



Grandstream Networks, Inc.

UCM62xx/UCM6510 Series

GS Wave WebRTC Video Calling & Conferencing Guide



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INTRODUCTION

The UCM62xx and UCM65xx support HTTP & WebSocket for web browser to register to the UCM and establish calls and participate in web video conferences with other endpoints in real time via WebRTC. With the UCM you can easily create, schedule, manage, and join video conference calls, from your desktop or laptop computer.

UCM Video conferencing uses WebRTC technology, so all the participants don't have to download and install any additional software or plugins.

This document introduces the user portal features and offers step by step instructions to use them.

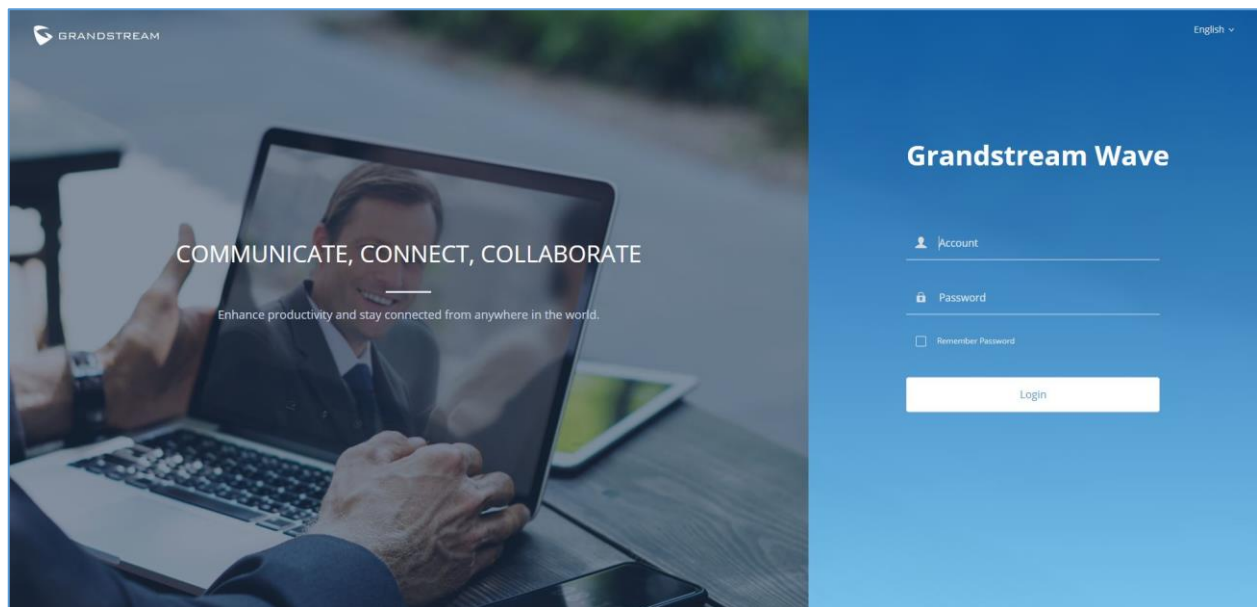


Figure 1: Grandstream Wave

Notes:

- Video conferencing can be resource-intensive and may cause performance issues with the UCM when used.
- To ensure the best experience, please use Google Chrome (v67 or higher) or Mozilla Firefox (v60).
- The same IP address cannot log into both the admin/user portal and the GS Wave WebRTC portal at the same time.



SPECIFICATIONS

- Up to 4 video feeds in a conference call (one 1080p, others being QVGA) and one screen share feed.
- Up to 100 WebRTC users can be logged into the Grandstream Wave page at the same time.
- Participant limit:
 - UCM62xx: **8**
 - UCM6510: **15**

Warning: A video conference with 4 ongoing video feeds will result in 75-83% CPU usage. UCM62xx and UCM65100 will be able to handle 15 and 30 more concurrent audio calls respectively.

- Audio: PCMU, PCMA, GSM, iLBC, G722.1, G722.1C, G729, G723.1, G726, OPUS
- Video: H264, VP8
- Framerate: 15 FPS video stream, 5 FPS screen share
- Firefox v61 issue: Caller cannot hear the callee when Firefox is used to answer the call.



WEBRTC CONFIGURATION

Web audio and video calls and conferencing can now be achieved through the UCM's new WebRTC page.

UCM Video Conferencing must be enabled by the administrator for the concerned extensions under the extensions level by following below steps:

- 1) Navigate to **Value** → **Added Features** → **WebRTC** and enable WebRTC support.

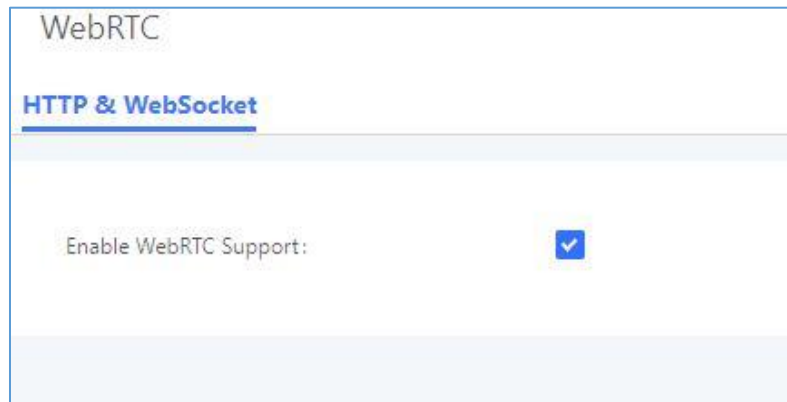


Figure 2: Enable WebRTC

- 2) Select the extensions that would use WebRTC and enable WebRTC support on them under Features section.

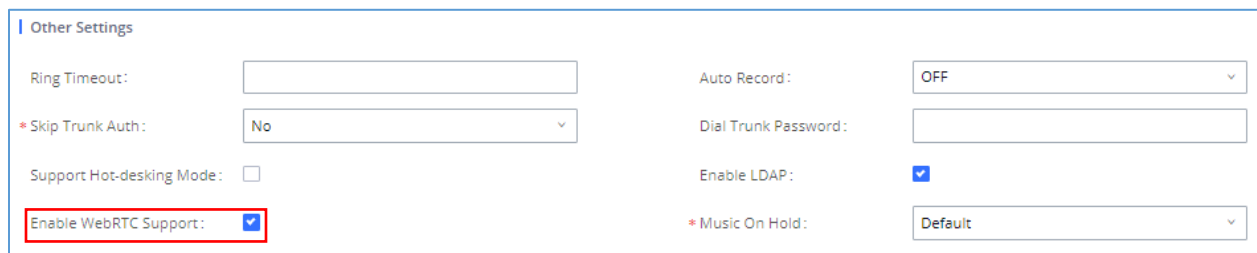


Figure 3: WebRTC Support for Extension



VIDEO CONFERENCE CONFIGURATION

The video conference configurations can be accessed under **Web GUI→Call Features→Video Conference**. In this page, users could enable, set the Basic setting, create, edit, view, manage, delete conference rooms and edit the Conference Schedule.

