Grandstream Networks, Inc.

UCM6300 Series IP PBX

RemoteConnect User Guide

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The latest electronic version of this user manual is available for download here:
http://www.grandstream.com/support

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CHANGE LOG

This section lists the major new features and significant changes from previous versions of the user guide for Remote Connect. Minor updates for corrections or editing are not documented here.

Version 1.0.2.25

- This is the initial version

INTRODUCTION

Thank you for purchasing the UCM6301/UCM6302/UCM6304/UCM6308 IP PBX. The Grandstream UCM6300 series IP PBX is based on Asterisk 16 system. It provides powerful functions, friendly interface for remote management and easy-to-expand all-in-one communication solution to enterprises of all sizes. The UCM6300 series IP PBX supports up to 5000 extensions with PBX features including audio/video calling, video conferencing, video surveillance, PBX data management and analysis, UCM RemoteConnect, and device remote access. It is an ideal choice for enterprises looking for an all-in-one solution for users to communicate efficiently and work productively.

The UCM6300 series IP PBX provides UCM RemoteConnect service which offers users a quick setup to start working remotely including GS Wave web app using WebRTC and Wave mobile app on Android and IOS system to communicate and join meetings, sync up and manage extension, receive alerts and reports, view and managed storage via cloud, and much more. The UCM6300 UCM RemoteConnect service is offered via Grandstream Device Management System (GDMS). Please visit GDMS platform for UCM RemoteConnect service plan information and purchasing plan, device remote management, cloud storage management and etc.

This document describes how to use UCM6300 series IP PBX UCM RemoteConnect service with UCM6300 and GDMS.

UCM REMOTECONNECT SUBSCRIPTION PLAN

The UCM RemoteConnect plan offers the following services：

- Automated NAT traversal allows users to communicate remotely from external network without complicated configuration needed.
- 3 remote management levels:
  - View device basic information such as device firmware version.
  - UCM remote reboot, upgrade, SIP extension sync-up
  - Remote access to UCM web GUI
- GDMS provides cloud storage service for UCM6300 series to back up configuration files and user data.
- UCM statistics displayed in report and sent to system admin via email.

PREREQUISITE

The UCM RemoteConnect service on UCM6300 series must be used with Grandstream Device Management System (GDMS). Before the UCM is connected with GDMS, the RemoteConnect information displays as below on UCM6300 web GUI→**Value-added Features→UCM RemoteConnect** page.

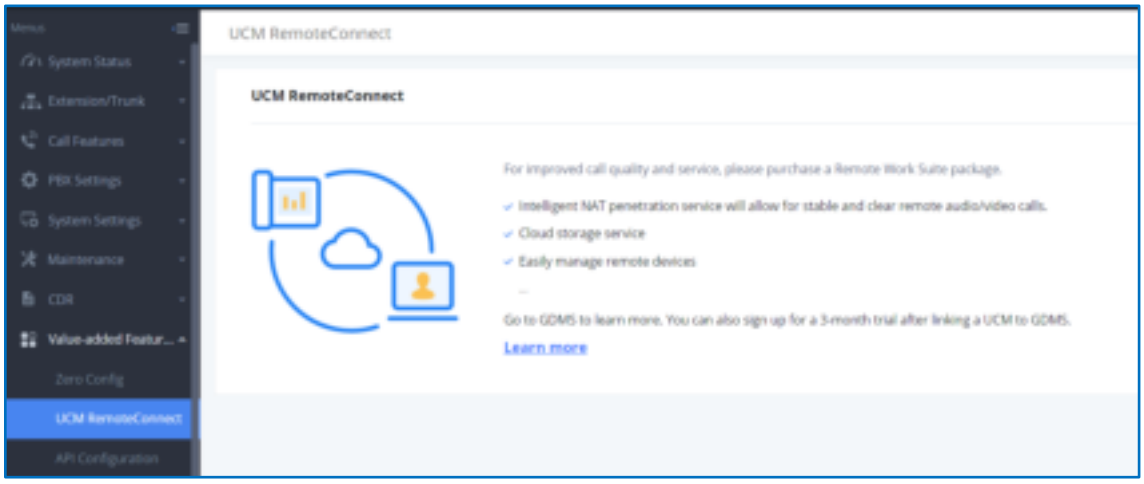


Figure 1: UCM RemoteConnect Page

Before using the service, please log in your GDMS account. If you do not have GDMS account, please sign up here and then log in: https://www.gdms.cloud/login

On GDMS platform, sign in and go to **Device→PBX Device** page, click on "Add Device" to add your UCM6300 device to GDMS system. Please refer to section "Managing UCM6300 on GDMS→Add UCM Device" for more details.

Figure 2: GDMS PBX Device Page

CONFIGURING UCM REMOTECONNECT

Purchase Plan

Log in UCM6300 web GUI with admin account. Go to **Value-added Features->UCM RemoteConnect**. An initial introduction page will be displayed as below.

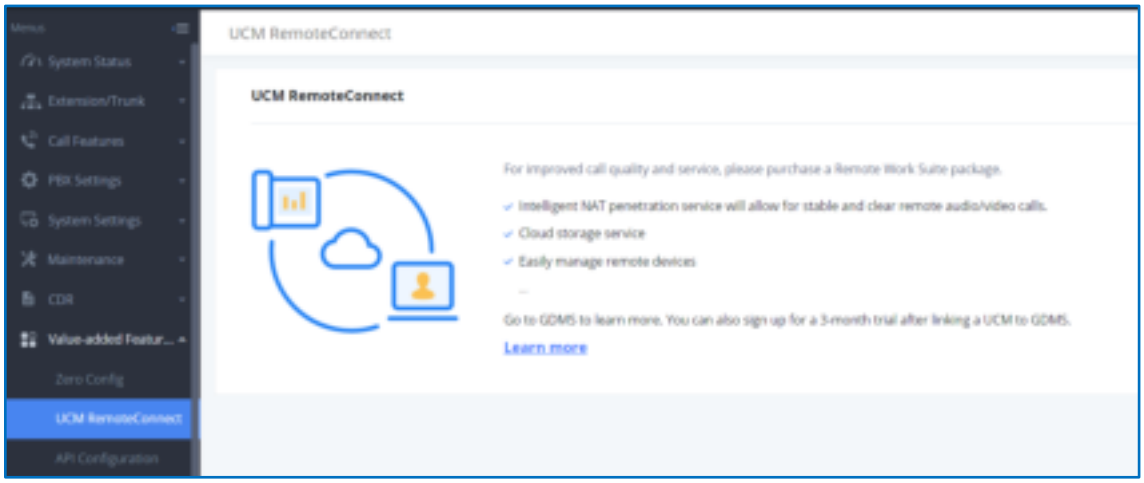


Figure 3: UCM RemoteConnect Introduction Page

On GDMS platform, sign in and go to **Device→PBX Device** page, click on "Add Device" to add your UCM6300 device to GDMS system. Please refer to section "Managing UCM6300 on GDMS→Add UCM Device" for more details.

After UCM is successfully connected to GDMS, an open beta plan will be assigned to the UCM for users to start with.

Now log in UCM web GUI and go to **Value-added Features→UCM RemoteConnect**. The following plan details will be displayed with related configurations available in the web page.

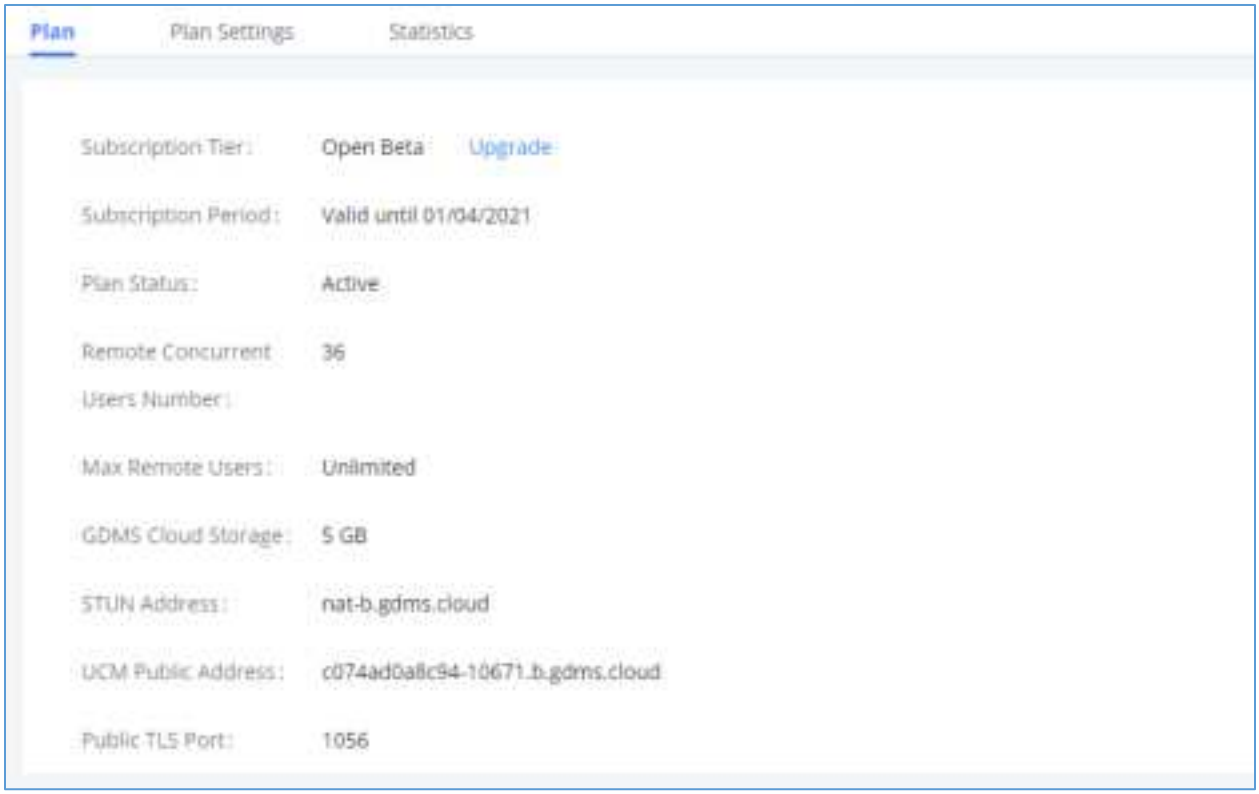


Figure 4: UCM RemoteConnect - Effective Plan

Note:

- After the UCM is added on GDMS, automated NAT traversal, SIP extension sync-up and basic statistics features are available without manual configuration required.
- Users cannot purchase UCM RemoteConnect services directly on UCM630x. To purchase UCM RemoteConnect services, please log in GDMS for details or contact your service provider.
- "Statistics" refers to number of concurrent remote users for calls and meetings.

