Grandstream Networks, Inc.

UCM6xxx Series – Call Queue Configuration Guide

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UCM6XXX Call Queue Guide

INTRODUCTION

UCM6xxx series support Call Queue feature which allows incoming calls to be queued while agents are busy with other calls. Call queue allows the UCM6xxx to keep incoming calls in a queue until an agent is available to answer while a music on hold/announcement is played for callers during waiting time.
Call Queue feature can be used in different environments such as support call centers, offices...

The UCM6xxx Call Queue module allows you to create up to 10 call queues with 100 members and design them using a full set of options such as music on hold to play during waiting time, wrapup time, call distribution strategy, report hold time and more, allowing callers to speak with agents as quickly and painlessly as possible.

This document introduces the configuration of call queue feature on the UCM6xxx series including strategy, announcement and agent's configuration.

UCM6XXX Call Queue Guide

CALL QUEUE OVERVIEW

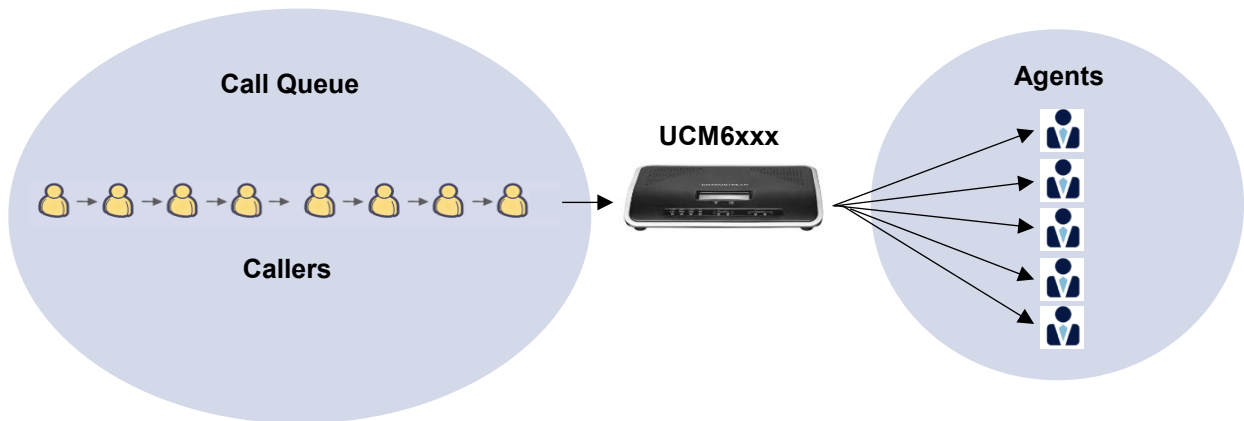The following diagram illustrate the call queue process on the UCM6xxx:

Figure 1: Call Queue Diagram

Call Queues consist of:

- **Callers**: Incoming calls placed in the queue.

- **Agents**: Members defined to answer the queue calls. Agents can be either static or dynamic.

- **Call queue strategy**: A strategy for how to handle the queue and distribute calls between members.

  - **Ring all agents**: Calls always ring at all agents' phones until one of them answers the call.

  - **Ring linear**: The calls will ring at agents' phones following an order previously configured. Only for permanently assigned agents (static agents).

  - **Ring least recently called agent**: The system selects the agents who have not answered the phone for the longest period.

  - **Ring agent with fewest calls**: The system assigns the call to the agent with the lowest number of calls answered so far.

  - **Ring random agent**: The system will choose an agent randomly.

  - **Round robin**: It remembers the last agent who answered the phone, and new call will be directed to the next available agent in round robin queue.

