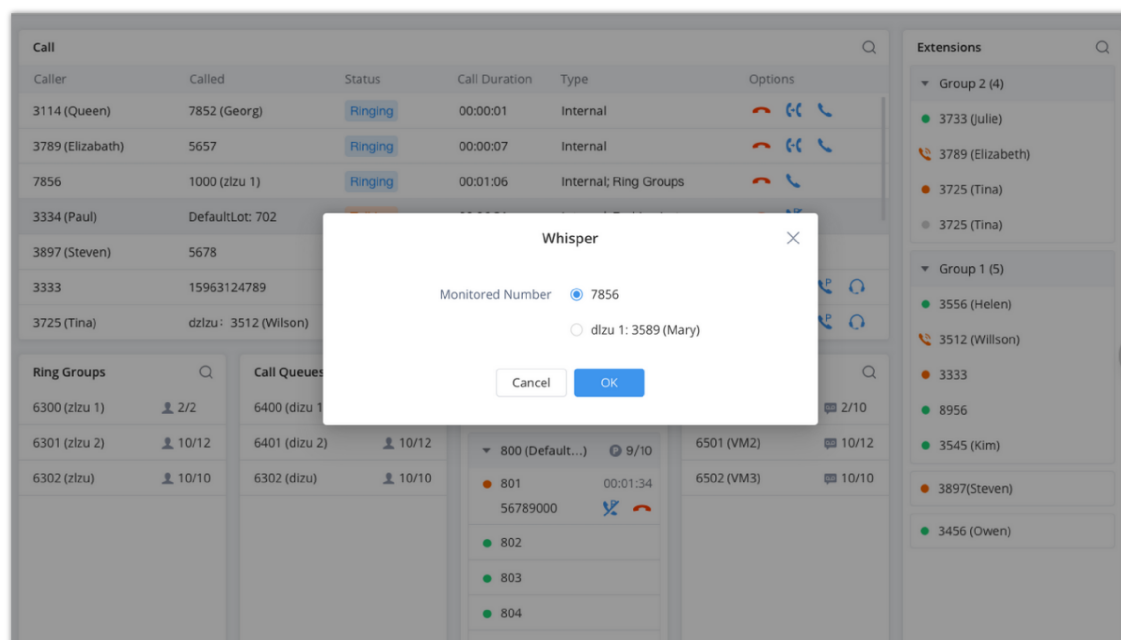
Step 2: Click on button, and select the monitoring method between Call Monitoring, Whisper Monitoring, and Barge Monitoring. As the screenshot shows below:



Monitoring

Step 3: Click the Call Monitoring button or the Barge Monitoring button. The administrator will receive the incoming call from the caller's extension, and the administrator can click the answer button to pick up the call.

Step 4: Click the Whisper Monitoring button to select the monitored extension from the pop-up window. As the screenshot shows below:



Step 5: The user can click the **"OK"** button, and the system will send an incoming call to the administrator's extension.

Step 6: Once the administrator's extension receives the incoming call from the monitored extension, the administrator can click the answer button to monitor the call.

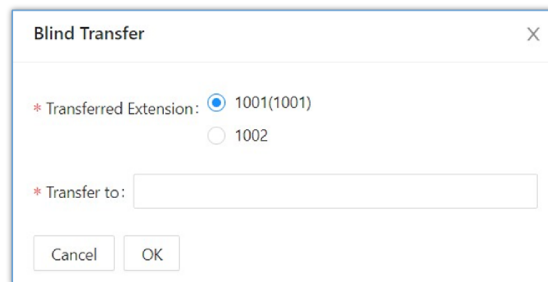
Transfer

The administrator can transfer the selected calls via Operator Panel, including Blind Transfer and Attended Transfer.

Blind Transfer

Step 1: There is a call which is in progress between John and Arthur.

Step 2: The administrator can select the call and click  button following the call, select Blind Transfer, and select the transferred extension 1001 as the screenshot shows below:

A screenshot of a 'Blind Transfer' dialog box. The dialog has a title bar with 'Blind Transfer' and a close button (X). Inside, there is a section labeled '* Transferred Extension:' with two radio button options: '1001(1001)' (which is selected) and '1002'. Below this is a section labeled '* Transfer to:' followed by an empty text input field. At the bottom of the dialog are two buttons: 'Cancel' and 'OK'.

Blind Transfer

Step 3: Enter the transferring target extension 1003 in **"Transfer to"** field and click **"OK"** button.

Step 4: The extension 1003 will receive the new incoming call from extension 1001.

Step 5: The call between extension 1001 and 1002 will be ended. The call between extension 1001 and 1003 will be established. The Blind Transfer is successful.

On the Operator Panel, the administrator can drag the call to Ringing Group, Call Queue, or Voicemail Group to blind transfer the call to these groups.