SIP Extension Sync-Up

After UCM is added into GDMS, all SIP extensions on the UCM will be synced up to GDMS automatically for users to allocate and manage SIP extension for their end devices.

The setting "SIP Extension Sync" is under UCM web GUI→**Value-added Services→UCM RemoteConnect→Plan Settings**. By default, it is enabled.

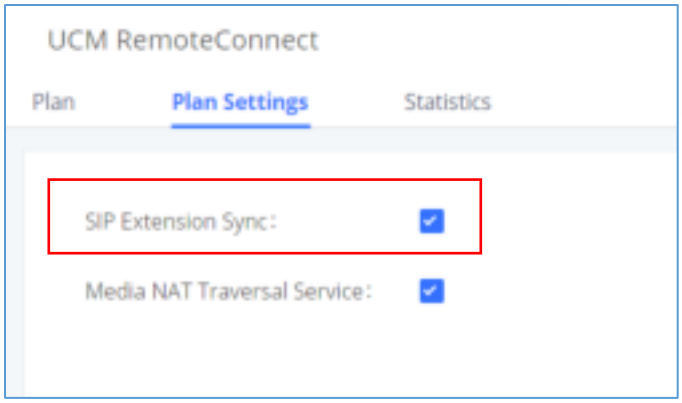


Figure 5: UCM RemoteConnect - SIP Extension Sync

The SIP extensions synced up from UCM will be displayed on **GDMS→VoIP Account→SIP Account**.

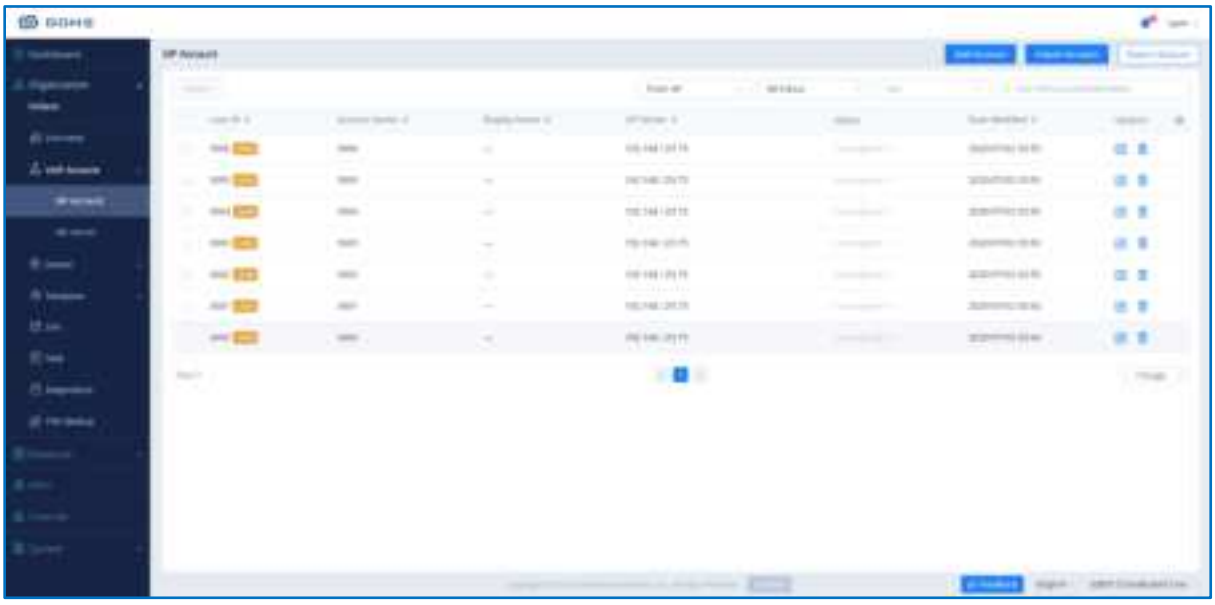


Figure 6: UCM SIP Extensions Synced to GDMS

Note:

- Deleting SIP extension on GDMS only disassociates the extension from GDMS. It will not delete the SIP extension from UCM.
- If any SIP extension is created, edited, or deleted from UCM, the changes will be synced to GDMS automatically.

Media NAT Traversal Service

The media NAT traversal provides automated NAT traversal service for users to make calls and attend meetings from external network without NAT issues.

The setting "Media NAT Traversal Service" is under UCM **web GUI→Value-added Services→UCM RemoteConnect→Plan Settings**. By default, it is enabled.

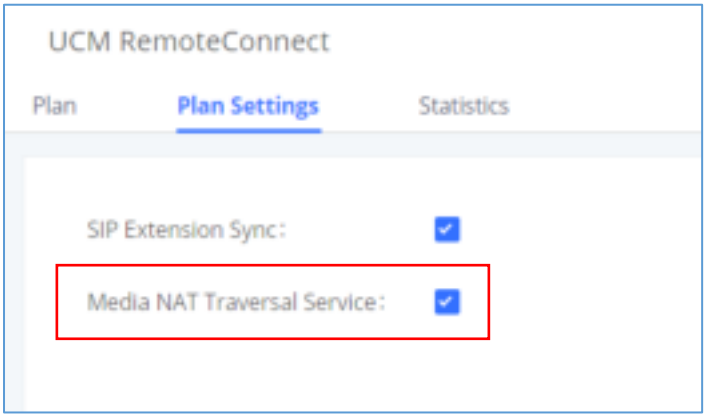


Figure 7: UCM RemoteConnect - Media NAT Traversal Service

⚠ **Note:**

If "Media NAT Traversal Service" is enabled, the manual configurations for TURN servers and other NAT related settings on UCM will not take effect. If users wish to use manual configuration for NAT on UCM, please disable "Media NAT Traversal Service".

USING REMOTECONNECT FOR CALLS AND MEETINGS

Users can start using UCM RemoteConnect for calls and meeting from external network. The public address to access UCM can be found under UCM Web GUI→**Value-added Services→UCM RemoteConnect.**

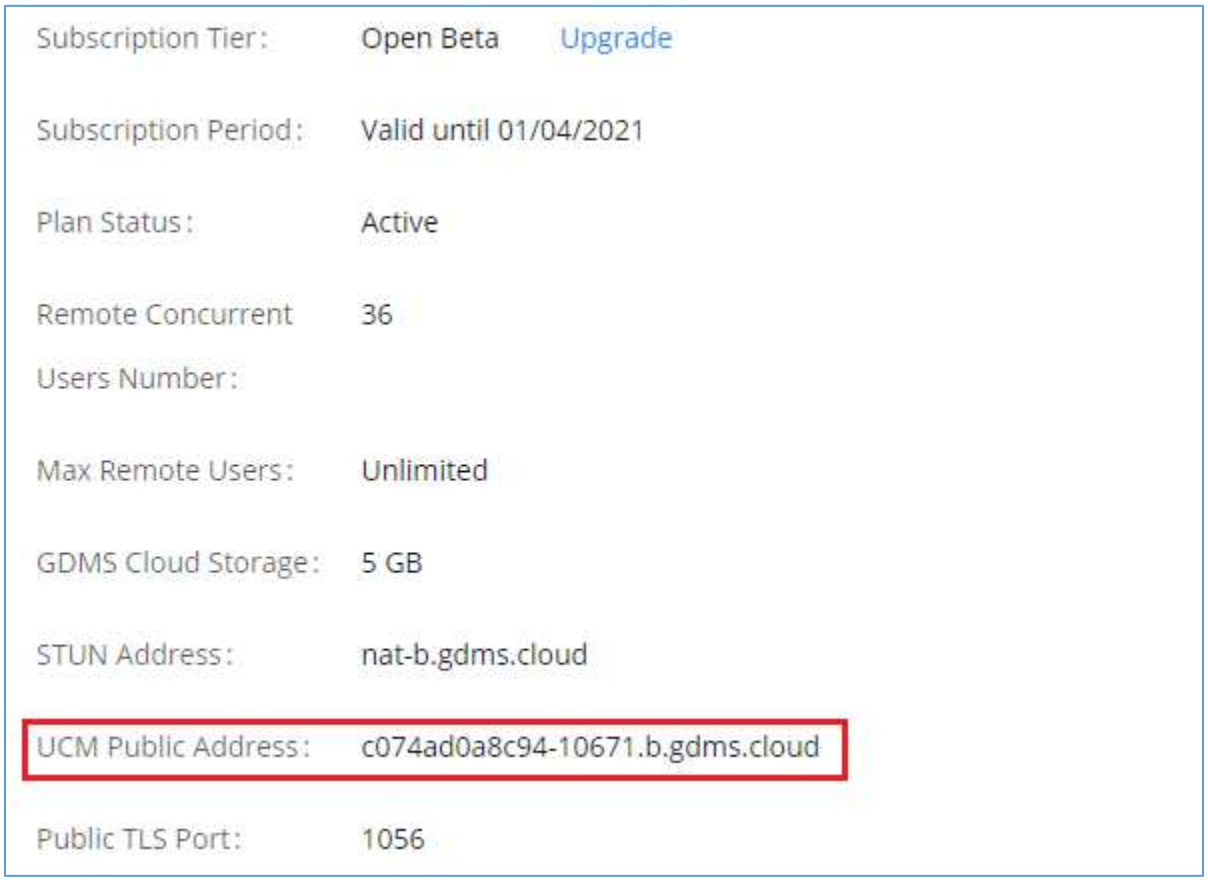


Figure 8: UCM RemoteConnect - Check UCM Public Address

Note:

The UCM public address can be defined on GDMS if user prefers to configure it to a different address for identification purpose.