- **Music on hold**: Music or advertisements played for callers while waiting in the queue.
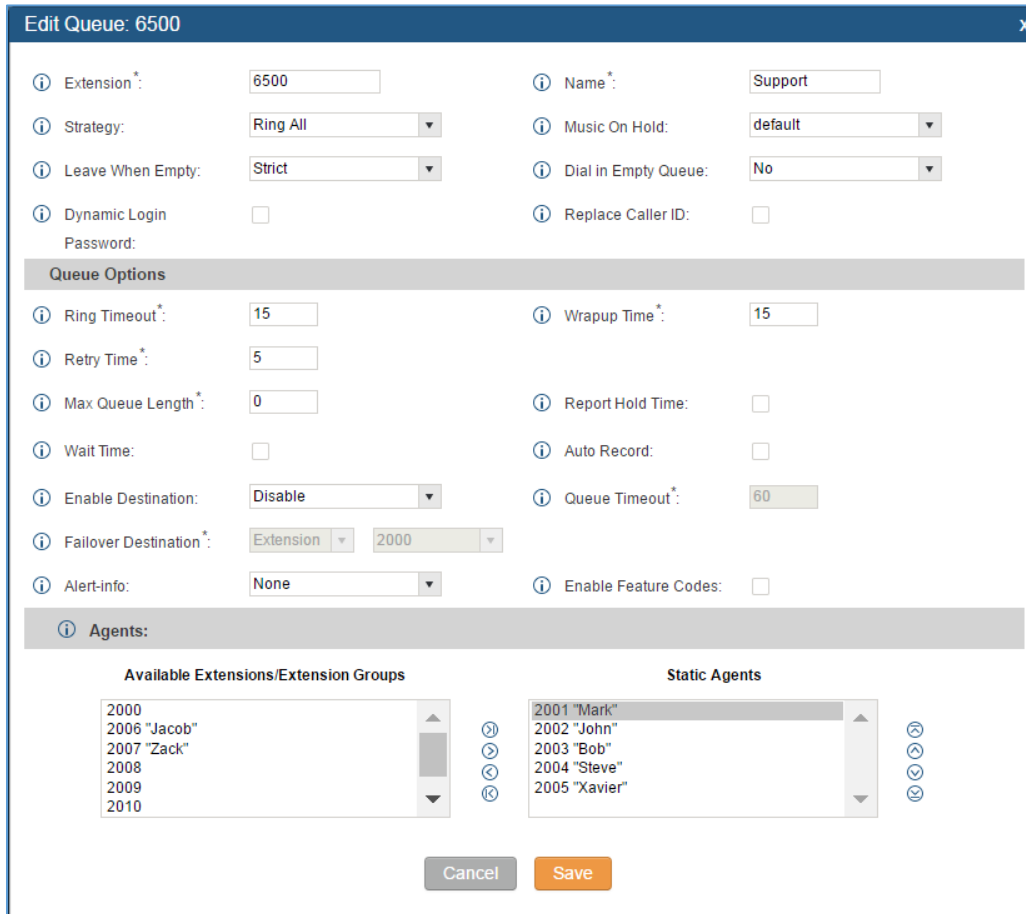
CALL QUEUE CONFIGURATION

Creating / Editing Call Queue

The UCM6XXX series support call queue by using static agents (up to 100 agents) or dynamic agents. Call Queue system can accept more calls than the available agents. Incoming calls will be held until next representative is available in the system. Call queue settings can be accessed via **Web GUI**->**PBX**->**Call Features**- >**Call Queue**.

Please refer to following steps in order to create a new call queue:

1. Access the **web GUI -> PBX -> Call Features -> Call Queue**.

2. Click on "Create New Queue" to add call queue.

   Note: Click on ✏ to edit an existing call queue, or click on 🗑 to delete it.

3. Specify the call queue extension number and name under **Extension** and **Name** fields.

4. Configure the call queue strategy under **Strategy**.

5. Select available agents to receive calls. This field allows to define static agents.

6. Configure music on hold and ring timeout and press **Save** button to apply the new changes.

Figure 2: Configuring Call Queue

Call Queue Settings

The call queue configuration parameters are listed in the table below:

Table 1: Call Queue Configuration Parameters

Extension	Configure the call queue extension.
Name	Configure the call queue name to identify the call queue.