Conference Settings

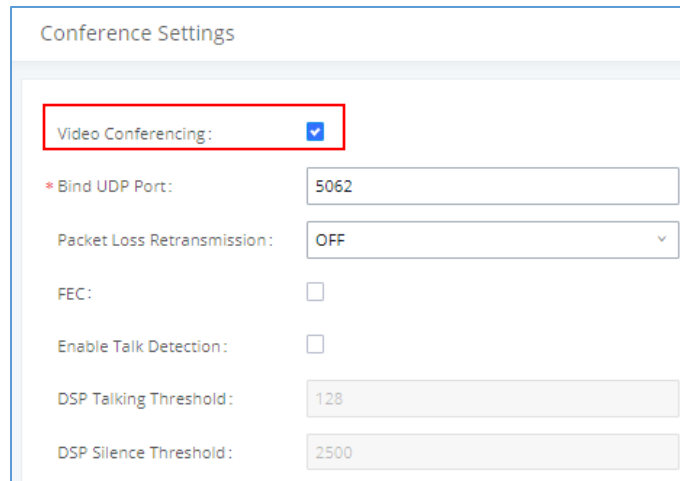


Figure 4: Video Conference Basic settings

Table 1: Video Conference Basic Settings

Basic Settings	
Video Conferencing	This option should be enabled to activate the Video Conference feature.
Bind UDP Port	Configure the UDP port number for MCM. The standard UDP port for MCM is 5062.
Packet Loss Retransmission	Configure the Packet Loss Retransmission. If enabled, the NACK or NACK+RTX Packet Loss Retransmission will be activated. The default setting is "OFF".
FEC	If enabled, the Forward Error Correction (FEC) will be activated. The default setting is "No".
Enable Talk Detection	If enabled, the AMI will send the corresponding event when a user starts or stops talking.
DSP Talking Threshold	The amount of time (ms) that sound exceeds what the DSP has established as the baseline for silence before a user is considered to be



	talking. This value affects several operations and should not be changed unless the impact on call quality is fully understood. Default is 128.
DSP Silence Threshold	The amount of time(ms) that sound falls within what the DSP has established as the baseline for silence before a user is considered be silent. This value affects several operations and should not be changed unless the impact on call quality is fully understood. Default is 2500.

Video Conference room Configurations

Click on the Video Conference tab and create a new video conference room. In this tab, you can:



- Click on "Add" to add a new conference room.
- Click on  to edit the conference room.
- Click on  to delete the conference room.

Table 2: Video Conference Room Configuration Parameters

Extension	Configure the conference number for the users to dial into the conference. Note: Up to 64 characters.
Password	When configured, the users who would like to join the conference call must enter this password before accessing the conference room. Notes: <ul style="list-style-type: none"> • Only digits are allowed. • The password must be at least 4 characters. All repetitive and sequential digits (e.g., 0000, 1111, 1234 and 2345) or common digits (e.g., 111222 and 321321) are not allowed.

When configured, the Conference Room number is the number to dial to join the conference as shown in screenshot below:

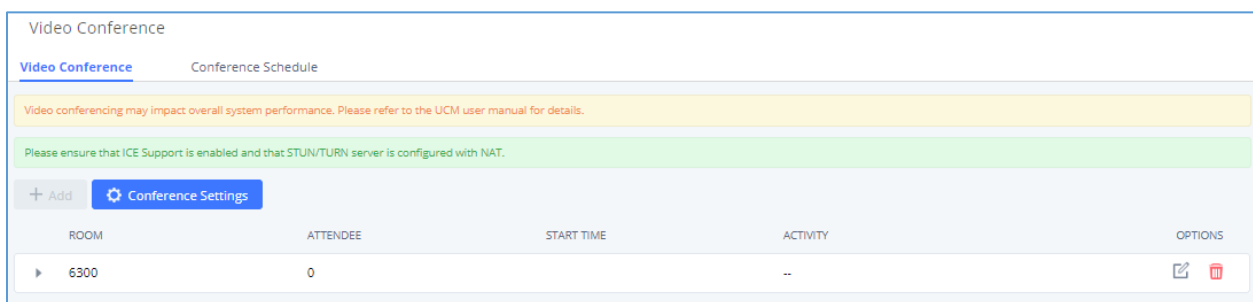


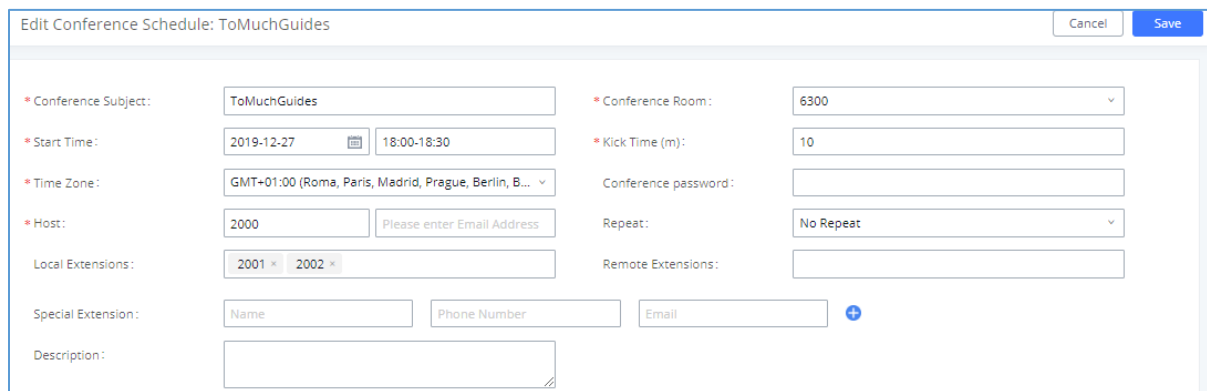
Figure 5: Created Conference Room



Schedule a Conference

Conference Schedule can be found under UCM6510 **Web GUI → Call Features → Video Conference → Conference Schedule**. Users can create, edit, view and delete a Conference Schedule.

- Click on “Add” to add a new Conference Schedule.
- Click on the scheduled conference to edit or delete the event.



The screenshot shows a web form titled "Edit Conference Schedule: ToMuchGuides". The form contains the following fields:

- Conference Subject:** Text input field containing "ToMuchGuides".
- Conference Room:** Dropdown menu showing "6300".
- Start Time:** Date and time pickers showing "2019-12-27" and "18:00-18:30".
- Time Zone:** Dropdown menu showing "GMT+01:00 (Roma, Paris, Madrid, Prague, Berlin, B...".
- Kick Time (m):** Text input field containing "10".
- Conference password:** Text input field.
- Host:** Text input field containing "2000" and a "Please enter Email Address" button.
- Repeat:** Dropdown menu showing "No Repeat".
- Local Extensions:** Text input field containing "2001" and "2002".
- Remote Extensions:** Text input field.
- Special Extension:** Three text input fields for "Name", "Phone Number", and "Email", with a "+" button.
- Description:** Text area.

