Grandstream Networks, Inc.

UCM6xxx Series

Shared Call Appearance Guide

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INTRODUCTION

This document introduces the concepts of Shared Call Appearance (SCA) feature along with related settings on the UCM6XXX IP-PBX used with Grandstream IP Phones.

Shared Call Appearance (SCA) functionality has been added to the UCM602x/UCM6510 starting from firmware 1.0.17.16, starting 1.0.2.25 for UCM630x and starting 1.0.7.9 for UCM630xA . With SCA, users can assign multiple devices to one extension, emulating legacy PBX line system with the possibility to configure endpoints to monitor that extension (line), make actions on behalf of that extension such as viewing call status and placing/receiving calls, and even barging into existing calls.

Users can monitor calls status from the phone and admins can check the line status from the UCM console to see detailed information about each shared line such who is calling, if call is privately held or if it's in bridge mode (three-way conference).

In this document, we will use a general scenario as reference and we will go through all steps needed to configure the function as well as some step by step demonstrations for calls manipulations.

Note: UCM6XXX series include UCM620x series, UCM630x series, UCM630xA series and UCM6510.

SCENARIO OVERVIEW

Shared Call Appearance (SCA) feature allows a group of SIP end points to receive inbound calls directed to a single destination (shared line), that way, any phone from this group can answer the call, barge-in to the active call, or retrieve the call placed on hold. The shared line has sub-lines called appearances. Each shared line has one or more appearances, each appearance can handle one call a time. The current status of each call (appearance) is displayed on each phone in the SCA group.

For our scenario, we can summarize the requirements of the system as follow:

- Alice, Bob and John are sharing the same line appearance using SCA feature.
- The main line/extension number will be 3001 used by Alice.
- Bob and John will share same line with Alice with following private numbers respectively: 3333 and 4444.
- When there is an incoming external call, all three phones should ring and one can pick up the call.
- Callers can barge into each other's calls.
- Each member should have the choice to either privately put a call on hold or put it in public hold so that other members can pick it up.
- The members should be able to monitor the line status from their phone display.

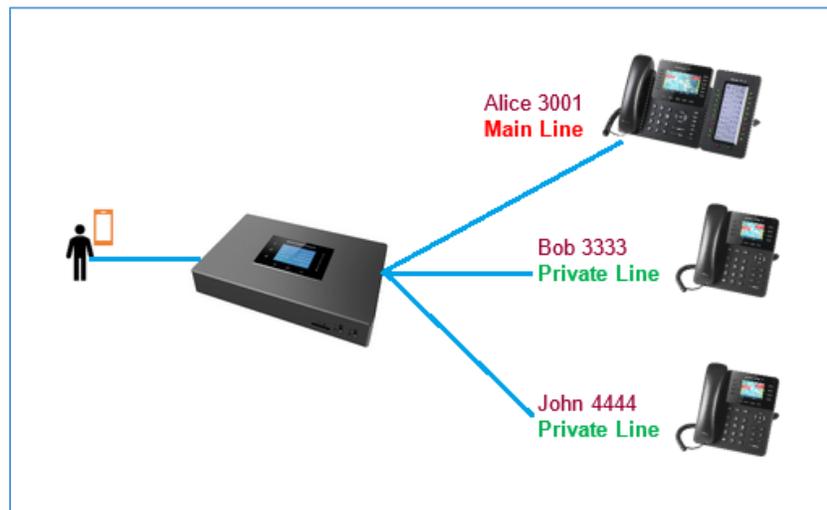Following diagram gives a logical overview about the scenario and how it is setup.

Figure 1: SCA Scenario

We assume that the main extension 3001 is already created under UCM menu **"Extension/Trunk → Extensions"**.