Strategy	Select the strategy for the call queue.
	• **Ring All**
	   Ring all available Agents simultaneously until one answers.
	• **Linear**
	   Ring agents in the specified order.
	• **Least Recent**
	   Ring the agent who has been called the least recently.
	• **Fewest Calls**
	   Ring the agent with the fewest completed calls.
	• **Random**
	   Ring a random agent.
	• **Round Robin**
	   Ring the agents in Round Robin scheduling with memory.
	
	The default setting is "Ring All".

Music On Hold	Select the Music On Hold class for the call queue. **Note:** Music On Hold classes can be managed from Web GUI-> **PBX**->**Internal Options**->**Music On Hold**.

Leave When Empty	Configure whether the callers will be disconnected from the queue or not if the queue has no agent anymore. The default setting is "Strict".
	• **Yes**
	   Callers will be disconnected from the queue if all agents are paused or invalid.
	• **No**
	   Never disconnect the callers from the queue when the queue is empty.
	• **Strict**
	   Callers will be disconnected from the queue if all agents are paused, invalid or unavailable.

Dial in Empty Queue	Configure whether the callers can dial into a call queue if the queue has no agent. The default setting is "No".
	• **Yes**
	   Callers can always dial into a call queue.
	• **No**
	   Callers cannot dial into a queue if all agents are paused or invalid.
	• **Strict**
	   Callers cannot dial into a queue if the agents are paused, invalid or unavailable.

Dynamic Login Password	If enabled, the configured PIN number is required for dynamic agent to log in. The default setting is disabled.
Replace Caller ID	If enabled, the UCM will replace the caller display name with the Call Queue name the caller know whether the call is incoming from a direct extension or a Call Queue.

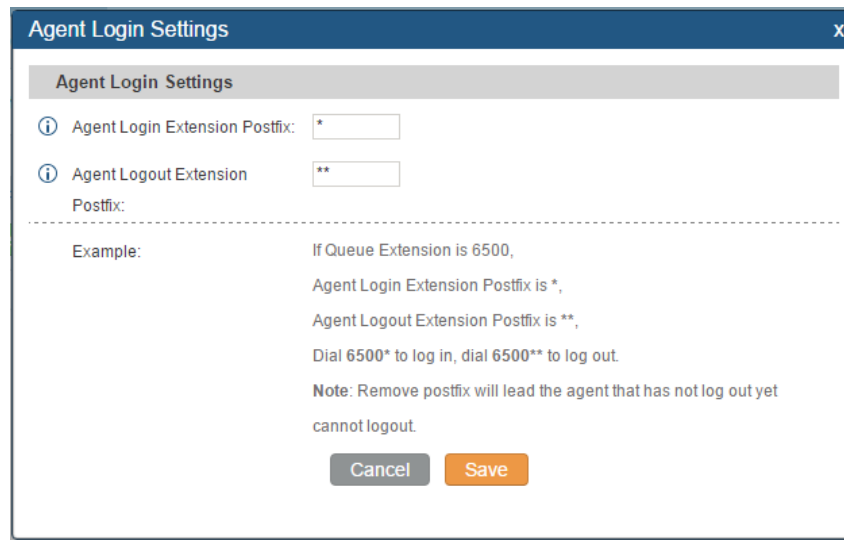|	
Ring Time Out	Configure the number of seconds an agent will ring before the call goes to the next agent. The default setting is 15 seconds.
Wrapup Time	Configure the number of seconds before a new call can ring the queue after the last call on the agent is completed. If set to 0, there will be no delay between calls to the queue. The default setting is 15 seconds.
Retry Time	Configure the number of seconds to wait before ringing the next agent.
Max Queue Length	Configure the maximum number of calls to be queued at once. This number does not include calls that have been connected with agents. It only includes calls not connected yet. The default setting is 0, which means unlimited. When the maximum value is reached, the caller will be treated with busy tone followed by the next calling rule after attempting to enter the queue.
Report Hold Time	If enabled, the UCM6100 will report (to the agent) the duration of time of the call before the caller is connected to the agent. Default setting is "No".
Wait Time	If enabled, users will be disconnected after the configured number of seconds. The default setting is "No". **Note:** It is recommended to configure "Wait Time" longer than the "Wrapup Time".
Auto Record	If enabled, the calls on the call queue will be automatically recorded. The recording files can be accessed in Queue Recordings under web GUI->**PBX**->**Call Features**->**Call Queue**.
Enable Destination	If enabled, the incoming call for the call queue will be routed to the destination configured in the next field if none of the agents answers the call after ringing for a time of "Ring Timeout".
Queue Timeout	Configure the global timeout (in seconds) of call queue. It must be bigger than the value of ring timeout. The call in the queue will be transferred to the failover destination directly if this time is exceeded.
Failover Destination	Configure the call destination for the call to be routed to if no agent in this call queue answers the call.
Alert-Info	When present in an INVITE request, the alert-Info header field specifies and alternative ring tone to the UAS.
Enable Feature Codes	Enable feature codes option for call queue. For example, *83 is used for "Agent Pause"
Agents	Select the available users to be the static agents in the call queue. Choose from the available users on the left to the static agents list on the right. Click on ⊘⊘⊘⊘ to arrange the order. Same agent can be member in different call queues.