Figure 6: Video Conference Schedule

Table 3 : Video Conference Schedule Parameters

Schedule Options	
Conference Subject	Configure the name of the scheduled conference. Letters, digits, _ and - are allowed.
Conference Room	Select a conference room for this scheduled conference.
Start Time	Configure the beginning start/end date of scheduled conference. Note: Please pay attention to avoid time conflict on schedules in the same conference room.
Kick Time(m)	Configure the time before the scheduled conference. When this time is reached, a warning prompt will be played, and all attendees currently in the scheduled conference room will be kicked after 5 mins. The conference room will be locked until the scheduled conference begins. Default value is 10 min.
Time Zone	Defines the time zone of the scheduled conference
Conference Password	Configure conference room password. Please note that if “Public Mode” is enabled, this option is automatically disabled.
Host	Set the admin of this scheduled conference from the following list of members. Host Email address can be set in the adjacent field.



Repeat	Choose when to repeat a scheduled conference: <ul style="list-style-type: none"> • No repeat • Every Day • Weekly
Local Extensions	Select available extensions from the list to attend scheduled conference.
Remote Extensions	The remote extension in the peer PBX connected to the local PBX via LDAP sync.
Special Extension	Add extensions that are not in the list (both local and remote list). If the user wishes to add the special extension, please match the pattern on the outbound route.
Description	Set a description of scheduled conference.

Once created, the **Web GUI** will display scheduled conference in Conference Schedule. Please see figure below:

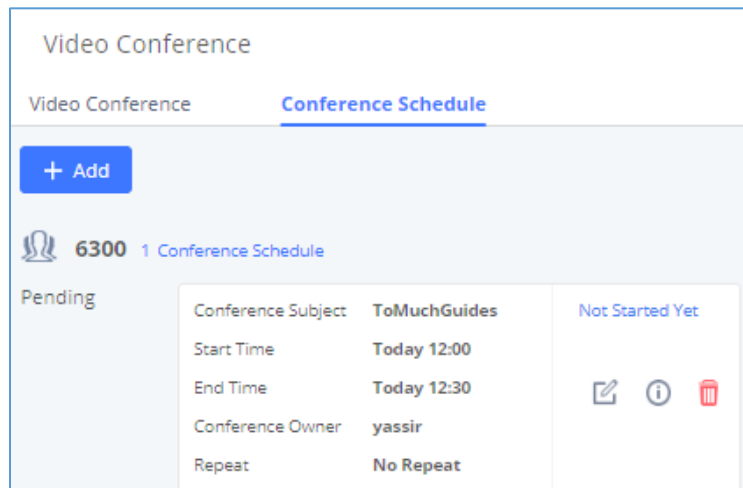


Figure 7: Video Conference Schedule

Once the conference room is scheduled, at the kick time, all users will be removed from conference room and no extension can join the conference room anymore. At the scheduled conference time, UCM6510/UCM62xx will send INVITE to the extensions that have been selected for conference.

Upon scheduling the conference, invites will be sent out to the host and selected participants. These invitations will include the conference details and a link to the conference. Upon clicking the link, participants will be prompted to enter their GS Wave portal passwords to log in and join the conference.





Hi "Michael Jordan",

You are invited to attend the following conference.

Conference Schedule Details

This is the information of the schedule conference which you will attendee.

Topic:
UCMSFU

Description:

Schedule Time:
2018-07-06 15:53 - 2018-07-06 16:08

Conference Info:
Conference Room: 6300
Conference Password: No Password

LAN Conference Link Address:
[Click the link to enter Schedule Conference](#)

WAN Conference Link Address:
No Address

Notes: please open the link address with Chrome or Firefox browser.

Figure 8: Invitation Link Schedule



LOGIN TO GS WAVE PORTAL

After Enabling WebRTC and creating Conference Rooms, users will be able now to establish WebRTC Calls, and participate/host conferences.

The UCM offers the possibility to login to an extension via Grandstream Wave Portal, where it offers a sleek interface to host conferences; manage contacts and share presentation.

Access the page by adding “gswave” after the UCM’s server address and port.

(e.g. <https://my.ucm.com:8089/gswave>).