Now, we will configure the settings in order to fulfill the system requirements to benefit from SCA feature.
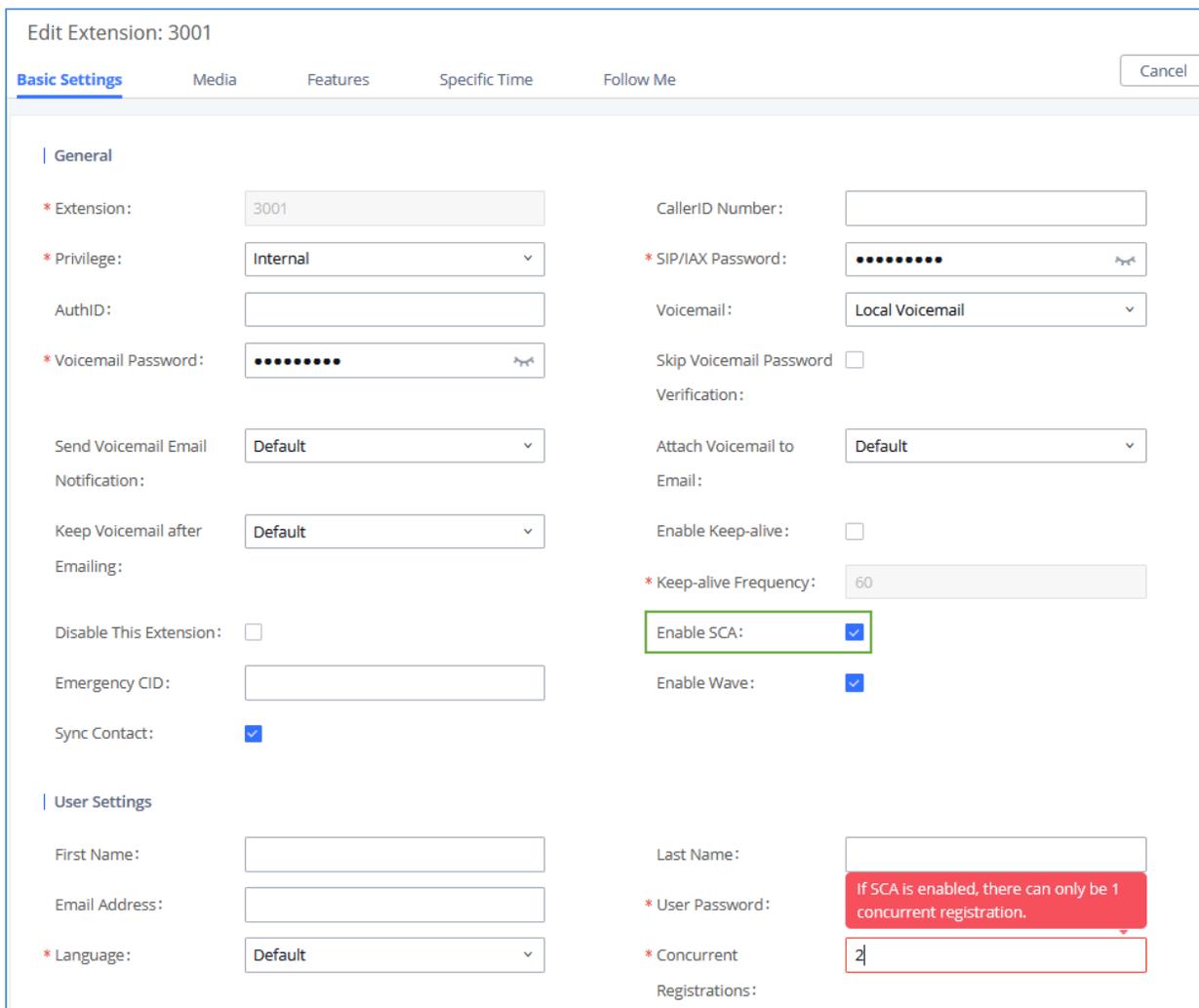
ENABLING SCA FEATURE ON UCM

Configuring the Main Line

To enable SCA under the main extension 3001, please follow the steps below:

1. Users can enable SCA by navigating to the Extensions page, editing the desired extension, and enabling the option SCA.