Using GS Wave Web

Before using GS Wave web application for audio and video calls, please configure the following:

1. Log in UCM web GUI and go to **Value-Added Services→WebRTC** page, enable WebRTC support.

2. On UCM web GUI→**Extension/Trunk→Extensions**, go to "Feature" tab. Select the extensions you would like to use for GS Wave web application and check "Enable WebRTC Support" for this extension.
3. Create video conference rooms in UCM→**Call Features→Video Conference**.

Joining Meeting Anonymously

Users can join UCM meeting anonymously from the link in invitation email or the link directly shared by the host. In below page, enter the preferred display name to join the meeting.

Figure 9: Join Meeting Anonymously from GS Wave Web

Logging in GS Wave Web

UCM users can log in GS Wave web using the SIP extension number and SIP registration password. After user logs in GS Wave web, the user can host meeting, schedule meeting, access and manage contacts, make calls, transfer call and chat during call.

The GS Wave web page is formed by adding "/gswave" to the UCM access page. For example: https://c074ad0axx8e.a.gdms.work/gswave/

External users can also open UCM login page and click on "Grandstream Wave" under the login button to access GS Wave web login page.

For internal user, The GS Wave web page can be accessed by UCM IP with default port 8090, For example: https://192.168.100.50:8090

Figure 10: UCM Login Page

Figure 11: UCM GS Wave Login Page

Here is the display after users log in UCM GS Wave web using the SIP extension number and SIP registration password.

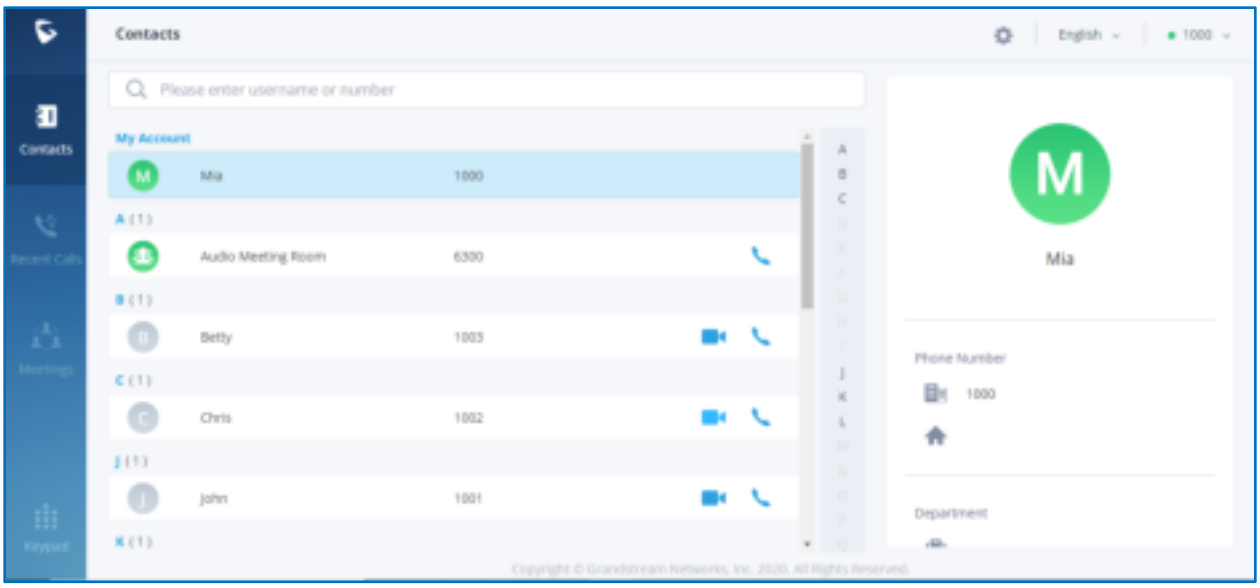


Figure 12: UCM GS Wave Web after Login

Using Wave app on Mobile Devices

Wave is a softphone app for Android and iOS system that can be used with UCM6300. After downloading and installing the Wave app, users can see the following interface when launching the app on the mobile device.

Figure 13: Wave App Launched on Mobile Device

Joining Meeting Anonymously

After user clicks on “Join Meeting” button, the following interface will show. Users can paste the meeting URL there, enter user’s display name for the meeting and password (if required), then click on “Join Meeting” to start joining meeting.

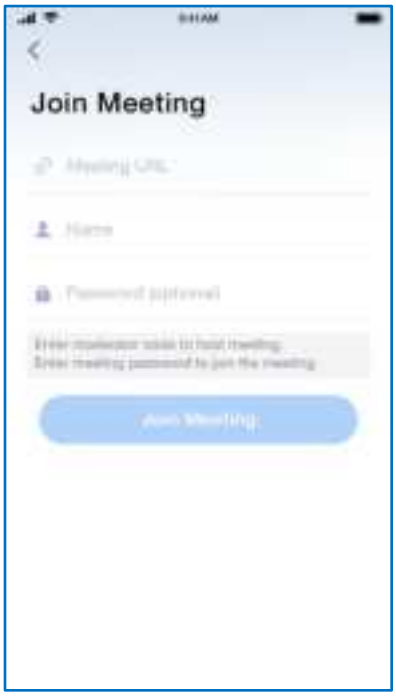


Figure 14: Wave App - Join Meeting

Logging in Wave App

After user clicks on “Login” button, the following interface will show. Enter the UCM public access address in “Server” field (e.g., c074ad0axx8e.a.gdms.work), enter the Account name with the SIP extension number and password with the SIP registration password, and then click on “login”.

Figure 15: Wave App – SIP Extension Login

Packet Loss Resistance Configurations

To achieve good audio and video quality when there are many participants joining meeting from link, it's recommended to configure below packet loss resistance related settings on the UCM.

Log in UCM web UI→**Call Features**→**Video Conference**, open Conference Settings page to configure the following options:

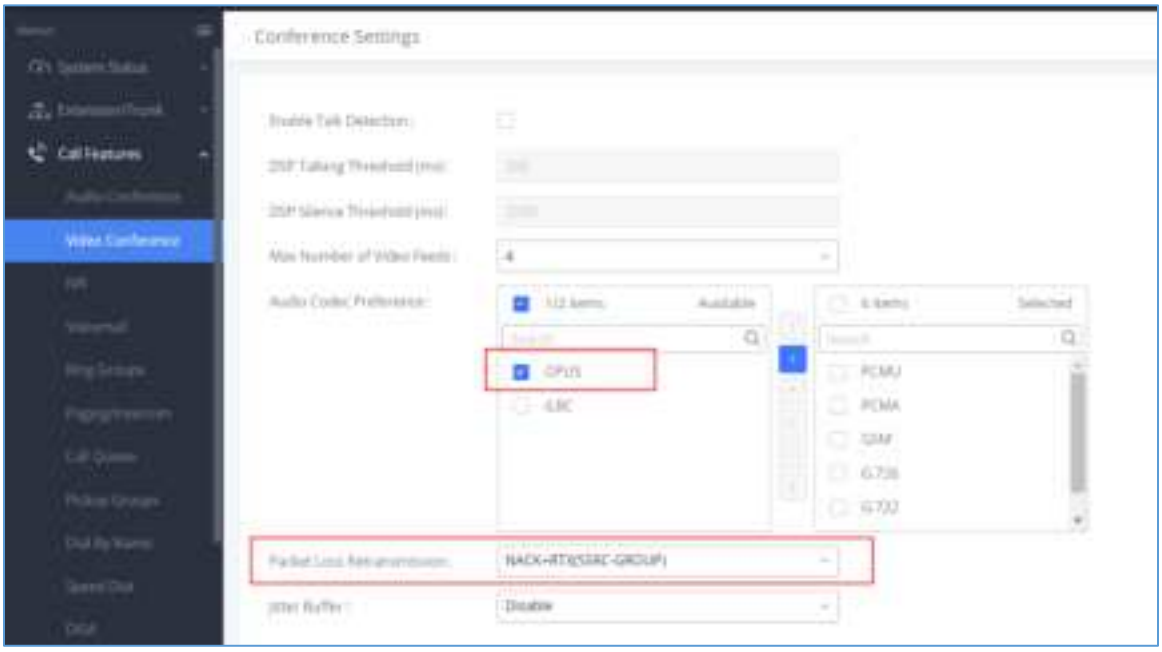


Figure 16: Video Conference Settings

- **Audio Codec Preference:**
  Select Opus to add to the selected codec list. Opus has built-in inbandfec support which can prevent packet loss.

- **Packet Loss Retransmission:**
  - NACK: Retransmit original packet
  - NACK+RTX: Retransmit packet with new RTP header. This option provides more accurate packet loss statistics compared to NACK.

UCM CLOUD BACKUP

Besides local backup and network backup that is already supported on UCM6300, cloud backup is also supported with UCM RemoteConnect. The backup file can be stored in the GDMS cloud storage.