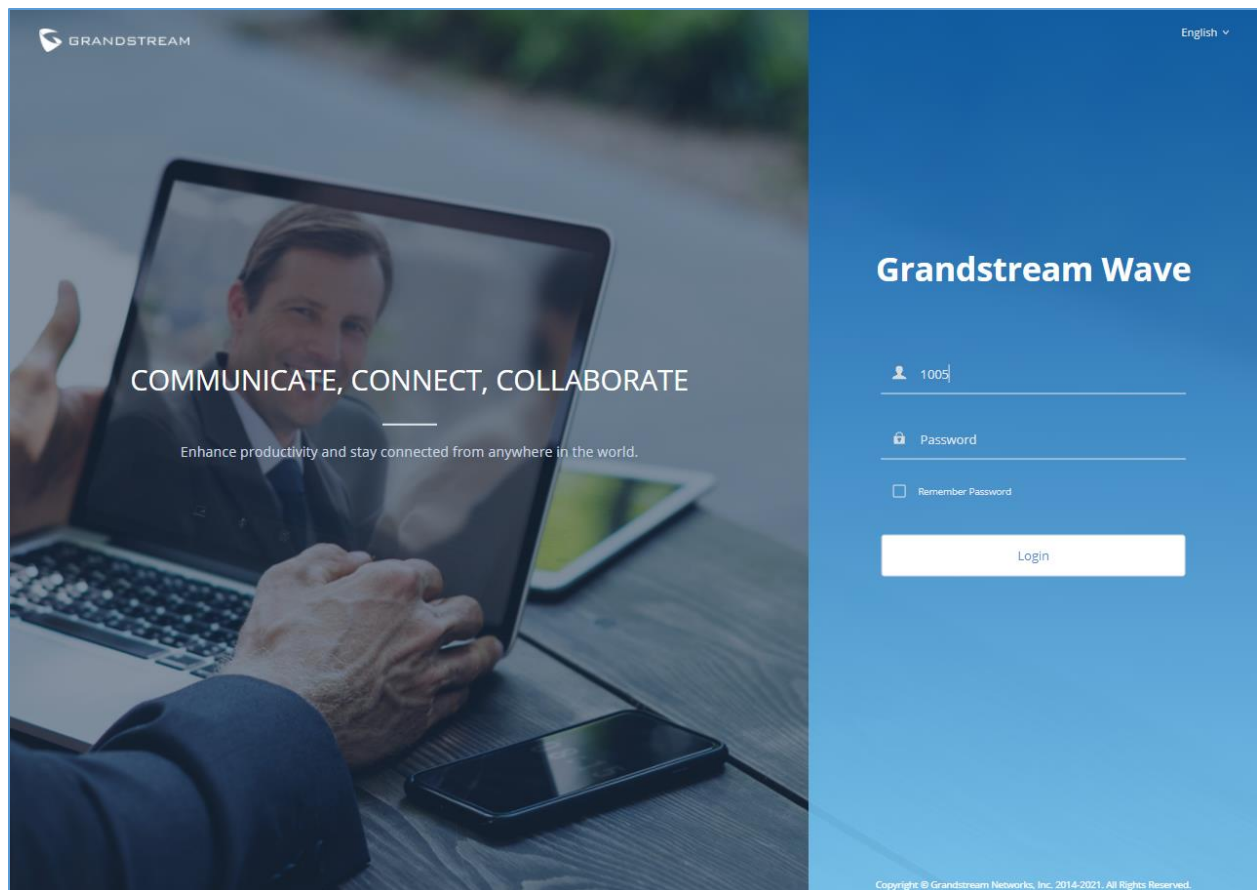


Figure 9: GS Wave Portal

Enter an extension number and its SIP or user portal password. Once logged in successfully, the following page will appear:

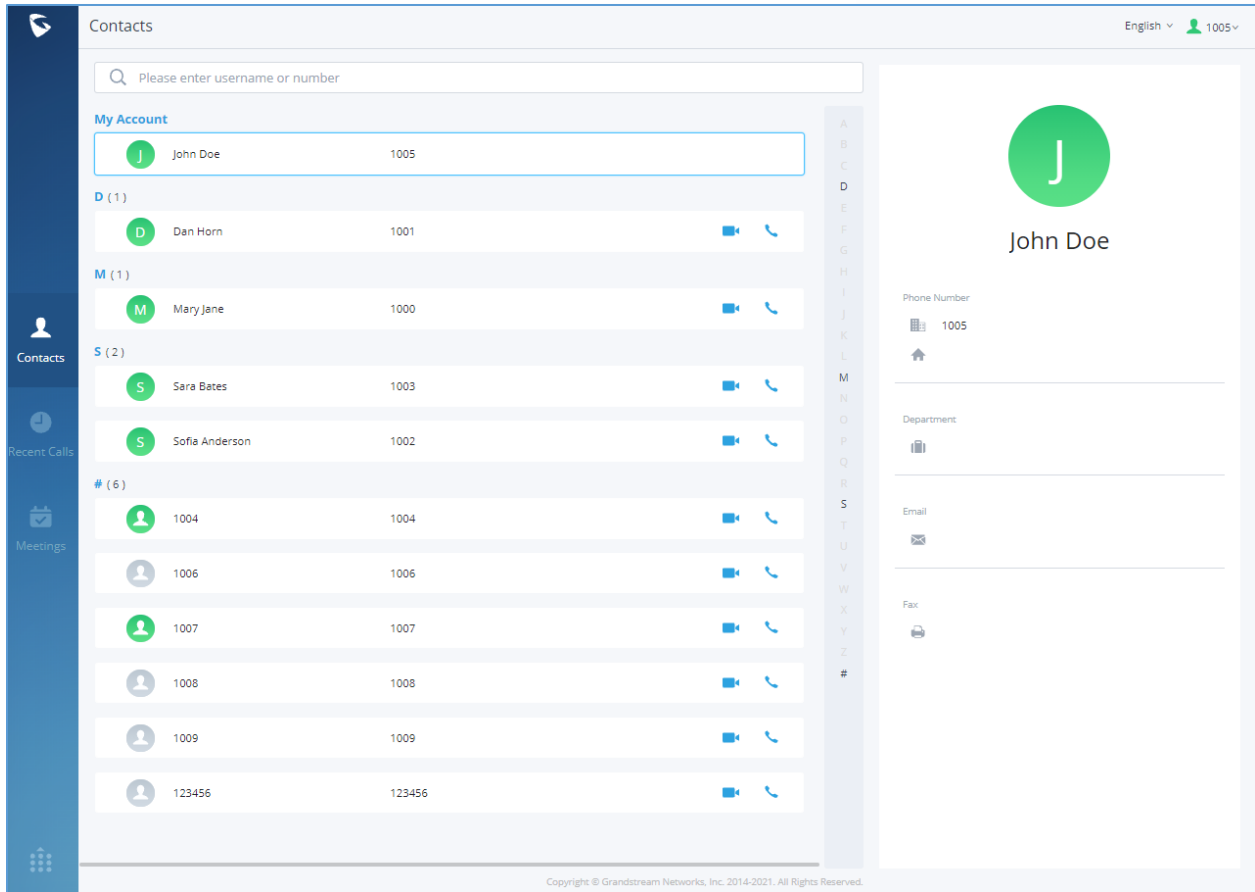


Figure 10: Contacts Page



WEBRTC FEATURES

Initiate a Call

From here on, users can initiate an audio or video call to individual extensions and conference rooms. If starting a call for the first time on a browser, users may be asked to allow the web page to use the device's mic and/or webcam. Users may be required to drop and re-establish the call after allowing webcam/microphone access. Users can initiate a call either by either selecting a contact, a recent call or entering the destination number.