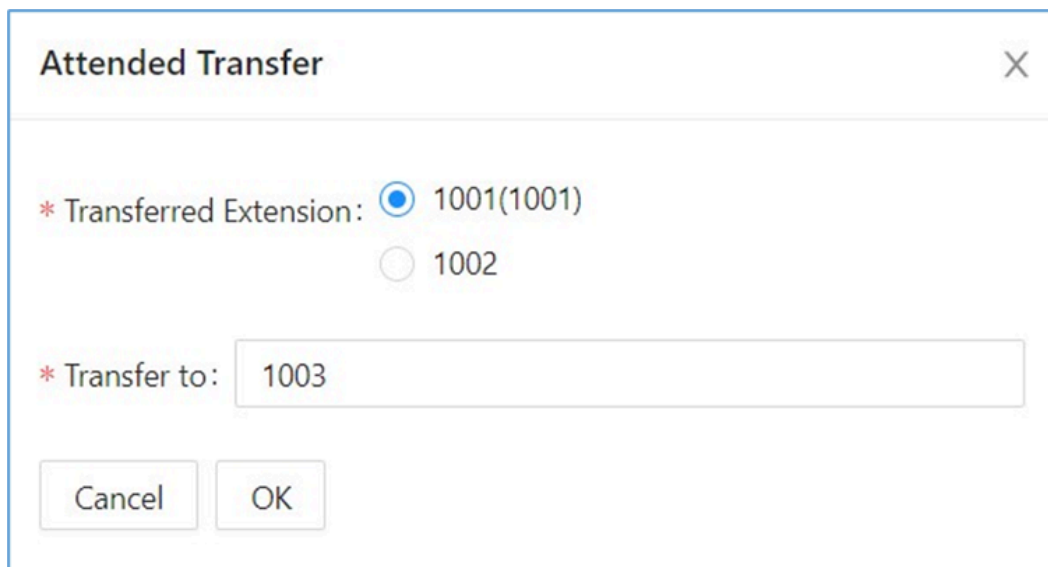
Attended Transfer

Step 1: There is a call which is in progress between extension 1001 and 1002.

Step 2: The administrator can select the call and click  button following the call, select Attended Transfer, and select the transferred extension 1001 as the screenshot shows below.

Step 3: Enter the transferring target extension 1003 in the "Transfer to" field and click the **"OK"** button.

Step 4: The extension 1003 will receive the new incoming call from extension 1002. The call of extension 1001 will be held. The call between extension 1002 and 1003 will be established. Once the extension 1003 hangs up, the call between extension 1001 and 1002 will be resumed.



Attended Transfer [X]

* Transferred Extension: ☒ 1001(1001)
☐ 1002

* Transfer to:

Figure 104 Attended Transfer

Note

When the administrator tries to transfer the call to a call queue, the UCM administrator needs to check "Enable Feature Codes" option in the UCM Web UI -> Call Features -> Call Queue -> Advanced Settings -> Other Settings. Otherwise, the call queue members cannot be transferred. For more details, please refer to the UCM User Guide in Grandstream official website.

Call Park/Retrieve

The administrator can park the calls and retrieve them through the Operator Panel.

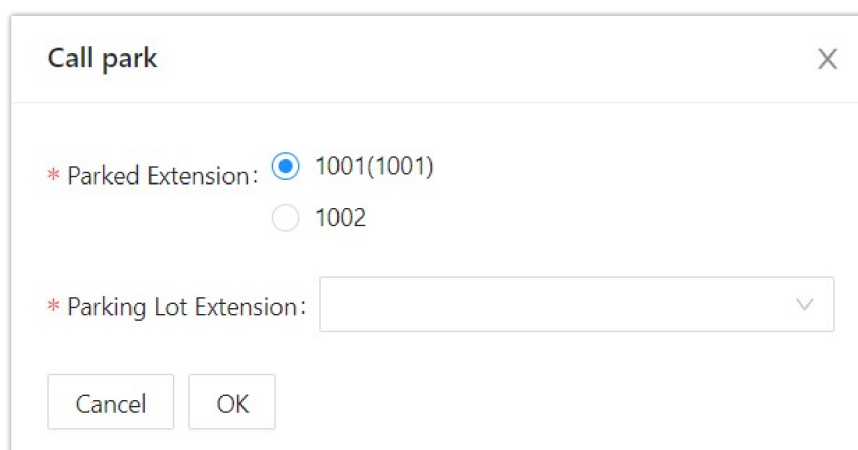
Call Park

There are two methods to park calls.

Method 1:

Step 1: Select the call in the Operator Panel that the user wants to park.

Step 2: Click  button, and there will be a pop-up window to allow the user to select the parked extension, as the figure below:



Call park [X]

* Parked Extension: ☒ 1001(1001)
☐ 1002

* Parking Lot Extension:

Call Park

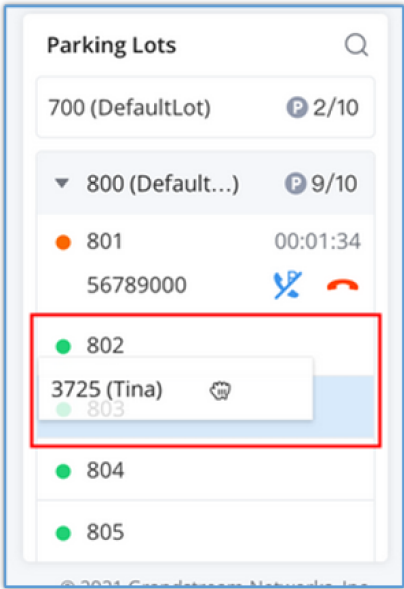
Step 3: Select the Parked Extension and Parking Lot Extension.

Step 4: Click "OK" button to park the call in the idle parking lot.

Method 2:

Step 1: Select the call in the Operator Panel that the user wants to park.

Step 2: Drag the call to the idle parking lot on the Parking Lot list directly to park the call.



Drag to Park Calls

Note

If the UCM administrator does not check the option “Use Parking Slot as Extension”, the user can only park the call to the parking lot extension, the parking slots including the parking extensions will not be displayed, the parking lot extension will be randomly assigned. For more details, please refer to the User Guide of the UCM device on the Grandstream official website.

Call Retrieve

There are 2 methods to retrieve the parked calls.

Method 1:

Step 1: Select the call which the user wants to retrieve in the Operator Panel.

Step 2: Click  button, the call will be retrieved in the administrator’s Wave account.