Manual Backup

Go to UCM **Web GUI→Maintenance→Backup→Backup/Restore** page, users can manually perform backup for config file and user data.

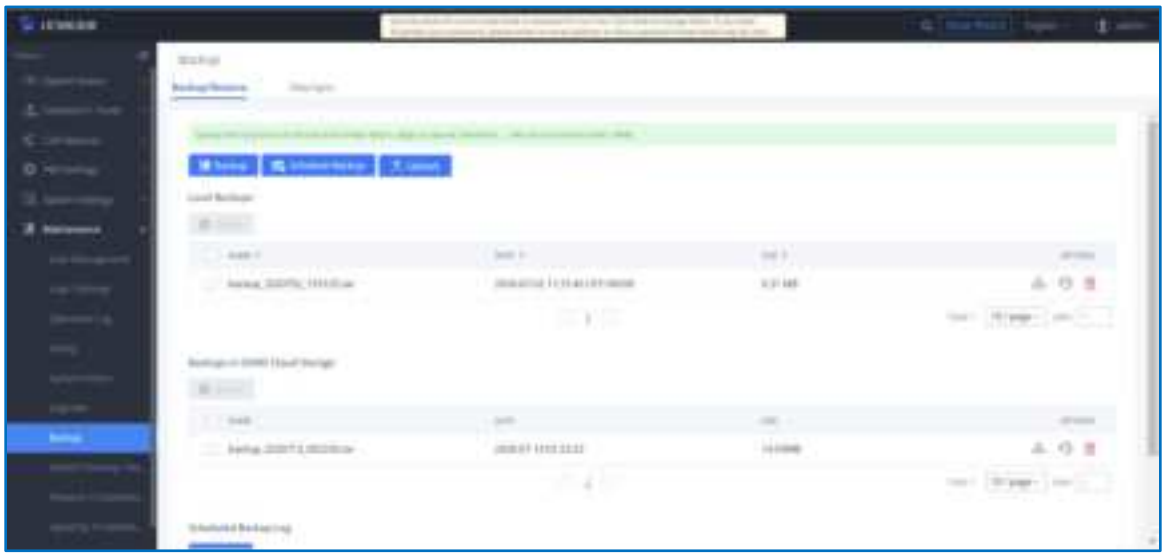


Figure 17: UCM Backup/Restore Web Page

Click on "Backup" button to bring up the backup configuration page as shown below:

Figure 18: Create New Backup on the UCM

And in order to take a backup that will be stored on GDMS cloud, please follow the below steps:

- **Step 1:** Select storage location as "GDMS Cloud Storage.
- **Step 2:** Rename backup file in "File Name" as needed.

- **Step 3:** Select the backup files as needed. Please note currently only “Config File” is supported for GDMS cloud storage.
- **Step 4:** On the upper right corner, click on “Backup” to perform backup.

After backup is completed, the backup file will be listed for users to download, restore, or delete.

Schedule Backup

In order to take schedule a backup that will be stored on GDMS cloud, please follow the below steps:

- **Step 1:** Go to UCM **web GUI→Maintenance→Backup→Backup/Restore** page, click on “Schedule Backup”.

Figure 19: Schedule Backup Page

- **Step 2:** Select storage location as “GDMS Cloud Storage”.
- **Step 3:** Configure backup time, backup frequency and backup files.
- **Step 4:** Click on “Save”.

Restore

- Step 1: Go to UCM **web GUI→Maintenance→Backup→Backup/Restore page**.
- Step 2: In the list for “Backups in GDMS Cloud Storage”, select the Config file you would like to restore, then click on the “Restore” button.

Figure 20: Restore Backup File

UCM CDR

CDR (Call Details Report) is the data generated from PBX calls. It includes call details and properties for all calls processed by the PBX. The CDR record includes caller number, callee number, call type, start time, call time, talk time and etc. This section describes CDR related to calls from remote network.

Figure 21: CDR Page

CDR for Remote Calls

UCM6300 CDR can be accessed from UCM **web GUI→CDR→CDR** page. In "Call Type" field, click on "Remote Calls" to filter the page to display remote calls CDR.

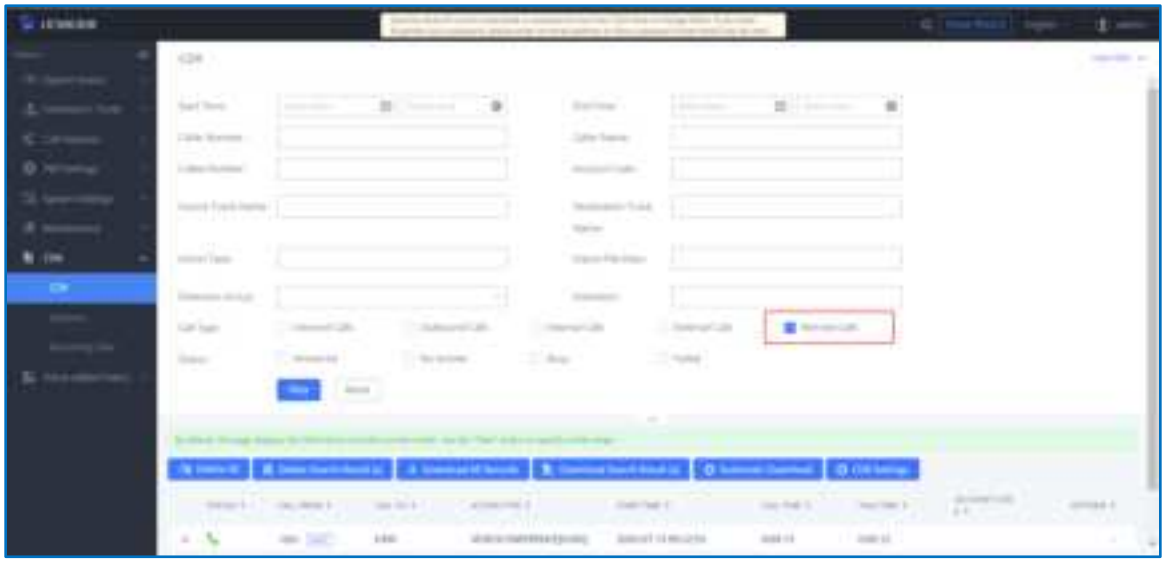


Figure 22: CDR for Remote Calls

Remote Call Statistics

The UCM630x supports display CDR statistics to provide users graphical view for the CDR. In Statistics page, click on “Remote Calls” to filter the display.

Figure 23: CDR Statistics

UCM CONCURRENT REMOTE CALLS

After using UCM RemoteConnect, all remote calls will be logged, and concurrent remote calls will be displayed on the UCM. The concurrent remote calls can be viewed under UCM web GUI→**Value-Added Features→UCM RemoteConnect→Statistics** page.

Figure 24: Concurrent Remote Calls

CONFIGURING PEER TRUNK WITH REMOTECONNECT

For 2 x UCM6300 IP PBX that are connected to GDMS, SIP peer trunks can be configured between them using the public address provided by GDMS. After SIP peer trunk is configured, calls can be made between the extensions on both UCM6300. Steps:

1. Log in UCM6300 A's web GUI and go to **Extension/Trunk→VoIP Trunks** page. Add a new SIP trunk.
   - Type:
     Select "Peer SIP Trunk".
   - Provider Name:
     Enter a provider name for identification purpose.
   - Host Name:
     Enter UCM B's address as host name. It needs to be UCM B's "Public address: Public TLS port". The public address and public TLS port of UCM B can be found under UCM B's web GUI→**Value-added Features→UCM RemoteConnect.**

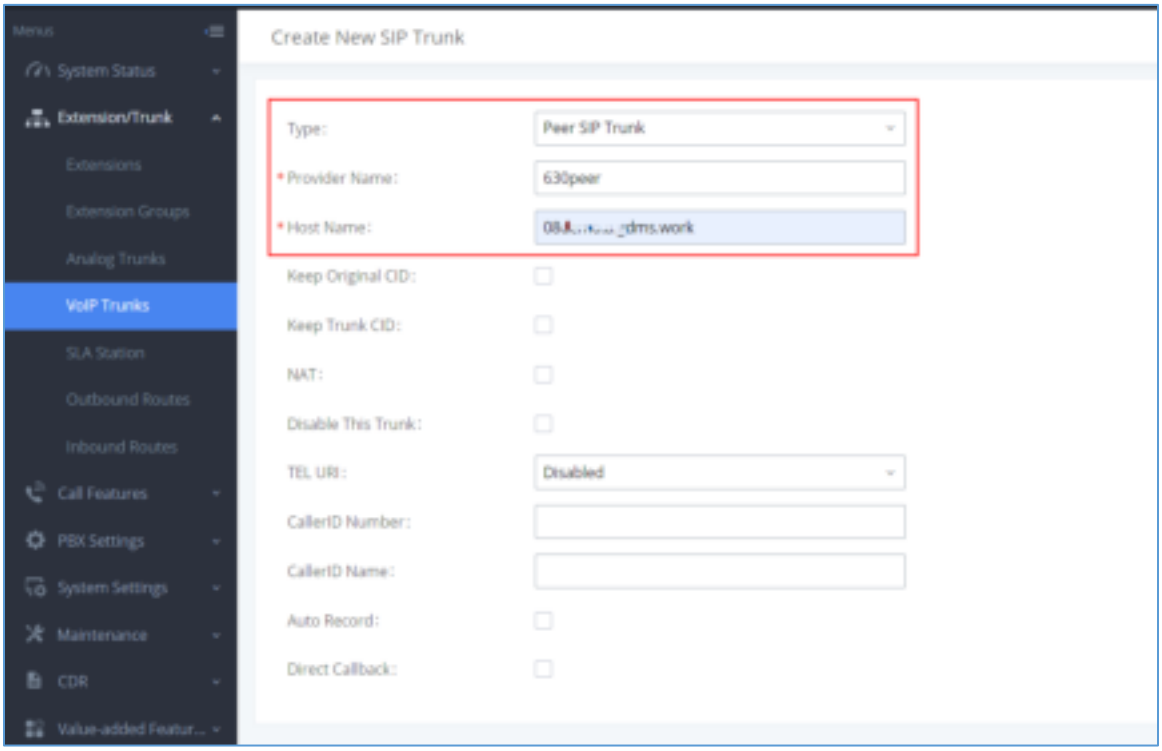


Figure 25: Peer SIP Trunk Configuration

2. Save the configuration. On the VoIP trunk page, click on the edit icon for the newly created trunk to edit this SIP peer trunk.