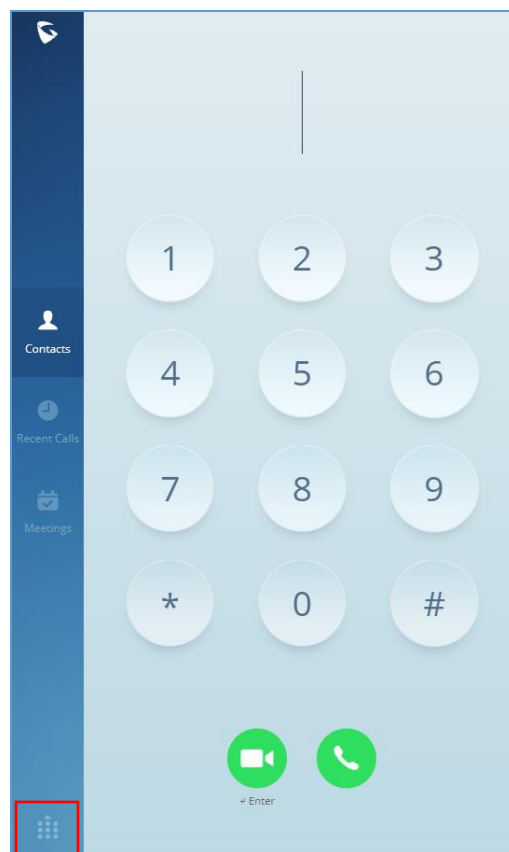


Figure 11: Initiating a Call

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



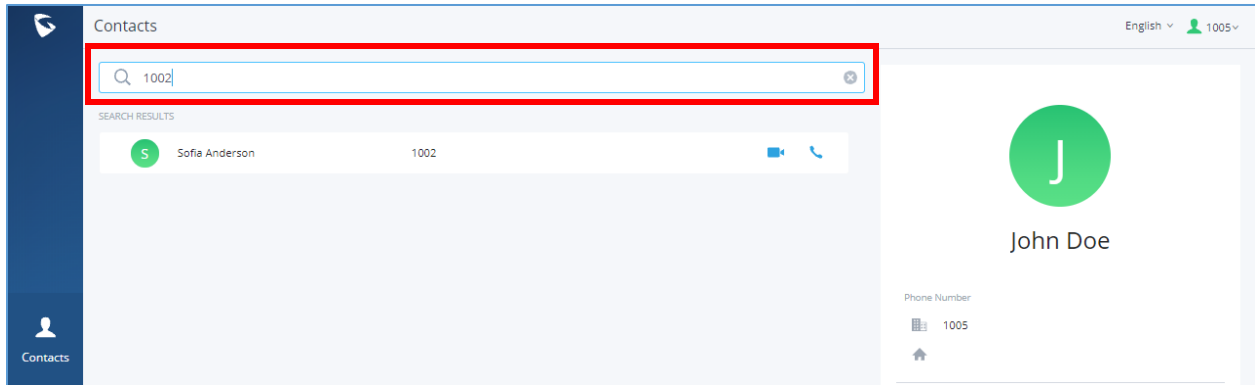


Figure 12: Contact Search

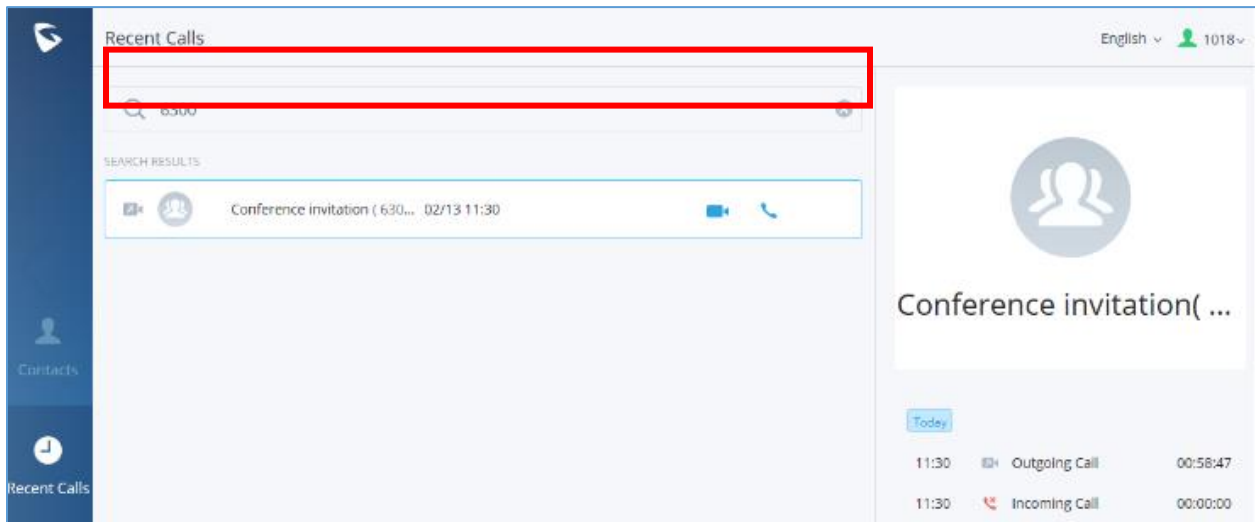


Figure 13: Recent Calls search

Once the call is established, users can mute themselves, enable and disable their video feed, screen share (Video calls only), and transfer the current call.



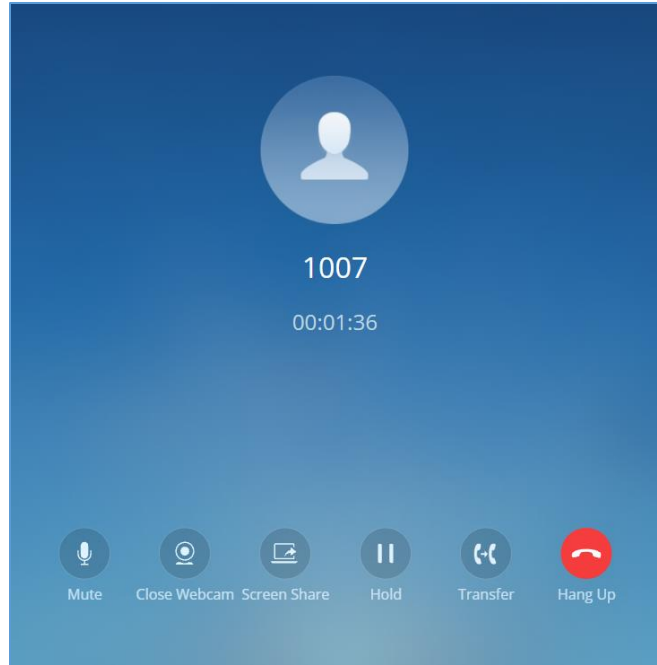


Figure 14: Audio call screen



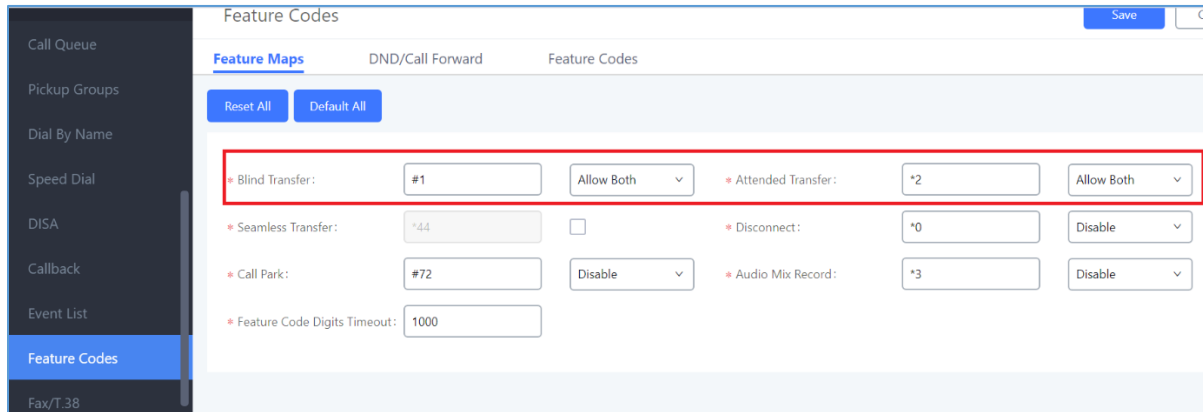
Figure 15: Video Call Screen



Transfer

The call can be transferred using the **Transfer** button to either custom numbers or to already existing extensions. In order to be able to use transfer feature, make sure to set the following:



Access Web UI as admin → Call Features → Feature Codes and set “Blind Transfer” and “Attended Transfer” to “Allow Both” as shown in figure below.