   Note: With SCA enabled, the Concurrent Registrations is disabled and needs to be set to 1.

Figure 2: Enabling SCA option under Extension's Settings

2. Press Save and apply the changes and verify that the extension is listed under the menu **Call features → SCA**.

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Figure 3: SCA Number Configuration

Users can press the ✎ button In order to edit the settings of this shared line, the following table describes the options available when editing an SCA number:

Table 1: SCA Number Group Parameters

Shared Line Number	While SCA is enabled, this number will be the same as the extension number.
Allow Call Retrieve from Another Location	Allows remote call retrieval. Must be enabled in public hold. By default, it's enabled.
Alert All Appearances for Group Paging Calls	Allows all SCA group members to ring when the SCA shared number is paged. If disabled, only the SCA shared number will ring when paged. By default, it's disabled.
Multiple Call Arrangement	Allows simultaneous calls in an SCA group. By default, it's disabled.
Allow Bridging between Locations	Allows location bridging for SCA group. Must be enabled when using the Barge-In feature. By default, it's disabled.
Bridge Warning Tone	Configures the notification in the bridge when another party join. **None:** No notification sound. **Barge-In only:** Notification sound will play when another party join. **Barge-In and Repeat:** Notification sound will play when another party joins and repeat every 30 seconds. By default, it's set to "Barge-In Only".

The main extension number 3001 will be used by Alice, but we still need to create private numbers for Bob and John which will share the same line appearance.

Configuring Private Numbers for the Shared Main Line

To associate a private number with a shared line, please go to **Call Features→SCA** and click on + sign as shown in Figure 3, the following page will appear.

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Figure 4: SCA Private Number Configuration

The following table describe the SCA Private Number configuration setting:

Table 2: Private Numbers Configuration Parameters

Private Number	Configures the private number for the SCA.
Related Shared Line	Display the related shared line.
Enable This Number	Whether enable this private number. If not enabled, this private number is only record in DB, it will not affect other system feature.
Allow Origination from This Number	Enable this option will allow calling from this private number. By default, it's enabled.
Allow Termination to This Number	Enable this option will allows calls to this private number. By default, it's enabled.

Enter the private number then press save and apply changes, after configuring the two private lines of John and Bob (3333, and 4444) users can check them while expanding the menu of the main line as follow:
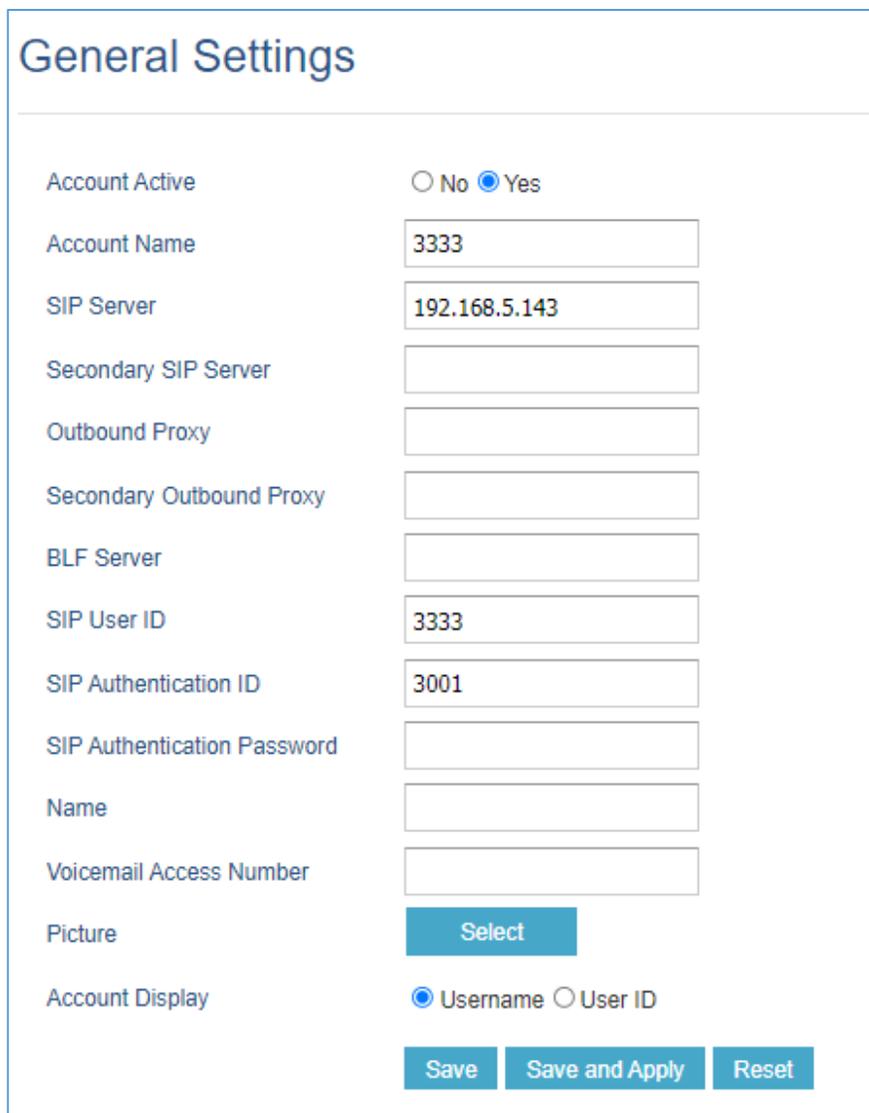