3. Under Basic Settings, configure the following options for the SIP peer trunk:
    - From Domain:
      Enter the UCM public address for this UCM (UCM A).
    - Transport:
      TLS

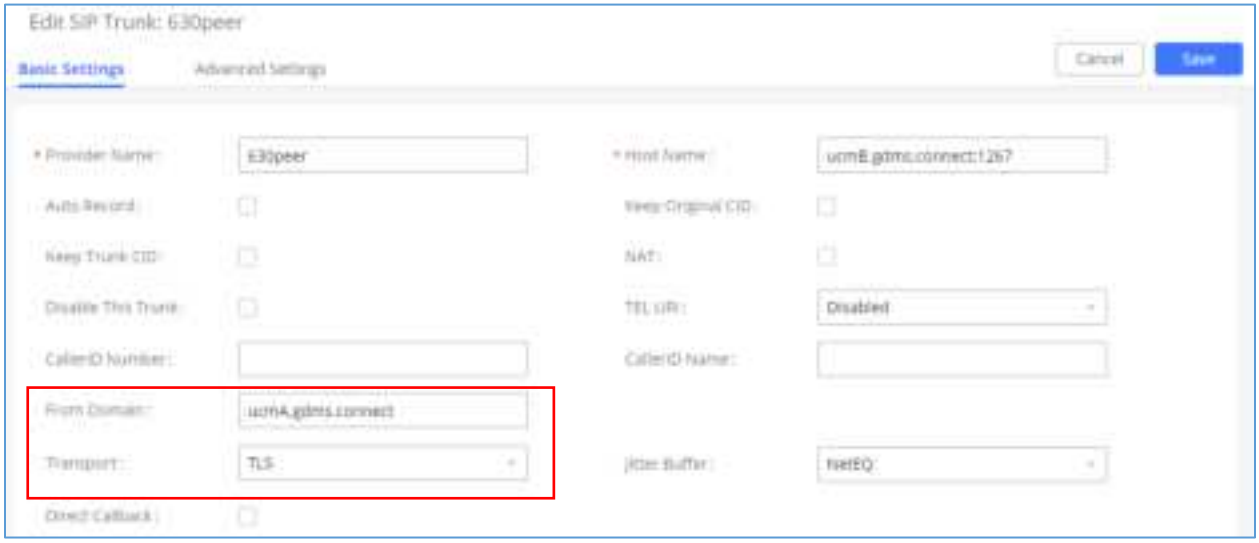


Figure 26: Peer SIP Trunk->Basic Settings

4. Under Advanced Settings, configure the following options for the SIP peer trunk:
    - Enabled Heartbeat Detection: Yes
    - ICE Support: Yes

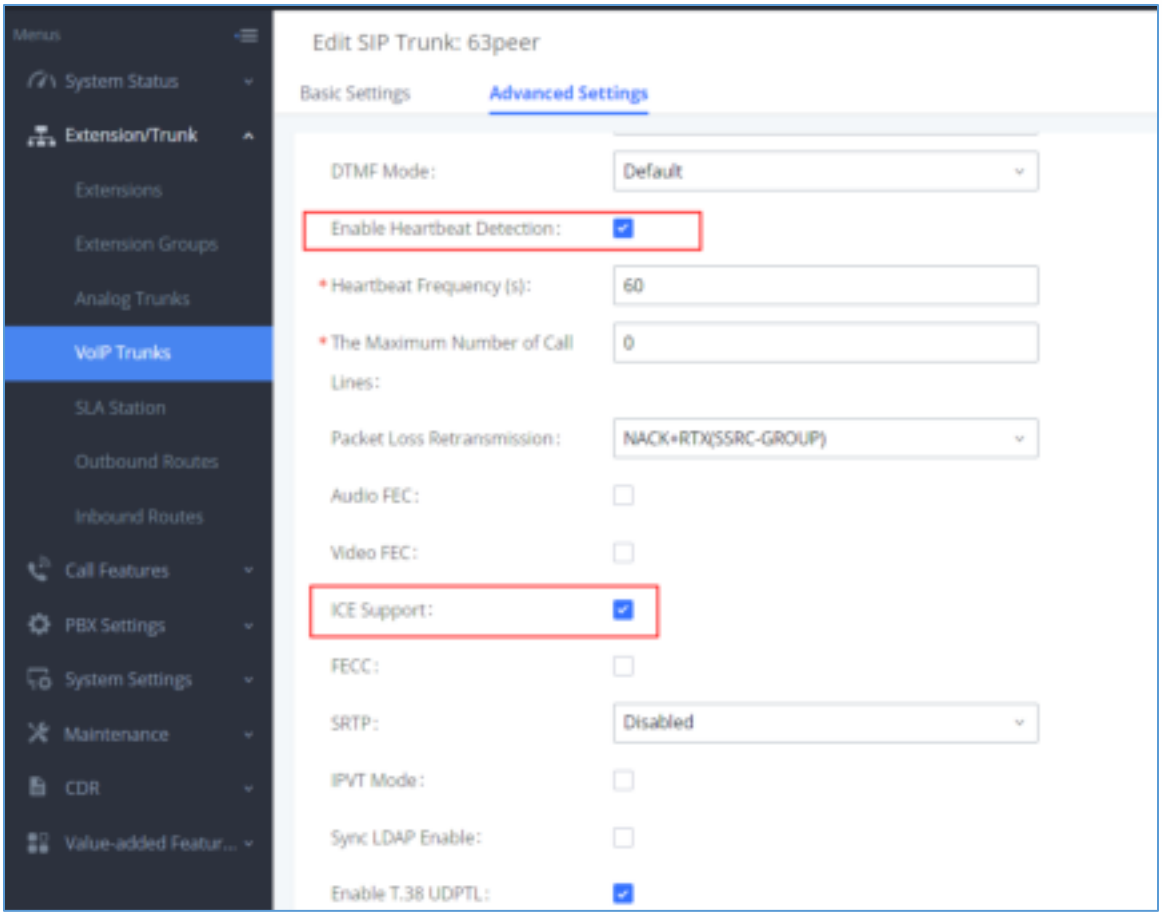


Figure 27: Peer SIP Trunk->Advanced Settings

5. Log in UCM B web GUI and configure it the same way as UCM A.
6. After configuration is completed, please check SIP trunk status under dashboard. Configure outbound route and inbound route as needed to make calls go through between the 2 UCMs.

MANAGING UCM ON GDMS

Add UCM6300 Device

Once the UCM is added GDMS, it will be assigned with an Open Beta Free Trial plan for UCM RemoteConnect service. Currently, only UCM6300 series devices are supported with GDMS.

Below are the steps to follow in order to add an UCM63xx to the GDMS:

- **Step 1:** Go to GDMS website and log in GDMS account. http://www.gdms.cloud/login
- **Step 2:** Under **UCMRC→UCM Device page**, click on "Add Device".

Figure 28: Add UCM6300 to GDMS

- **Step 3:** Enter device name for identification purpose.
- **Step 4:** Enter UCM MAC address. This can be found on the label located on the back of the UCM device. If you are obtaining MAC address from UCM web GUI, go to UCM **web GUI→System Status→System Information→Network** page. If the device is using Route mode, LAN MAC address needs to be used. If it is on Switch mode, LAN 2 address needs to be used.
- **Step 5:** Enter the initial password of the UCM device. The initial password can be viewed on the LCD of the UCM device or found on the device chassis.
- **Step 6:** Select a "Site" on GDMS to connect the GDMS to. Sites can be configured under **GDMS→Site**.
- **Step 7:** Click on "Save". Once the UCM is successfully connected to GDMS, it will be assigned with an open beta plan for UCM RemoteConnect service automatically.

View UCM Devices on GDMS

In order to view the connected UCM devices list, please go to **UCMRC→UCM Device** page.

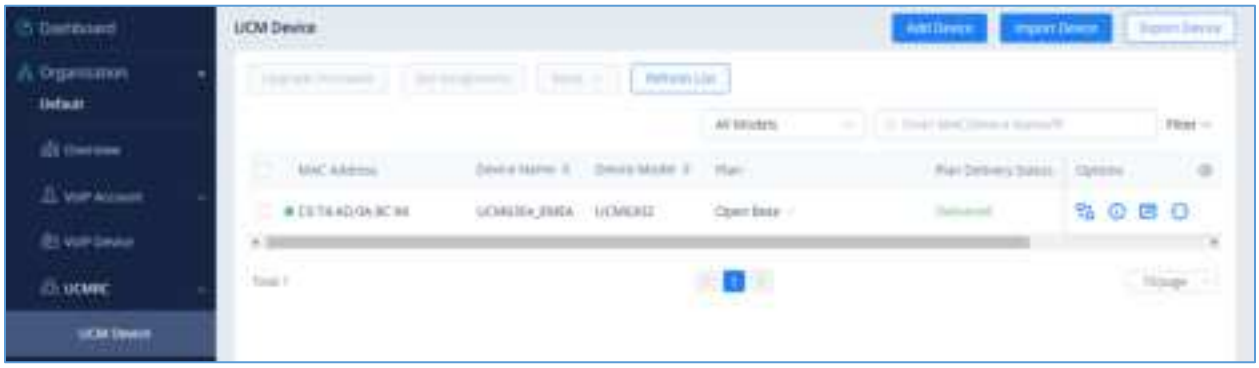


Figure 29: View UCM Devices on GDMS

Table 1: View UCM Devices on GDMS

Status	Descriptions
Status indicator	The device is offline. The device is online.
Firmware version too low	This icon indicates device firmware version too low and the device cannot be used normally with GDMS.
Plan expiring	Expire Soon This indicator means the plan is expiring soon or already expired.
Custom display	Click on icon on the upper right of the table to display more items to display as preferred. Options

Custom UCM Public Address

The UCM public address is for Wave web and Wave mobile app to log in using the SIP extension credentials.