The screenshot shows the 'Feature Codes' configuration page in the Grandstream Web UI. The 'Blind Transfer' and 'Attended Transfer' settings are highlighted with a red box. The 'Blind Transfer' setting is set to '#1' and 'Allow Both'. The 'Attended Transfer' setting is set to '*2' and 'Allow Both'. Other settings include 'Seamless Transfer' (*44), 'Call Park' (#72), 'Feature Code Digits Timeout' (1000), 'Disconnect' (*0), and 'Audio Mix Record' (*3).

Figure 16: Enable Transfer

Blind Transfer

1. During a call, press  button
2. Enter destination number (extension or custom number).
3. Press  button to complete blind transfer.



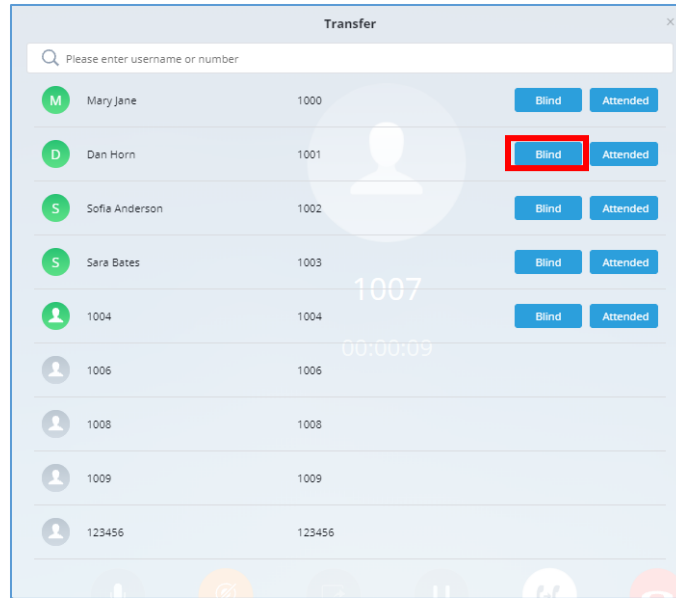




Figure 17 : Transfer Screen – Blind Transfer

Attended Transfer

1. During a call, press  button.
2. Enter destination number (extension or custom number)
3. Press  button to initiate attended transfer.
4. Press hang up button to complete the transfer.

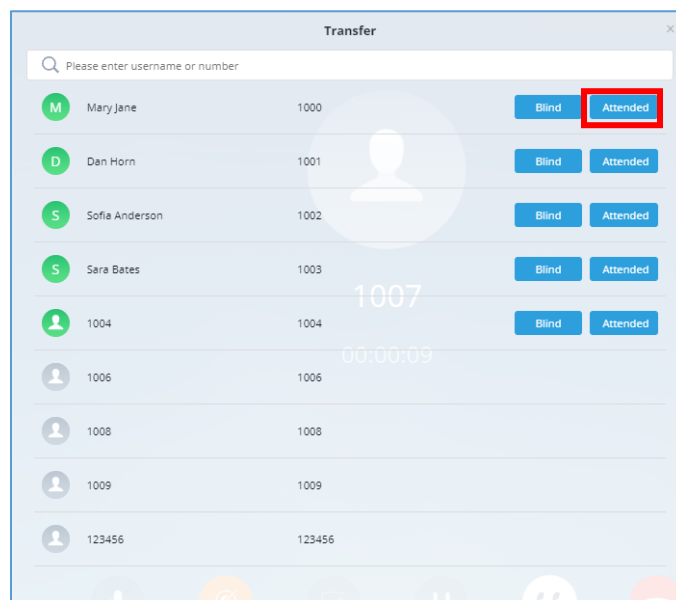


Figure 18 : Transfer Screen – Attended Transfer



Screen Sharing

Screen sharing allows users to share their whole screen or a specific browser tab to all participants:

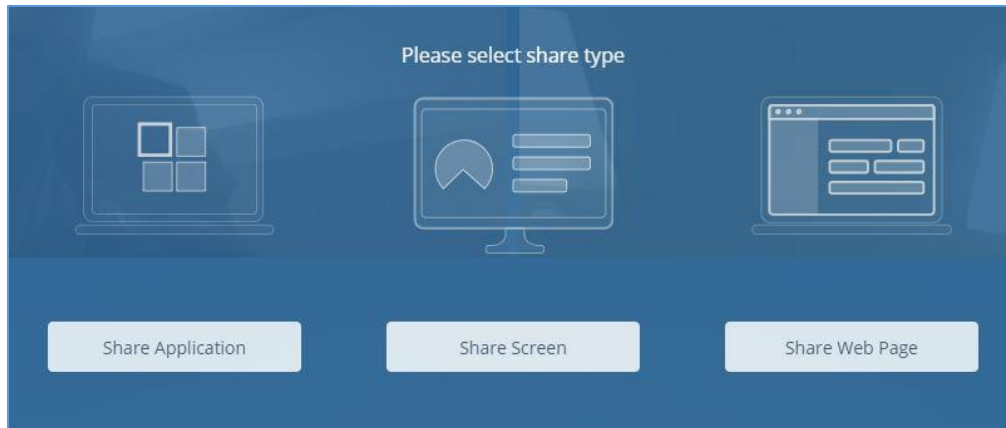


Figure 19: Screen Share Type

Screen sharing requires the IPVT Screen Capturing browser extension/add-on to work properly. If the browser does not have it, a prompt will appear asking to install or allow it. Users may need to disable their ad-blockers to have the prompts appear.

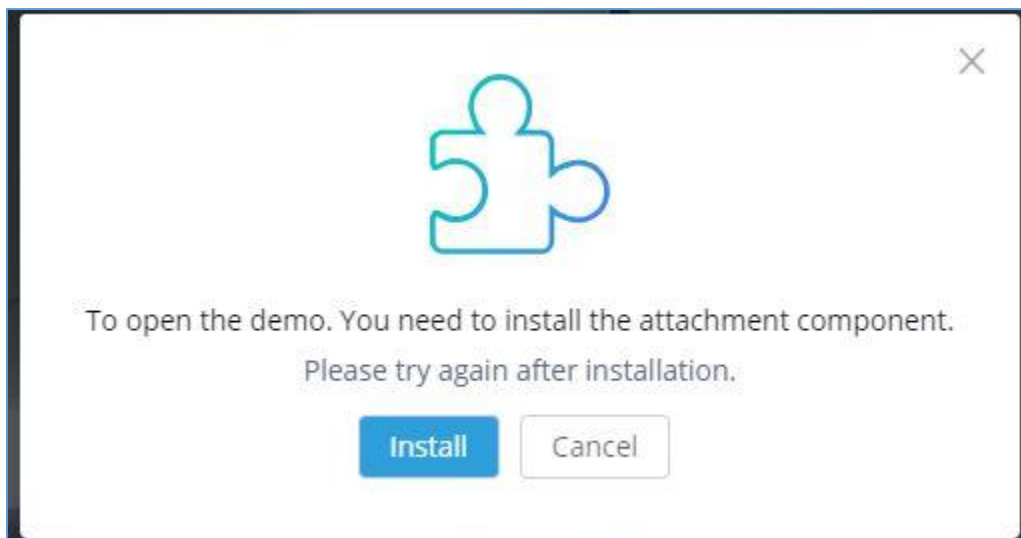


Figure 20: Plugin Setup

Note: Participant will need to enable presentation on their devices such as GXV33xx and GVC32xx devices presentation to have the screen share appear.