56789000	DefaultLot: 801	Talking	00:01:34	Internal; Parking Lots	
3334 (Paul)	DefaultLot: 702	Talking	00:06:31	Internal; Parking Lots	

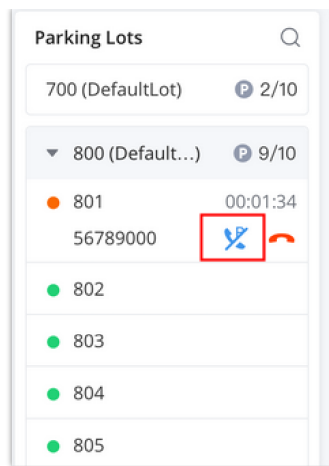
Retrieve Parked Call

Step 3: The administrator can click to answer the call to retrieve the parked call.

Method 2:

Step 1: Select the parked call that the user wants to retrieve from a busy parking lot.

Step 2: Click  button, and the call will be retrieved in the administrator’s Wave account. As the screenshot shows below:



Retrieve Parked Call from Parking Lot

End Call

Step 1: Select the call that the user wants to end in Operator Panel.

Step 2: Click  button and click “OK” button to end the call. As the screenshot shows below:

Step 3: The current call will end.

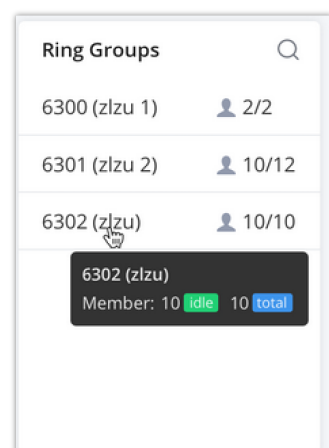
Caller	Called	Status	Call Duration	Type	Options
3114 (Queen)	7852 (Georg)	Ringing	00:00:01	Internal	  
3789 (Elizabeth)	5657	Ringing	00:00:07	Internal	  

End Call

Ringing Group

The Ringing Group panel will show the information of each ringing group, including the number of free members and the total number of members.

The administrator can search the ringing group by number or name.



Ringing Group

Note

The UCM administrator can add the ringing group in the **UCM Web UI > Call Features > Ring Groups**.

Call Queue

The Call Queue panel shows the information of each call queue, including the number of free members and the total number of members.

The administrator can search the call queue by number or name.



Call Queues	
6400 (dizu 1)	2/10
6401 (dizu 2)	10/12
6302 (dizu)	10/10

Call Queue

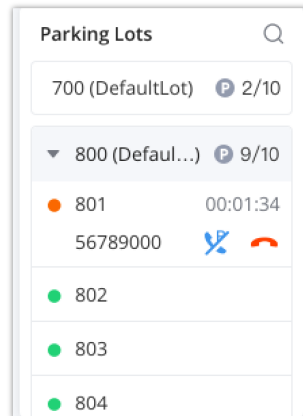
Note

The UCM administrator can add the ringing group in the UCM Web UI -> Call Features -> Call Queue.

Parking Lot

The Parking Lot panel shows the status of each parking lot (parking extension).

If the parking lot is busy, the administrator can view the parking period, parking call information, and the administrator can also end/retrieve the parked call. As the screenshot shows below:



Parking Lots	
700 (DefaultLot)	2/10
800 (Default...)	9/10
801	00:01:34
56789000	
802	
803	
804	

Parking Lot

Note

The UCM administrator can check the option "Use Parking Slot as Extension" in the UCM Web UI, so that the Operator Panel user can select the parking extension and view each parking lot status on the extended parking extensions list.

Voicemail Group

The Voicemail Group panel shows the status of each voicemail group, including the name and number of each voicemail group, and the number of unread voicemail messages and the total number of voicemail messages.

The administrator can search the voicemail group by number or name.

Voicemail Groups	
6500 (VM1)	2/10
6501 (VM2)	10/12
6502 (VM3)	10/10

Voicemail Group

Note

The UCM administrator can add the voicemail group in the UCM Web UI -> Call Features -> Voicemail -> Voicemail group.

3rd Party Application

Wave desktop offers many add-ins with various features, for example, customer relationship management (CRM), which allows the user to track and synchronize contacts and call detail records, as well as productivity integrations like Google Drive, Office 365, and integrations for messaging services like WhatsApp. Or our conferencing solution, IPVideoTalk. Please find below a comprehensive list of all the integrations offered on the Wave desktop.

Important Note

Please note that to be able to use this feature, the UCM should have a paid RemoteConnect. For more information, please refer to the following link: <https://ucmrc.gdms.cloud/plans>

CRM Add-ins

- Act! CRM
- Bitrix24
- Dynamics 365
- Freshdesk
- HubSpot
- Salesforce
- Telegram
- Sugar CRM
- Vtiger CRM
- Zendesk
- Zoho CRM

Note

To configure the CRM add-ins properly, please refer to this guide: [Wave Desktop CRM Add-ins – User Guide](#)