Users can also custom the public address for the enterprise to use. Here are the steps to customize UCM public address:

- **Step 1:** Go to GDMS website and log in GDMS account. Navigate to **UCMRC→UCM Device** page, click on  for the UCM6300 device and click on "Edit Device".
- **Step 2:** In the Edit Device window, click on "Personal URL" to edit the first part of the URL, or click on "Custom Domain" to customize the full URL.

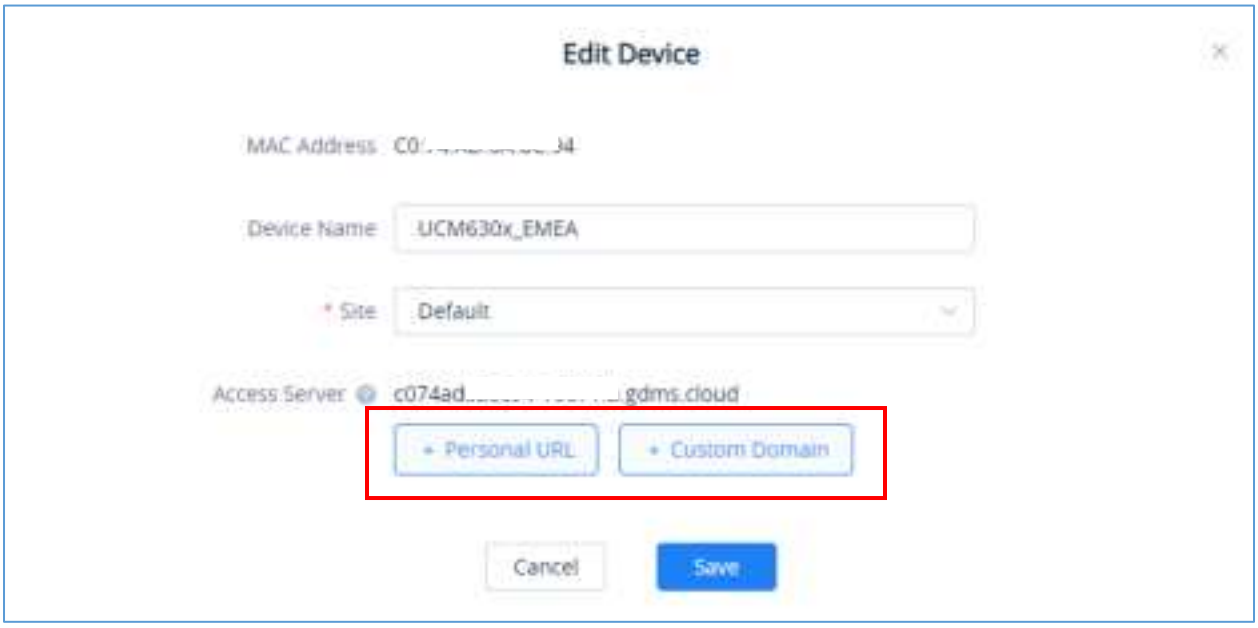


Figure 30: Custom UCM Public Address on GDMS

- **Step 3:** If "Personal URL" is selected, the user could enter the first part of the URL in the field below to generate your own link as UCM public address.

Figure 31: Personal URL

If "Custom Domain" is selected, the user can enter the full URL as custom server address, configure the private keys and certificate.

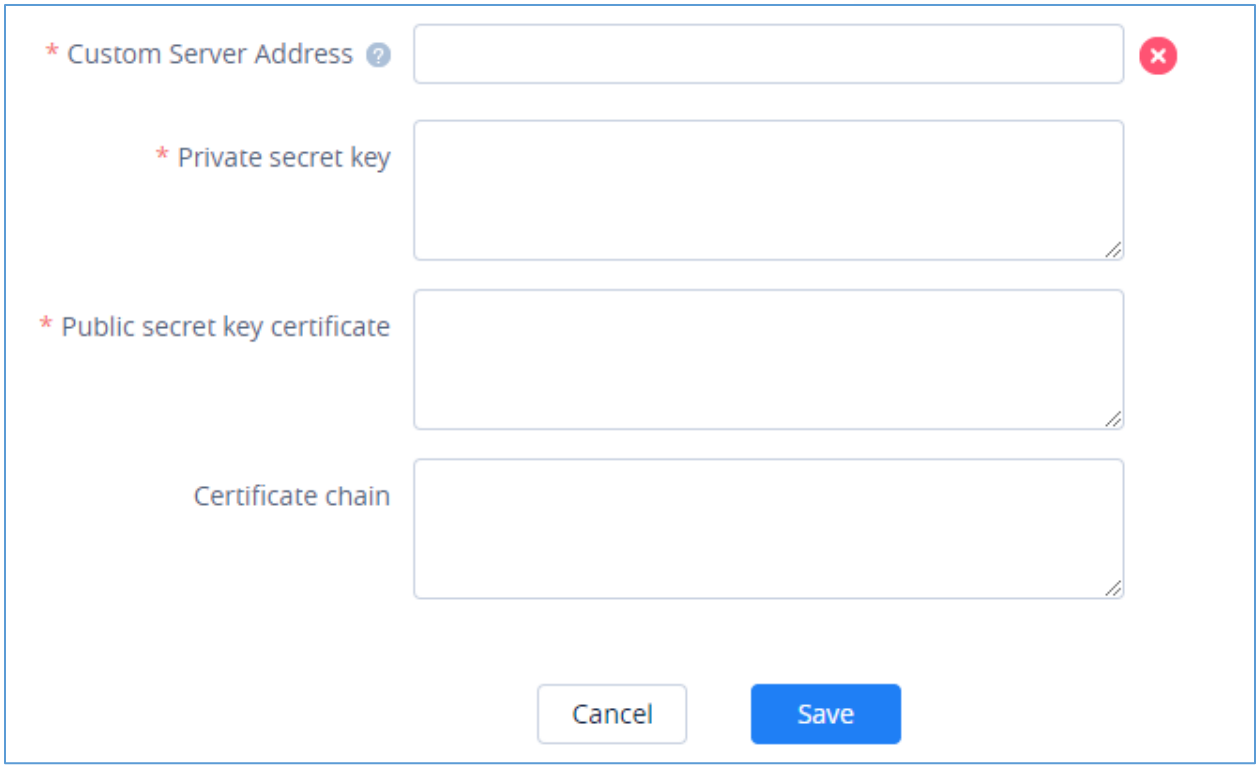


Figure 32: Custom Domain

- **Step 4:** Click on Save to save the setting. The user now can use the default public UCM address and the custom UCM address.

Accessing UCM Web GUI from GDMS

With GDMS, the user can access the UCM Web GUI as admin even the UCM is behind NAT.

- **Step 1:** Go to GDMS website and log in GDMS account. Navigate to **UCMRC→UCM Device** page, click on for the UCM6300 device.

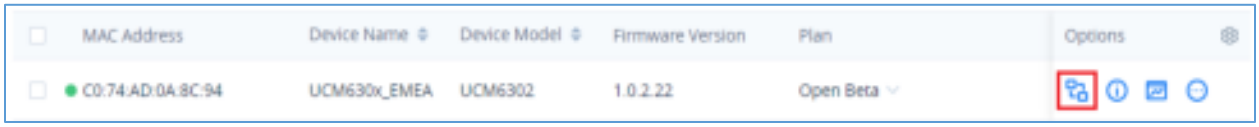


Figure 33: UCM Device on GDMS

- **Step 2:** A new page will be opened and the UCM web UI login page will be loaded shortly. Users can log in with the UCM admin credentials.

Figure 34: UCM Login Page

- **Step 3:** After logging in successfully, the user can now configure the UCM remotely.

Figure 35: UCM Web UI after Logging in

Note:

There is no need to configure port forwarding on the router to make UCM available for remote access. However, in order for users to access the UCM via GDMS, the UCM must have Internet access available.

Rebooting UCM from GDMS

GDMS supports rebooting UCM immediately and scheduling reboot.

- **Step 1:** Go to GDMS website and log in GDMS account. Navigate to **UCMRC→UCM Device** page, click on ⋯ for the UCM and select Reboot Device.