Chat

Video conference attendees via WebRTC can chat directly through the chat section on the upper right corner of the conference page as shown on the figure below:

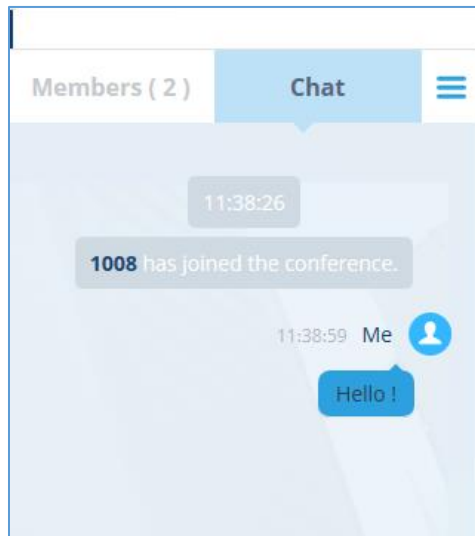



Figure 21: Chat Feature

Users can access the chat window by clicking on the conference members icon on the right lower corner of the conference page  and then clicking on the Chat tab. The chat messages can either be transmitted to a specific member or to all the members of the conference

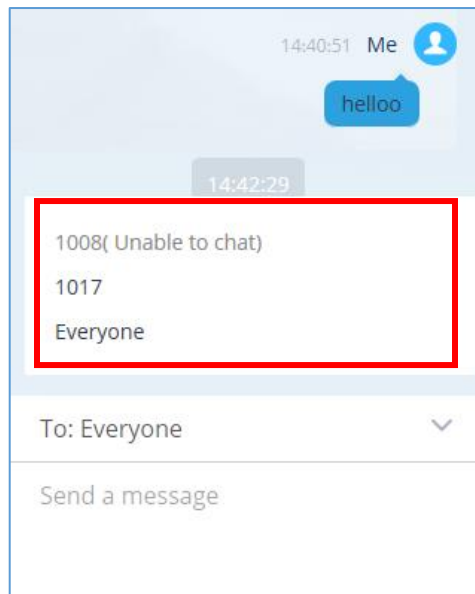


Figure 22: Chat message destination



VIDEO CONFERENCE FEATURES

Join a Video Conference Room

Users can join a video conference room by dialing the room number. Once this is established, users can mute themselves, enable and disable their video feed, screen share, invite other people to the conference, and change the video layout. Currently, only Equal (grid) and Focus video layouts are available.



Figure 23: Video Conference screen

Host Privileges

The host of a conference has the following privileges:

- Lock and unlock conferences to control access to it.
- Mute and unmute conference participants
- Transfer host privileges to one of the participants.

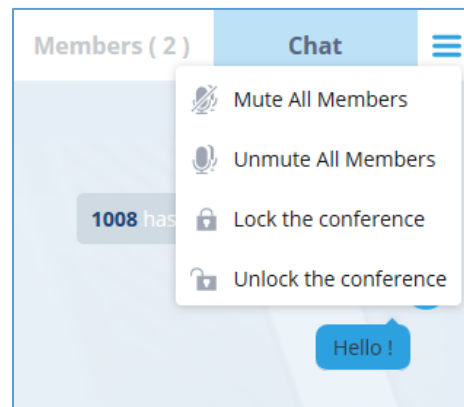
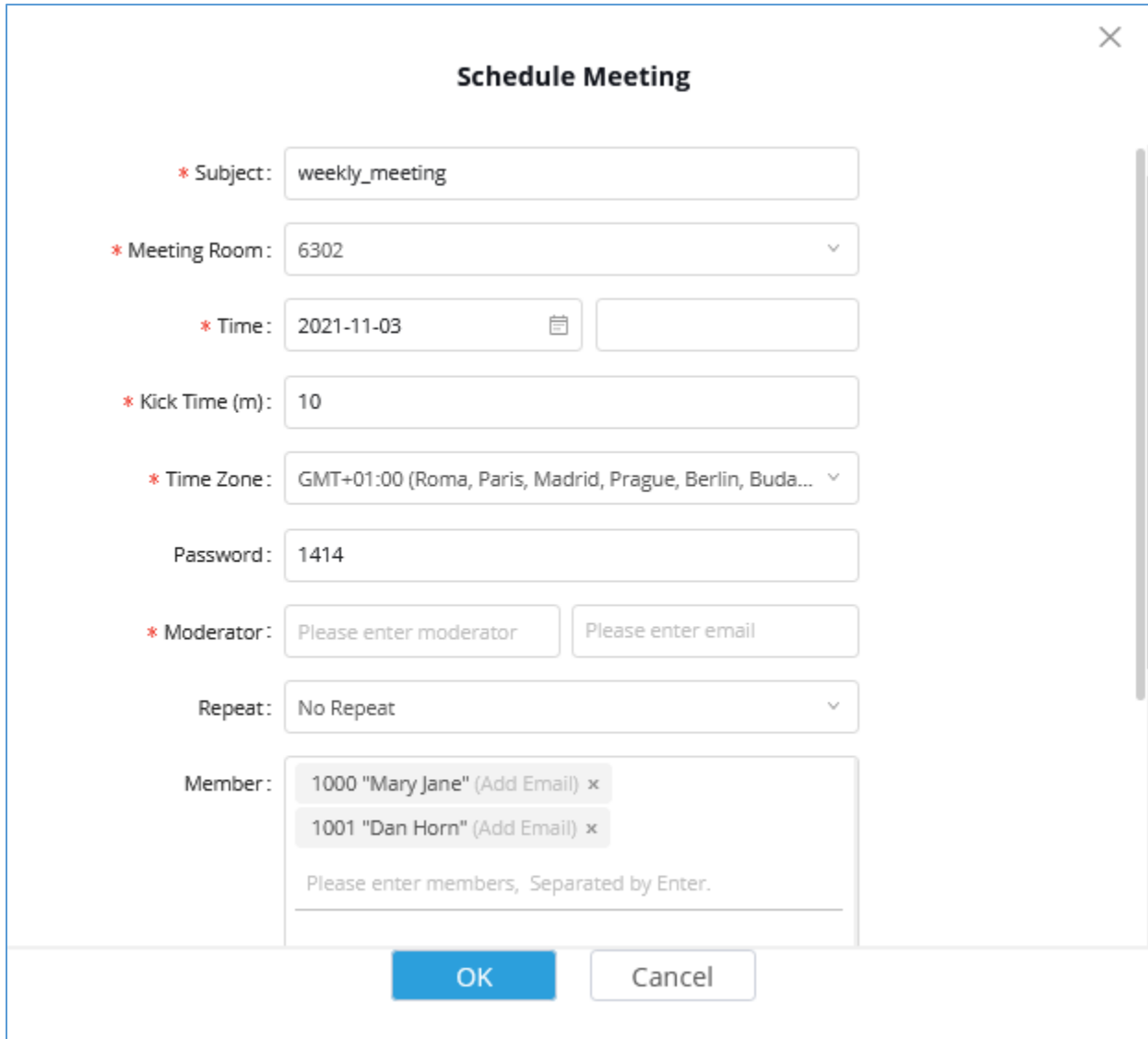