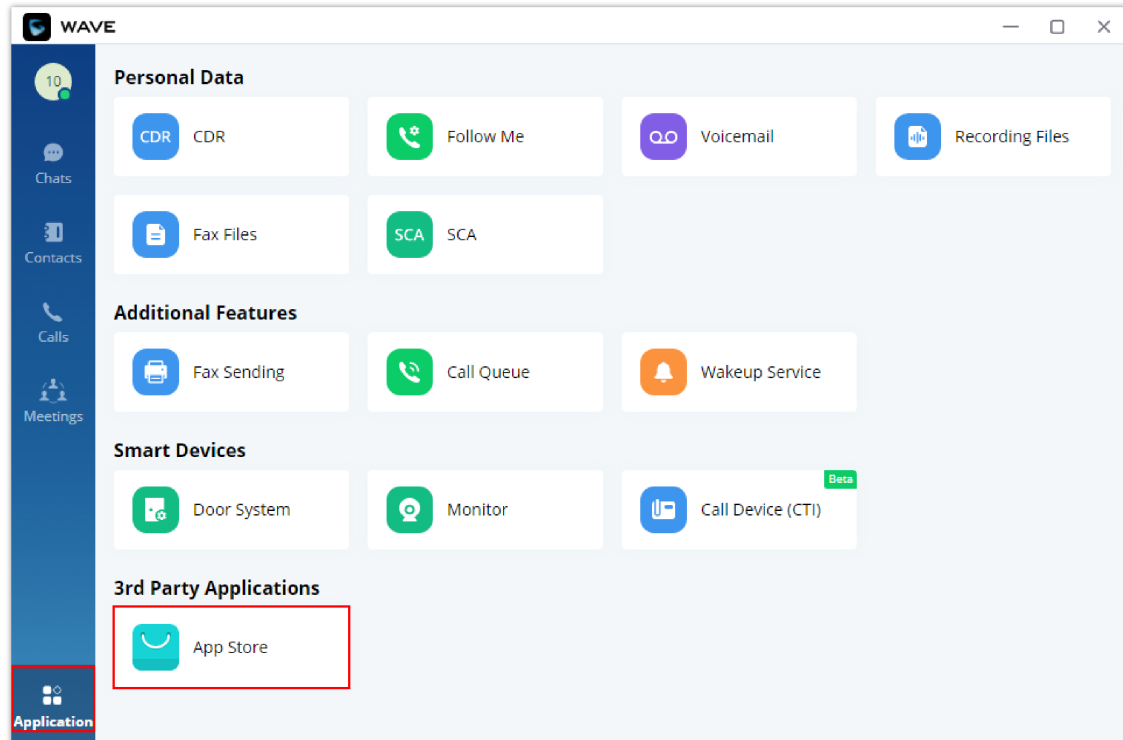
Other Add-ins

- WhatsApp
- Office 365
- IPVideoTalk
- Wave Add-in for Outlook
- Wave H5 Add-in for Google Chrome

Note

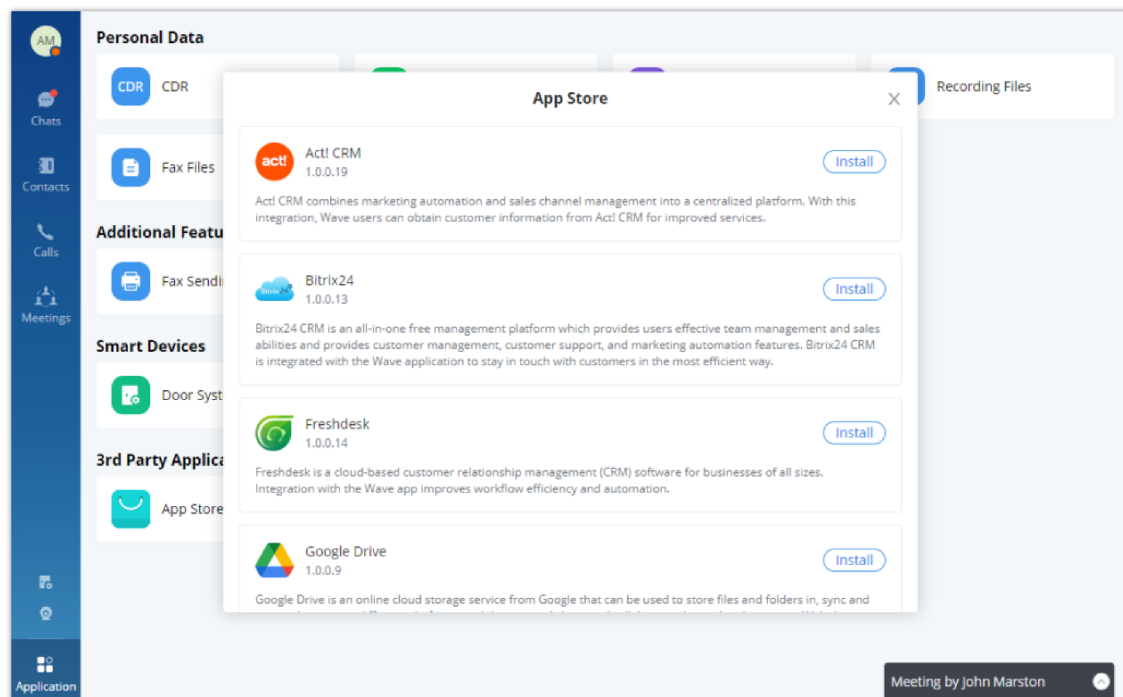
To configure 3rd party add-ins properly, please refer to this guide: [Wave Desktop 3rd Party Add-ins — User Guide](#)

- **Step 1:** Navigate to the “Application” tab on the Wave Desktop app, then click on “App Store”, as the figure below shows:



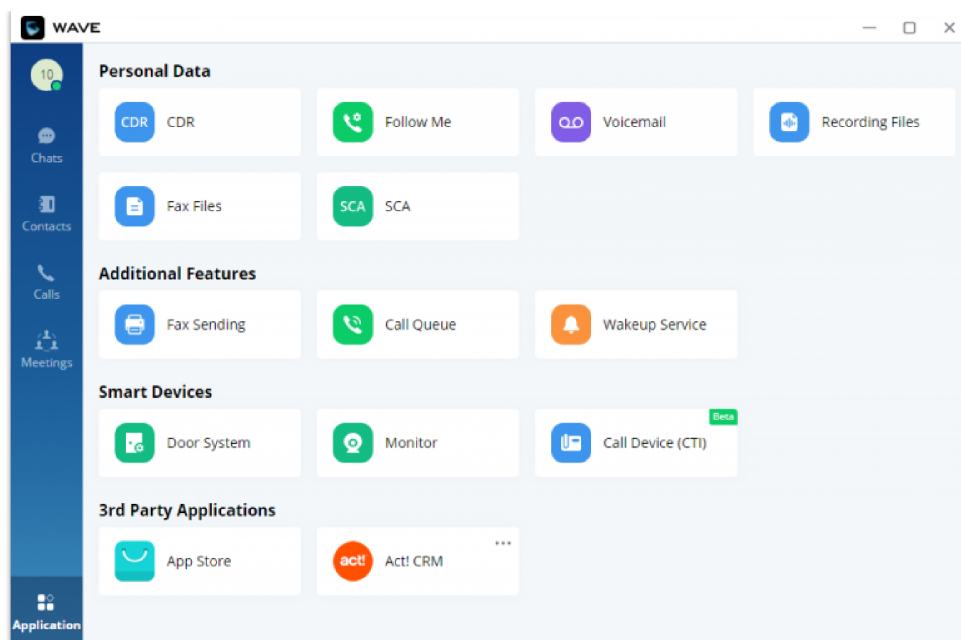
App Store

- **Step 2:** Choose the add-in you want to install.



Install an Add in

Once installed, the add-in will appear in the 3rd Party Applications section.

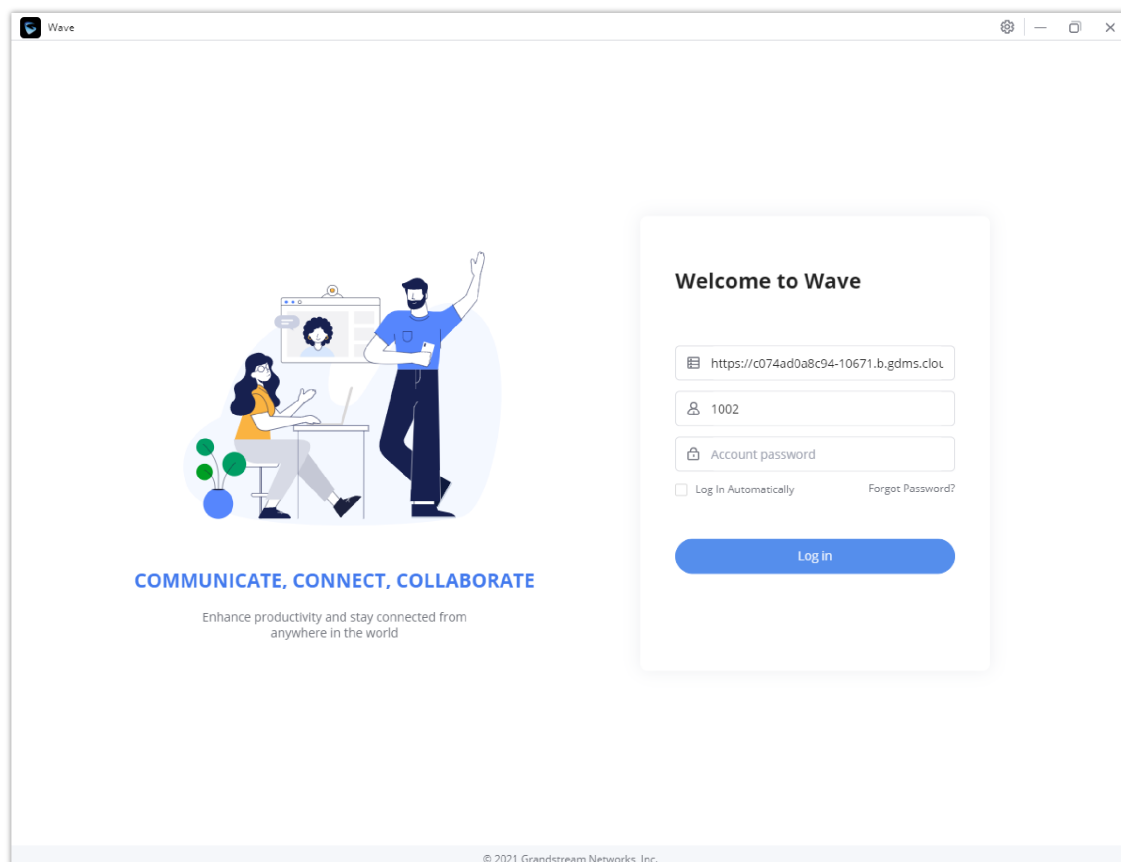


Applications

LOGO CUSTOMIZATION

Once done, the administrator can log in to the UCM management platform and customize the Wave Logo. Please refer to the UCM RemoteConnect user guide for details:

After customizing the logo, all Logos on the Wave page are displayed as customized Logos.



Customized Logo Interface

Note

To know which RemoteConnect plans offer this feature, please refer to the following link: <https://ucmrc.gdms.cloud/plans>

CHANGELOG

Version 1.33.14

- Added Improvement for the chat search function. [[General Search](#)]
- Added the ability to join into the scheduled meeting through the meeting link in the notification email without entering the meeting password. [[Join Meeting via Link](#)]
- GS AI Service begins accepting applications for internal testing. [[AI Feature Integration](#)]

Version 1.33.9

- Added support for scheduled messages. [[Schedule Messages](#)]
- Improved global search functionality. [[General Search](#)]
- Added a Spell Check option to enable or disable spelling correction. [[Language](#)][[Send Messages](#)]
- Added support for matching contacts and numbers from the last 50 call logs. [[Initiating a Call from Keypad](#)]