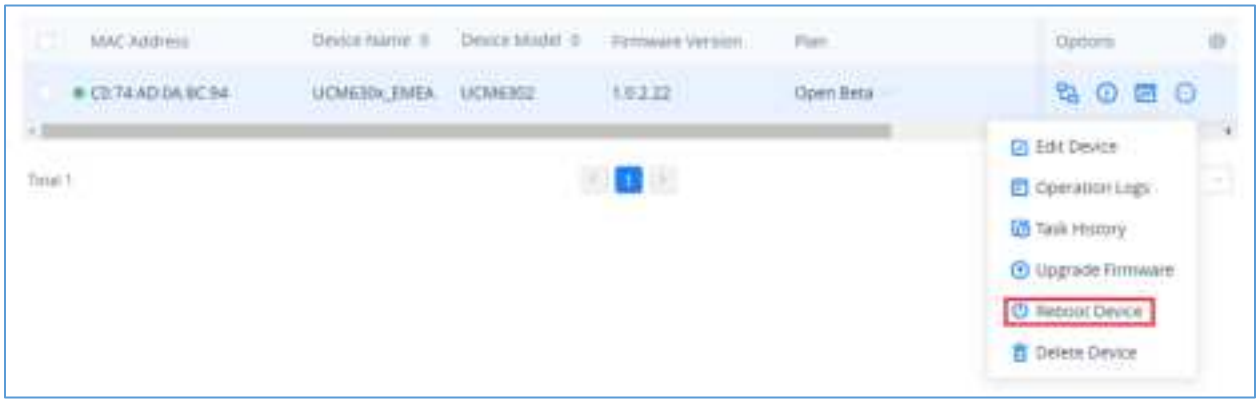


Figure 36: UCM on GDMS

- **Step 2:** On GDMS, select whether to upgrade immediately or schedule the reboot. For scheduled reboot, please select the start and end time. Reboot will happen between start time and end time period.

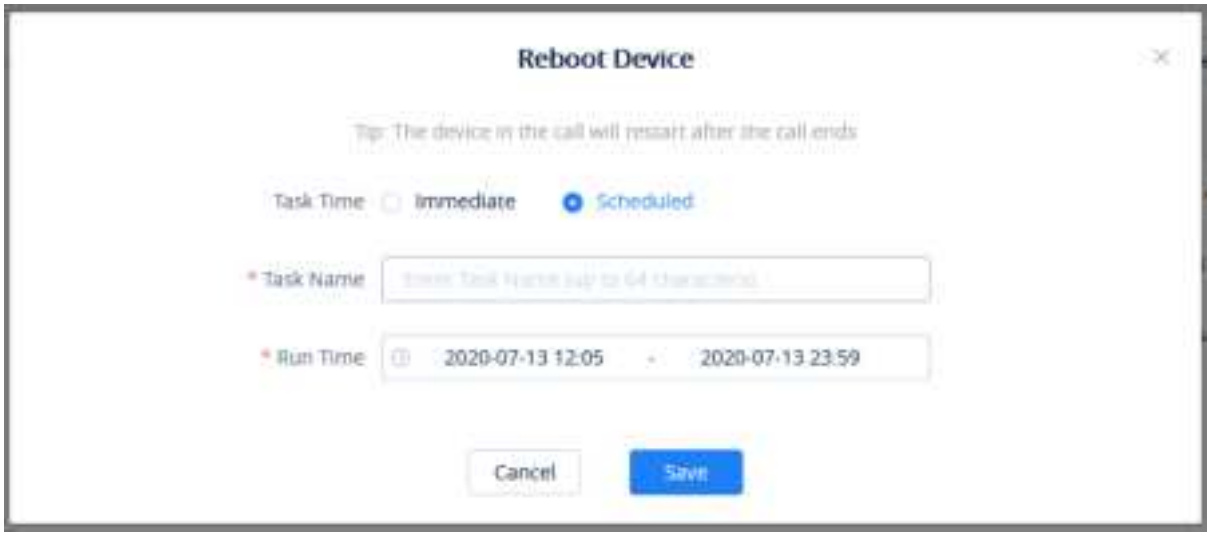


Figure 37: GDMS Reboot Options

- **Step 3:** Save the setting. Users can see all tasks for the devices in GDMS Task page.

Figure 38: GDMS Task Page

Note:

If the task failed to reboot the UCM, system notifications will be sent to the user.

Upgrading UCM via GDMS

The UCM firmware can be uploaded to GDMS and the UCM can be upgraded via GDMS.

- **Step 1:** Go to GDMS website and log in GDMS account. Navigate to **UCMRC→UCM Device** page. Select the UCM to upgrade and click on "Upgrade Firmware".

Figure 39: UCM on GDMS

- **Step 2:** In the Upgrade Firmware window, select whether to upgrade immediately or schedule the upgrade. If "Scheduled" is selected, enter the start time and end time. The UCM will be upgraded during this period.

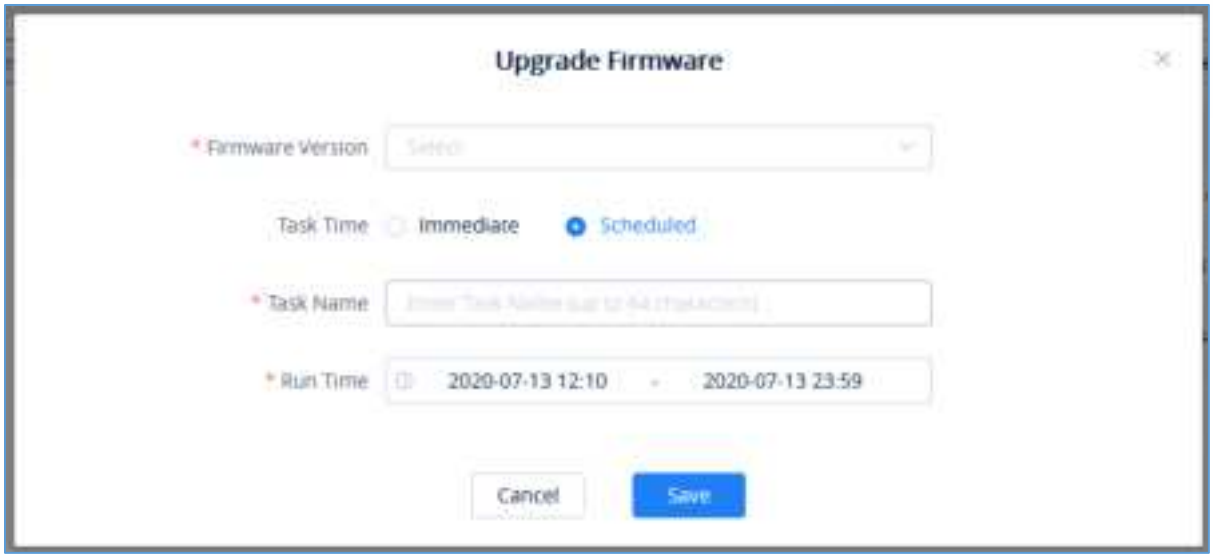


Figure 40: Firmware Upgrade on GDMS

- **Step 3:** Save the setting. The user can view task status in GDMS Task page.

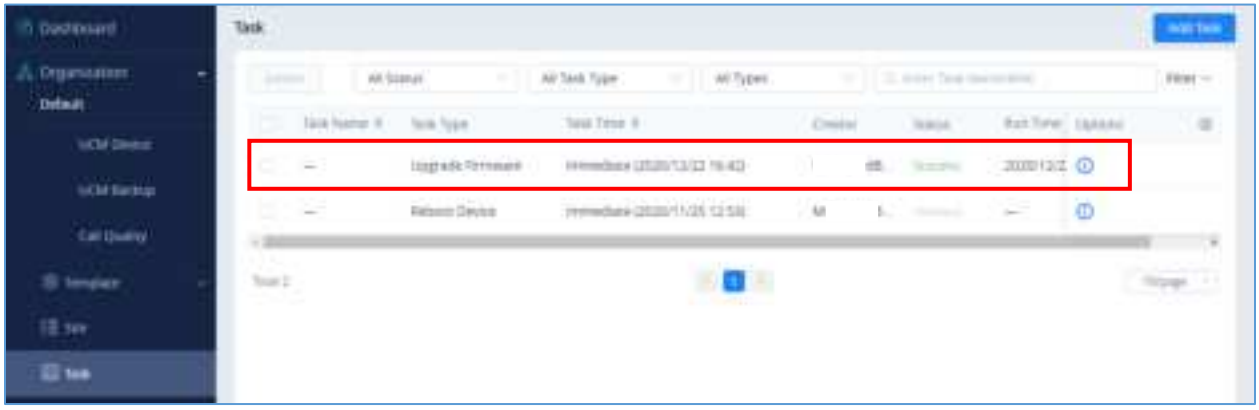


Figure 41: GDMS Task Page

Cloud Storage and Backup

Users can perform backup manually or automatically on UCM. The backup file can be stored on GDMS cloud storage. To view the backup files stored on GDMS cloud storage, go to **UCMRC→UCM Backup** page.

- All files in different types including CDR and config files will be listed.
- Users can filter the backup files by file type and can download the backup files.
- If the storage space becomes low, users can delete the files no longer needed.

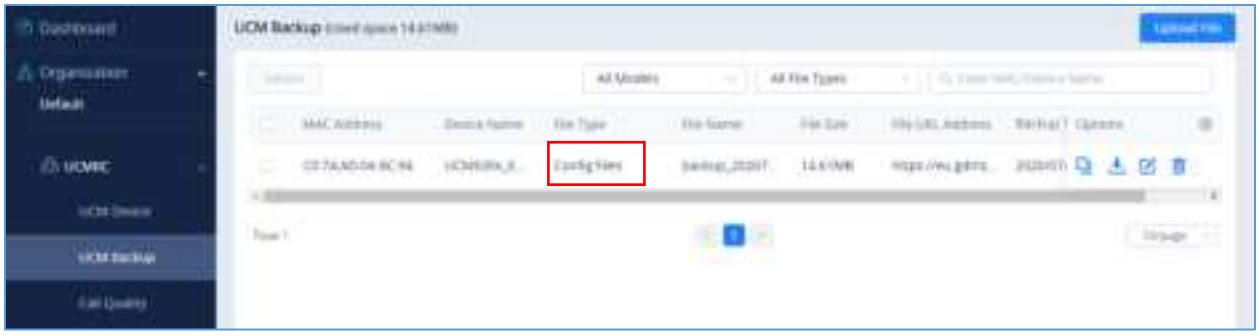


Figure 42: GDMS PBX Backup Page

View Statistics and Reports

Daily Statistics Report

UCM devices collects device data and provides statistics report on daily basis. The report will be sent to GDMS user or the configured email address. Below picture shows the report attachment sent to user's email.