Figure 24: Host Privileges



Schedule a Video Meeting from WebRTC

Users can schedule new a video meeting using their meeting room from “Meetings” Page by clicking on [Schedule Meeting](#) button.



Schedule Meeting

* Subject: weekly_meeting

* Meeting Room: 6302

* Time: 2021-11-03

* Kick Time (m): 10

* Time Zone: GMT+01:00 (Roma, Paris, Madrid, Prague, Berlin, Buda...)

Password: 1414

* Moderator: Please enter moderator Please enter email

Repeat: No Repeat

Member: 1000 "Mary Jane" (Add Email) x
1001 "Dan Horn" (Add Email) x
Please enter members, Separated by Enter.

OK Cancel

Figure 25 : Schedule Meeting from WebRTC

Note: The Meeting room need to be pre-configured and assigned to the user by the system administrator.



Meeting List

Users can view the list of the available meetings and check their status and information from the Meetings tab. By toggling between **My Meeting** & **All Meeting** buttons users can choose to display the list of all meetings or only the list of meetings specific to the user.

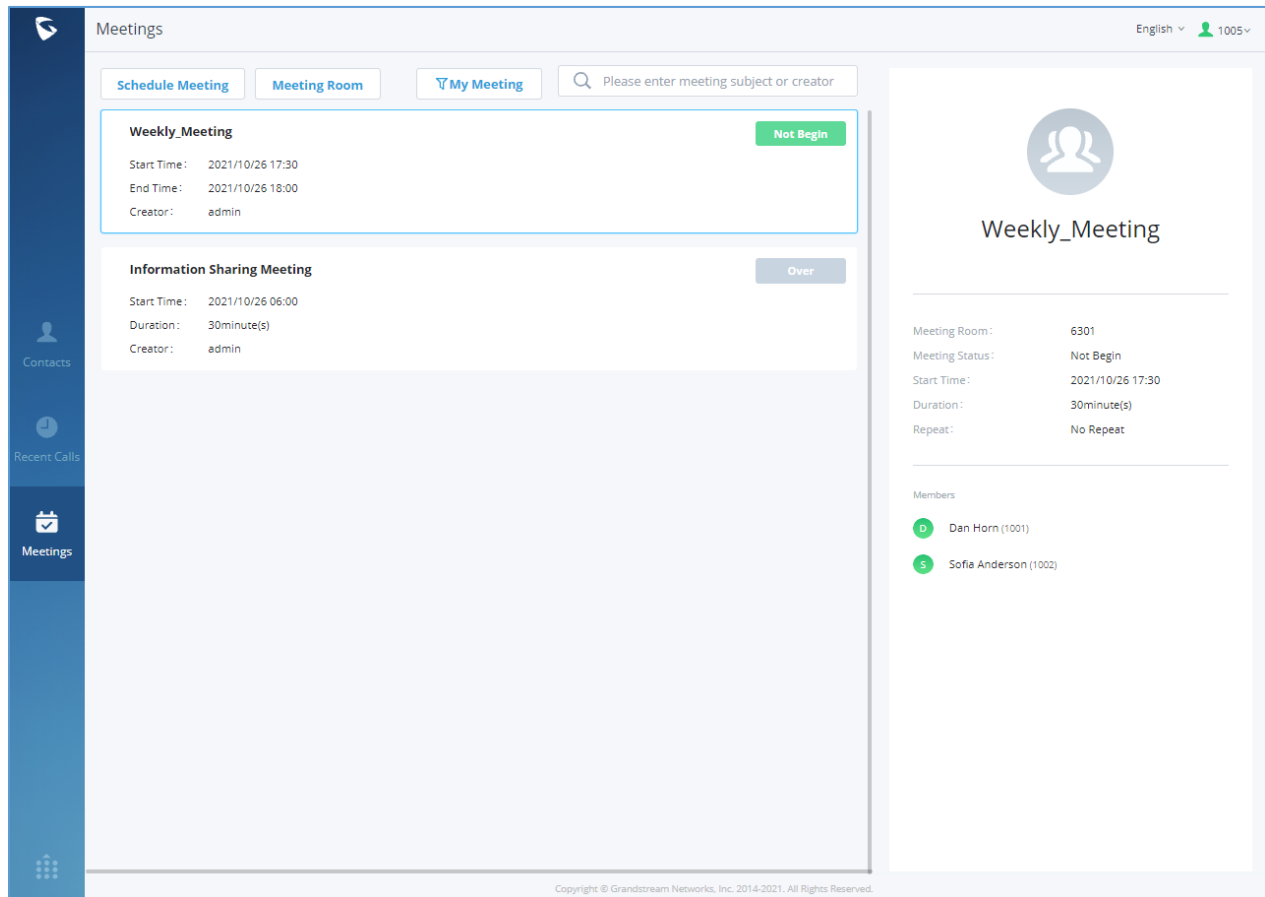
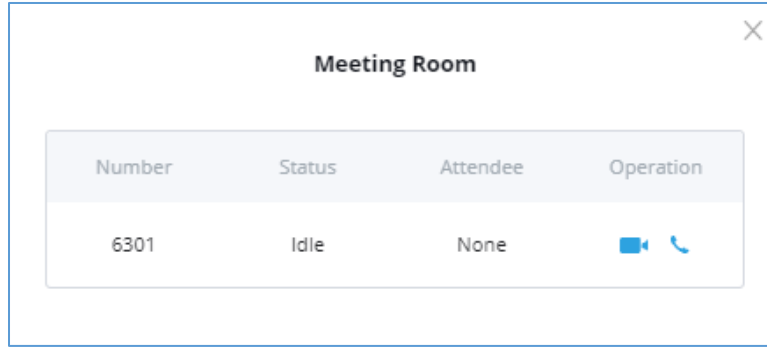


Figure 26 : Meeting List WebRTC

Access Video Meeting Room

Users can access the video meeting room from WebRTC either by dialing the meeting room number or by tapping on **Meeting Room**. Users will need to enter the password before accessing to the room if it is required.







Number	Status	Attendee	Operation
6301	Idle	None	 

Figure 27 : Video Meeting Room