Version 1.30.17

- Changed the placement of the Pre-installed Add-in configuration. [[Pre-install and Pre-configure Wave Add-ins on the UCM63xx](#)]
- Added the option to select specific users to have the Add-ins added for them. [[Pre-install and Pre-configure Wave Add-ins on the UCM63xx](#)]
- Added Telegram for supported Add-ins. [[Telegram](#)]
- Added the option to configure contacts from the Wave Desktop application. [[Manage Contacts from Wave App](#)]
- Added support for switching between accounts. [[Switch Account](#)]
- Added support for Email as an option for multi-factor authentication. [[Email Authentication](#)]
- Added support for hiding recording status. [[Recording status](#)]

Version 1.29.7

- Added support for login using a Microsoft account. [[Login with Microsoft Account](#)][[Feature Highlights](#)][[Specifications](#)]
- Added support for stopping recurring scheduled meetings. [[Schedule Virtual Meeting](#)] [[Schedule Onsite Meeting](#)]
- Added support for enabling the Join/Leave prompt tone for meetings. [[Schedule Virtual Meeting](#)]
- Added support for reopening previous meetings. [[Expand Meeting History](#)]
- Added support for viewing, downloading, and forwarding chat history after a meeting ends [[Chat History After Meeting](#)]
- Added support for Popout Screen Share. [[Share WhiteBoard](#)][[Share Document](#)]
- Added support for Zoom Controls for whiteboards. [[Share WhiteBoard](#)]
- Added support for Simultaneous Login with Same Client Type. [[Account Settings](#)]
- Added option to minimize the call window after answering. [[General Settings](#)]
- Added support for theme settings. [[Theme](#)]
- Added support for customizing chat display settings. [[Chat Display](#)]
- Added file save location settings. [[File Save Location](#)]
- Added option to auto-upgrade downloaded third-party add-ins. [[Add-in Settings](#)]
- Added adjustable notification volume setting. [[General Message Notification Settings](#)]
- Added support for microphone test via recording and playback. [[Audio Settings](#)]
- Added Automatic Noise Reduction (AI) mode to audio settings. [[Audio Settings](#)]
- Added support for Auto Share PC Audio when Auto Answer is enabled. [[Incoming Call Settings](#)]
- Added an option to automatically enable the camera when joining meetings. [[Device Settings](#)]
- Added support for personal chat field customization. [[Personal Chat Link](#)]

- Added support for displaying personal chats as independent chat modules. [[Personal Chat Link](#)]
- Added support for code blocks in chat messages. [[Rich Text Formatting](#)]
- Added clickable message replies to jump to the original message. [[Quote to Reply Message](#)]
- Added display of responder names with emoji reactions. [[React with Emoji](#)]
- Added “Select the following information” option. [[Forward Message](#)]
- Added display of answering party’s name and number in Call History for call queues and ring groups. [[Call History](#)]
- Added quick access app selection on the left sidebar. [[Application Quick Access](#)]

Version 1.27.11

- No major changes

Version 1.27.10

- Added support for multi-factor authentication. [[Multi-factor Authentication](#)][[Specifications](#)]

Version 1.27.8

- No major changes

Version 1.27.7

- Added support for Personal Chat Link [[Personal Chat Link](#)]
- Added support for setting a reminder for a message [[Message Reminder](#)]
- Added support for Virtual Programmable Keys [[VPK](#)]
- Added support for rich text formatting [[Rich Text Formatting](#)]
- Added support for changing chat group avatar [[Change Group Avatar](#)]
- Added support for login sessions management [[Login Device Management](#)]
- Added support for sending multiple files at once [[Send Files](#)]
- Added support for multi-party monitoring [[Monitor](#)]
- Improved WhatsApp Chat by adding calls and instant meetings [[WhatsApp and Telegram Sessions](#)]
- Added Scheduled Meeting custom recurrence to schedule meetings every N days [[Schedule Virtual Meeting](#)]
- Added support for displaying the voicemail group name under the voicemail [[VOICEMAIL](#)]
- Optimized keyword search within the chat. [[Keyword Search](#)]

Version 1.25.13

- No major change

Version 1.25.12

- Added Slovenian language

Version 1.25.6

- The user can now pin messages in group chats [[Pin Messages](#)]
- The user can now save messages sent or received in chat [[Save Messages](#)]
- The user can now view the processed WhatsApp Business and Telegram sessions [[WhatsApp and Telegram Sessions](#)]
- The user can now convert simultaneous calls received on the lines into a meeting [[Multiple Lines](#)]
- The user can now view the read status of messages received in chat groups [[View Unread Messages](#)]
- The user can now reply directly through desktop notifications
- Added support for the following CRM platform add-ins: Oracle NetSuite CRM, Odoo CRM, Monday Sales CRM, Capsule CRM, and Less Annoying CRM [[Add-ins](#)]
- Users can now share desktop audio during a call [[Share Desktop Audio](#)]

- Users can enable auto-login when logging in using the QR code scanning method [[Log In by Scanning QR Code](#)]
- Added new shortcut keys: Raise Hand/Lower Hand, End Call, Leave Meeting [[Keyboard Shortcuts](#)]
- Improved interfaces: added the CTI entrance to the home page, and hide the minimized call window when sharing screens or applications

Version 1.23.18

- No major changes.

Version 1.23.16

- Added Dutch language. [[Language](#)]
- Updated Hebrew language display.