Figure 43: Daily UCM Report from GDMS

Note:

- The daily report is sent based UCM local time zone at 12:00am.
- If local storage or cloud storage usage exceeds 80%, it will be highlighted in red in the report.
- If concurrent users exceeded 80% of the plan allowed max users, it will be highlighted in red in the report.

View Statistics Report for the Past Month

Please go to GDMS **web GUI→UCMRC→UCM Device**, on the UCM device you would like to check, click on icon to view "Statistics Report".

Figure 44; View UCM Device on GDMS

Currently, only the previous 1-month statistics can be viewed here. The statistics is displayed based on UCM local time zone.

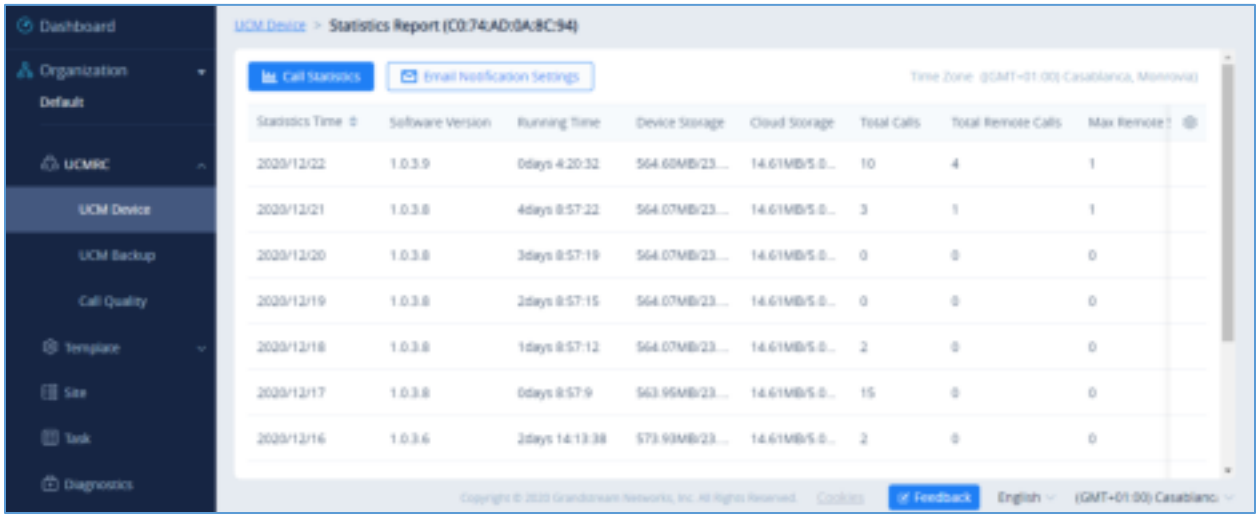
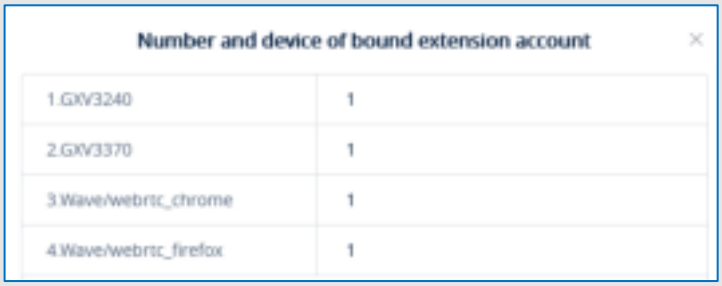
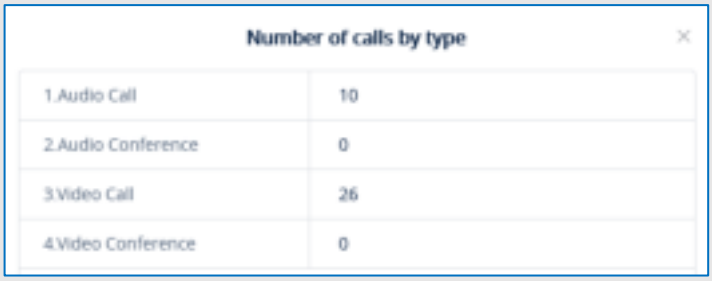


Figure 45: UCM Statistics Report on GDM

Table 2: UCM Statistics Report on GDM

Parameters	Description
Statistics Time	This is the time when the data is reported to GDMS, displayed based on UCM local time zone.
Software version	This is the firmware version running on the UCM.
Running Time	This is the device running time.
Device Storage	This is the device local storage status. If the used storage exceeds 80%, it will be highlighted in red.
Cloud Storage	This is the device cloud storage status. If the used storage exceeds 80%, it will be highlighted in red.
Total Calls	The total number of calls on the day when the time was reported.
Total Remote Calls	Total remote calls from remote users on the same day as “Statistics Time”.

Max Concurrent Remote Users	Max concurrent remote users on the same day as “Statistics Time”. If it exceeds the max allowed concurrent remote users, it will be highlighted in red.
Number Extensions	On the day when the time is reported, the model type and quantity of the extension device connected to this UCM. 
Call Type	Statistics on the type distribution of all calls on the day when the time is reported. 

Click on icon  to view the chart statistics of the number of calls/types of calls in a certain period of time, and you can quickly view the last week and the last month. As shown below:

Figure 46: View UCM Device Statistics on GDMS

Configure Email to Receive Daily UCM Report

GDMS system will send daily emails of UCM equipment every day, click on 

to set the receiving mailbox, as shown in the figure below:

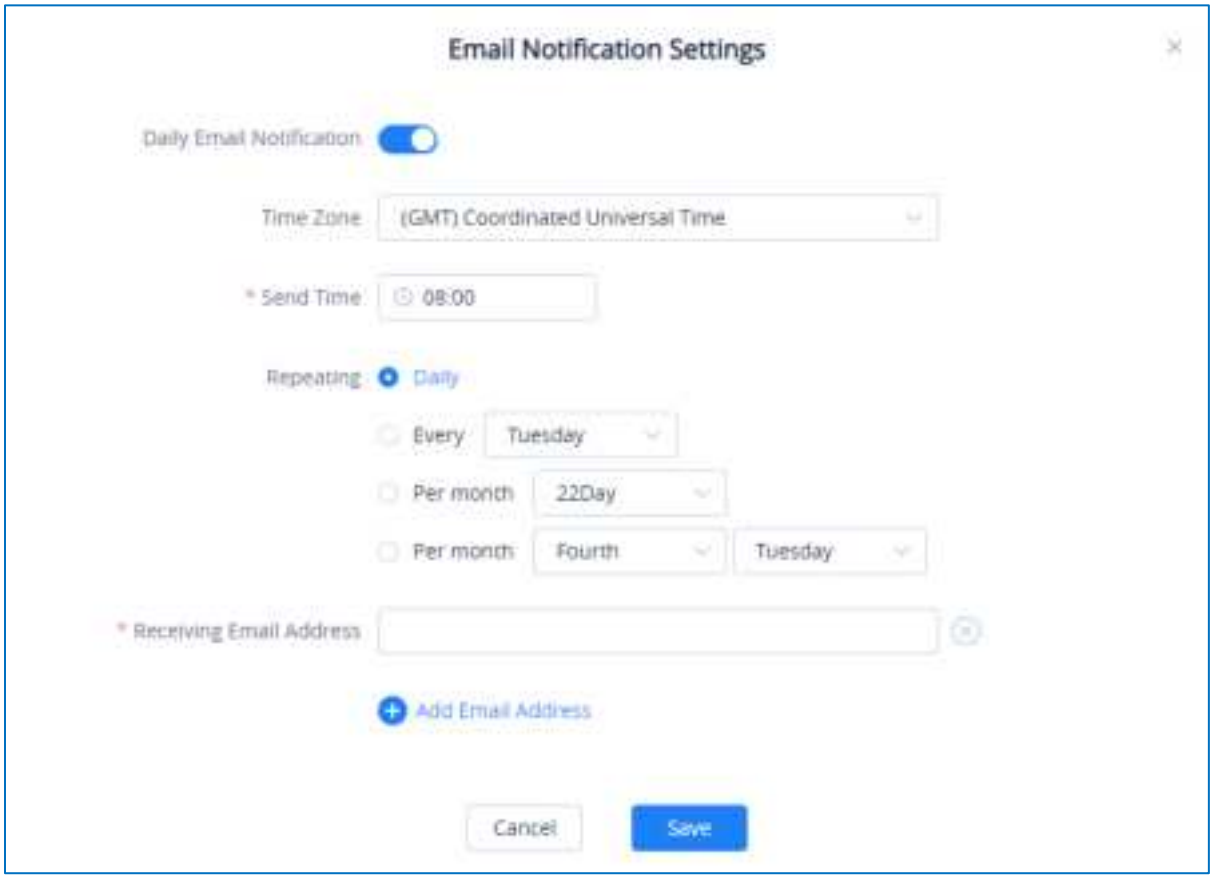


Figure 47: Email Notification Setting on GDMS

View Plan and UCM Cloud Storage Status

Please go to **GDMS→UCMRC→UCM Device**, click on the plan for the UCM device to view the plan details including expiration date, used storage and total storage.

Figure 48: View UCM Plan and Cloud Storage Status on GDMS

When the plan expires, the user will receive email notification like below:

Figure 49: Email Notification for Expired Plan