Figure 5: Private Numbers Status

Once the private number has been created, users must now register a device to shared line using their private number. To properly register a device to the private number.

ENABLING SCA FEATURE ON PHONES

After creating private numbers to be associated with the main number, users need to configure that private number on the phone side, following below steps (GXP21XX phones are used as sample but configuration is similar on other models):

1. Log into your phone to register an extension.
2. Use the private number as the SIP User ID
3. Use the main extension's AuthID and Password

In below example the main number is 3001 and private number is 3333 (Bob).

General Settings

Account Active	○ No ● Yes
Account Name	3333
SIP Server	192.168.5.143
Secondary SIP Server	
Outbound Proxy	
Secondary Outbound Proxy	
BLF Server	
SIP User ID	3333
SIP Authentication ID	3001
SIP Authentication Password	
Name	
Voicemail Access Number	
Picture	Select
Account Display	● Username ○ User ID

Save   Save and Apply   Reset

Figure 6: Phone side

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4. Apply same steps for John's phone (4444 would be his private number).

5. You should now see the private lines are registered (idle) on the SCA page.

Figure 7: UCM6XXX Side (SCA Page)

6. Next Go to the phone web UI and set the line key mode under VPK settings to **"Shared"** and the value should be the same as the main extension (3001 in our case).
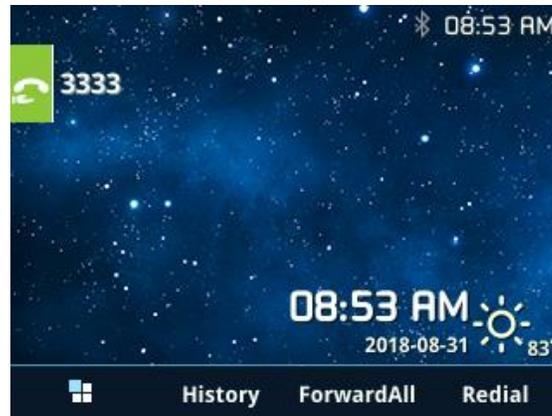

Figure 8: Shared VPK

7. Save and apply and check the LCD of the phone, it should show the button shared icon as shown on the figure below.

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Now that the configuration has been set on both UCM and the phones, let's see the different call functions available with the SCA feature.

SCA CALL OPERATIONS

Call Barge-In

If an external call comes to the main line number, all three phones will ring at the same time and anyone can retrieve the call by simply pressing the line key.