Version 1.23.13

- Whiteboard New Revision for In-meeting Sharing [[Share WhiteBoard](#)]
- Customize Shortcuts Keys in Meetings/Calls [[Call Interface Customization](#)] [[Meeting Interface Customization](#)]
- Customize Bottom Display Buttons in Meetings/Calls [[Call Interface Customization](#)] [[Meeting Interface Customization](#)]
- Merge Multiple Settings Pages to One Interface [[SETTINGS MENU](#)]
- Import/Export Personal Contacts [[Import/Export Personal Contacts](#)]
- Notification Assistant [[Notification Assistant](#)]
- Newly Added Keyboard Shortcuts [[Keyboard Shortcut](#)]
- Added search for the recent 6 months meeting history. [[MEETING LIST](#)]

Version 1.21.10

- Users can login into Wave Web/Desktop by scanning the QR code on Wave Mobile. [[Log In By Scanning QR Code](#)]
- The Raise Hand feature has been added. [[Multimedia Meeting](#)]
- When a participant is muted, the participant can press and hold the space bar to activate the microphone. [[Meeting Call Layout](#)]
- The users can now hide meeting participants who do not have their webcam on. [[Meeting Call Layout](#)]
- Users can now configure a dial plan on Wave. [[Dial Plan Settings](#)]
- Users can now delete call history and voicemail all at once or in batches. [[Call History](#)][[Voicemail](#)]
- "Delivered" and "Read" messages are now supported in point-to-point chats. [[View Unread Messages](#)]
- Users can quickly delete multiple chats or choose to delete all the chats at once. [[Delete Message](#)]
- Poll and Survey features have been added. [[Create Poll/Survey](#)]
- The Operator Panel can now be customized by hiding some panels. [[Operator Panel](#)]
- Users can now annotate and sketch when they are sharing their screen. [[Screen Sharing](#)]
- Wave Desktop now supports keyboard shortcut keys. [[Keyboard Shortcut](#)]
- Wave Desktop now supports T9 contact search. [[Contacts](#)]

Version 1.19.12

- Added WhatsApp add-in, Office 365 add-in, and IPVideoTalk add-in to the Wave App Store. [[Add-ins](#)]
- Added Wave add-in on Outlook [[Add-ins](#)]
- Added Wave H5 Google Chrome add-in [[Add-ins](#)]
- Added a toolbar and a small personal window that appears during screen share [[During a Call](#)]
- Calls and meetings will now use their own window [[During a Call](#)]
- Users can now change what they are sharing without exiting the current screen share [[Screen Sharing](#)]
- Added a call/meeting ending indicator tone

- Added support for GSFECC, which improves audio packet loss protection capabilities.
- Users can now forward multiple chat messages to a contact [[Forward Message](#)]
- The local time of Wave contacts outside the user's time zone will now be displayed at the bottom of chats and under contact details [[Contact Local Time](#)]
- Images can now be forwarded to other chats and rotated. Note: Forwarded images will not retain rotation [[Send Files](#)]
- Added end to end encryption feature to chat [[End to End Encryption Chat](#)]
- Added the Personal Contacts feature [[Personal Contacts](#)]
- Users can now schedule onsite meetings [[Schedule Onsite Meetings](#)]
- Meeting hosts can now edit and cancel upcoming meetings from the Meeting List page. Ongoing meetings can also be ended from this page. [[Meeting List](#)]

Version 1.17.8

- Made several UI improvements.
- The last 10 server addresses logged into will now be remembered. These server addresses can be viewed and selected by clicking on the arrow icon in the Server Address field on the login page. [[Logging In To Wave Desktop](#)]
- Added Notification Settings that would allow the user to select the notifications to receive from Wave. [[Application Settings](#)]
- Users can now drag and drop items in the application page to the wave sidebar for easy access. Note: Users may need to long-click on an item before it can be dragged.
- Google Drive add-in is now available and can be installed from the Application →3rd Party Applications→App Store page. Once installed, users can log into their Google account and share files from it directly to chats. [[Send Files](#)]
- The following CRM add-ins are now available and can be installed from the Application→3rd Party Applications→App Store page: Bitrix24 CRM, Freshdesk CRM, HubSpot CRM, Zendesk CRM.
- Users can now select to download application updates in the background.
- Users can now have up to 6 simultaneous calls instead of just 2.
- Added a callback button to missed call notifications. [[Missed Calls](#)]
- Improved attended transfer functionality. [[Attended Transfer](#)]
- Improved CTI functionality. After a call between Wave Desktop and an IP endpoint is established and is converted into a meeting, the Wave Desktop user can start presentations during the meeting.
- When copy/pasting a number with special characters into the dial pad, the special characters will be automatically filtered out.
- Added the Change Group Owner option to the group chat settings to transfer ownership of the group to an existing group member. [[Meeting Group Chat](#)]
- Added additional emojis.
- Improved image viewing functionality when looking at images uploaded to chats.
- Users can now start and stop video recordings during meetings. Recordings can be viewed and played directly from Wave. If the meeting does not support video recordings, audio will be recorded instead. [[Record an Ongoing Meeting](#)]
- Users can now change the video feed layout of meetings by clicking on the More button during meetings and selecting either Speaker Layout (1 large video feed w/ others being smaller) or Tile Layout (equally sized video feeds). [[Meeting Call Layout](#)]
- Meeting hosts can now access options under each video feed such as muting, selecting the feed as the focus video, full-screening the feed, or removing the participant from the meeting. [[Meeting Call Layout](#)]
- Users can now create a meeting group chat when scheduling a meeting. [[Schedule Meeting](#)]
- When there is only 1 participant in a meeting, and the meeting duration has reached 30 minutes, a prompt will appear asking whether to extend the meeting. If extended, the meeting will last another 30 minutes. Otherwise, the meeting will automatically end after 5 minutes. [[End Meeting](#)]
- If the duration of a meeting is about to reach 12 hours, and the meeting host is in the meeting, they can extend the meeting for another 12 hours once. The meeting will automatically end once another 12 hours have passed. If the meeting host is not in the meeting after the initial 12 hours, the meeting will automatically end. [[End Meeting](#)]

- Users can now transition a screenshare into a whiteboard. The last frame on the screenshare will be used as the background image of the whiteboard.
- Users can now see their own shared screen.
- Users can now also share their PC audio in addition to sharing their screens by toggling on the Share PC Audio checkbox when selecting the application or screen to share. [[Screen Sharing](#)]
- Users can now invite IP camera devices they have permission to access to meetings. Other meeting participants can view the video feed of the invited IP camera devices.
- Added the Allowed to override Host Mute option to the Edit Meeting / Schedule Meeting pages → Advanced Settings page. If enabled, participants muted by the meeting host will be able to unmute themselves. [[Schedule Meeting](#)]
- The meeting start notification will no longer appear if the user is already in the meeting waiting room.