If the call is answered and the line is busy, this will be reflected on the other phones as shown on the figure below:

Figure 9: SCA Line Busy Indication on GXP21XX

Also the admin can check the line status from the menu **Call Features → SCA → SCA Line Status** which shows the line status as well as remote and local calling parties information.

Figure 10: Active Line Status from the UCM Console

To barge-in an active call, other users can simply press the line button and a notification sound will be played to the existing parties on the call.

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This notification sound can be played either once (default) or periodically (every 30 seconds) or even disabled, the option is configured under the SCA extension settings.

If someone bares into the call, the UCM will update the line status accordingly as shown on the next figure.

SCA				
SCA Number Group	**SCA Line Status**			
Shared Line ⇕			Current Lines ⇕	
-	3001		1	
Shared Line	Line Index	Status	Local Information	Remote Information
3001	1	bridge-active	3001,3333	0622667315

Figure 11: Line Barging Status

As you can see above, both Alice (3001) and Bob (3333) are in a conference call with the external caller. If a user hang-up they simply get off the line.

Public Call Hold

SCA shared lines also provide the feature to put calls on hold, either publicly (which means the call can be retrieved any member of the number group) or privately (which means only the person who did put the call on hold can retrieve it).

To put the line on hold, the person who did answer the call could simply press the On-hold button the phone.

The other phones will show that the line is On Hold as shown below:

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Figure 12: SCA Line on Hold

Figure 13: SCA Line Held

The Line button will be blinking, and the person can simply click on the button to pick he call from the line.

Private Call Hold

If the person who answered the call wants to put the call on hold privately so that nobody else can retrieve it, they can simply press the "**PrivateHold**" Softkey on the phone as shown below.
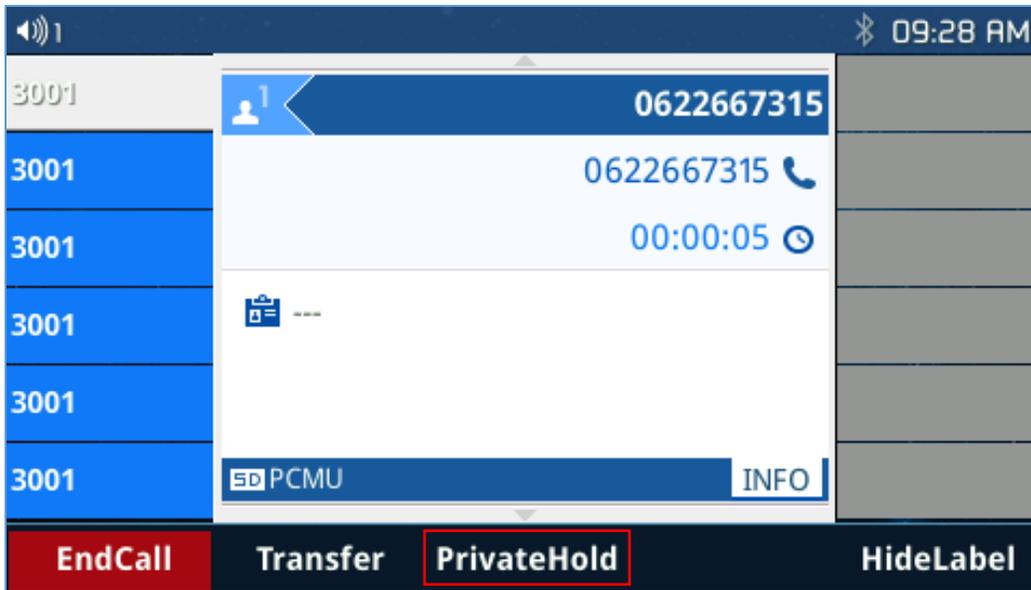
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Figure 14: Private Hold Softkey

And the UCM will reflect the line status accordingly as shown below:

Figure 15: Private Held Shared Line

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