Version 1.15.11

- Added Basic call control support for Microsoft Teams-certified headsets.

Version 1.15.7

- Added support for sharing whiteboard and PDF files. [[On Screen Sharing](#)]
- Added support for joining meetings via entering the corresponding link. [[Invite Participants](#)]
- Added support to control whether chat group participants can invite other users. [[Add Group Members](#)]
- Added support for voice messages in instant messaging. [[Audio Message](#)]
- Added support for searching within discussions.[[Search Within a Conversation](#)]
- Added support for downloading the chat history during and after a meeting has ended. [[Download The Chat History](#)]
- The microphone level can be checked directly when clicking "audio settings". [[Audio Settings](#)]
- Added support for searching for contacts within a specific directory.
- Added support for enabling and disabling "Dial Tone". [[Application Settings](#)]
- Added support for CRM add-ins.

Version 1.13.9

- Made several UI improvements.
- Added the ability to change the date and time format. [[Date/Time Format](#)]
- Added Portuguese and Vietnamese language support. [[Wave Desktop Specifications](#)] [[Language](#)]
- Added support for recording an ongoing point-to-point call. [[Record an Ongoing Point-to-Point Call](#)]
- Added support for recording an ongoing Wave meeting. [[Record an Ongoing Meeting](#)]
- Meeting hosts can now view the list of invited participants who don't attend a meeting. [[Invitees List](#)]
- Meeting creators can now create group chats from past meetings and their participants. [[Meeting Group Chat](#)]
- Added *Meeting Agenda* information to *Meeting Details*. [[Meeting Agenda](#)]
- Added support for the Call Flip function. [[Call Flip Function](#)]
- Added support for viewing contacts based on UCM contact privilege settings. [[Contacts](#)]
- Added support for restricting visibility of chat history when inviting contacts to a group chat. [[Contacts](#)]
- Added more emojis. [[Reply with Emoji](#)]
- Added support for emoji previewing when using emoji shortcuts. [[Reply quickly with an emoji shortcut](#)]
- Added support to delete messages that failed to send. [[Message Sending Failure](#)]
- Up to 500 users can be selected when creating a group chat. [[Start a group chat](#)]
- The server address field now has a character limit of 64 characters. [[LOGGING IN TO WAVE DESKTOP](#)]
- The Enter key can now be used to dial out. [[Initiating a Call from Keypad](#)]
- Added a file download failure prompt. [[Send Files](#)]
- Added a red box to the screen share feed. [[Share Desktop](#)]

- Added CTI support for GXP, GRP, and GXV endpoints. [CTI Mode]
- Improved noise detection and reduction during calls.
- Added support for displaying all the received and sent files in one list. [Files List]
- Added support for changing the group chat name quickly. [Change Group Name]
- Added the ability to quickly invite other participants to a meeting. [Quickly Invite Participants]

Version 1.11.4

- Added Operator Panel function in Wave Desktop. [Operator Panel]
- Added the Voicemail function in Wave Desktop. [VOICEMAIL]
- Added more functions in the Chat module. [Reply with Emoji] [Receive New Messages]
- Added custom avatar function in Wave Desktop. [Custom Avatar]
- Added the Help and Feedback module in Wave Desktop. [Help] [Feedback]
- Added chat bubble function during the meeting. [bubble function]
- Merged audio conference and video conference into the Conference module. [Conference]
- Added noise detection function during the meeting and supported enabling noise reduction mode in Audio settings for Wave Desktop users. [Audio Settings]

Version 1.9.12

- Added support for login via User Password instead of the SIP Password. [LOGGING IN TO WAVE DESKTOP]
- Added support for Custom status on the Wave web. [Custom Status]
- Added support for sending 5000 characters on chat. [Send messages]
- Added the possibility to send Excel content under chat. [Send Excel Content]
- Added support for sending DTMF during a meeting. [DTMF]
- Added the possibility to complete a meeting from the Meeting list. [COMPLETE MEEINTG]
- Added more account-related settings. [Settings]
- Added more applications. [More Applications].
- Added support for virtual background. [Virtual Background Settings]
- Added support for an alternative ringing speaker. [Audio Settings]

Version 1.7.8

- Added New features in chat module: [Quote to Reply Message] [Delete Message] [Pin Chat Box to Top] [Hide Chat Box]
- Supported multi-line calls. [MULTIPLE LINES]
- Supported the transfer of an active call to a video conference. [Transfer to Meeting Room]
- Added public meeting room list, and the list will show the meeting room status in different periods. [PUBLIC ROOM]
- Added to create a meeting with a random meeting number. The meeting can be created as an instant meeting or a scheduled meeting. [Meet Now] [Schedule Meeting]
- Added to display the actual meeting duration and the actual participants list for the previous meetings. [MEETING LIST]
- Supported adding participants from contacts/groups when scheduling a meeting. [Schedule Meeting]
- Supported to set the meeting subject and add invitees for instant meetings. [Meet Now]
- Added meeting assistant module. When there are new meeting invitations, meeting reminders, and meeting cancellation notifications, the meeting assistant will send messages to the host and participants. [MEETING MANAGEMENT]

Version 1.5.4

- This is the initial version.

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