Notes:

- Call queue feature code "Agent Pause" and "Agent Unpause" can be configured under Web GUI->**PBX**->**Internal Options**->**Feature Codes**. The default feature code is *83 for "Agent Pause" and *84 for "Agent Unpause".

- Queue recordings are shown on the Call Queue page. Click on ⬇ to download the recording file in .wav format; click on 🗑 to delete the recording file. To delete multiple recording files by one click, select several recording files to be deleted and click on "Delete Selected Recording Files" or click on "Delete All Recording Files" to delete all recording files.

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Agent Login Settings (Dynamic Agents)

Under Call Queue page, users can also configure Agent Login Extension Postfix and Agent Logout Extension Postfix. These settings allow to login/logout from a specific queue manually. Logged in agents are considered as dynamic agents.

Click on "**Agent Login Settings**" to configure Agent Login/Logout Extension Postfix settings as displayed on following figure:

Figure 3: Agent Login Settings

Example:
- Call Queue extension is **6500**.
- Agent Login Extension Postfix is ***** .
- Agent Logout Extension Postfix is ****** .

- To login as dynamic agent and start receiving calls, users could dial **6500***
- To Logout, users should dial **6500****. Once logged out, the user will stop receiving queue calls.

Note: Dynamic agents don't need to be listed as static agent and can log in/log out at any time.

CALL QUEUE APPLICATION EXAMPLE

The company ABC has different departments (Sales, Marketing, Support…) and needs to manage incoming calls per department.

In this scenario we will assume the following:

- Inbound route is configured to redirect all the incoming calls to a main IVR and caller needs to specify which department to reach by pressing corresponding key (IVR already configured).
- Sales department has 5 members with extensions: 1000, 1001, 1002, 1003, 1004.
- Incoming calls to Sales department should ring all Sales agents.
- Marketing department has 3 members with extensions: 1005, 1006, 1007.
- Incoming calls to Marketing department should ring in order.
- Support department has 10 members with extensions: 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017.
- Incoming calls to Support department should ring the available agent.

In order to fulfill company ABC requirements, we need to create 3 call queues, define corresponding members and ring strategies.

The following steps show how to achieve this:

1. Access UCM6XXX web GUI > PBX > Call Features > Call Queue.
2. Click on **Create New Queue** to create a new call queue.
3. Specify the call queue extension number under **Extension** field.
4. Define a name for this call queue.
5. Configure the call queue strategy under **Strategy**.
6. Select available agents to receive calls.
7. Press **Save** button to apply the new changes.

Repeat above steps for each call queue. The following table shows required settings for each queue respecting the company requirements.

| Call Queue Extension	Call Queue Name	Strategy	Static agents
6500	Sales_queue	**Ring All** This strategy will make all members ring at the same time when receiving queue calls, until one of the members answers.	1000, 1001, 1002, 1003, 1004
6501	Marketing_queue	**Linear** This strategy will make the queue call ring at first extension in the list (1006), if no answer it will ring 1005, if no answer it will ring 1007.	1006, 1005, 1007
6502	Support_queue	**Round Robin** This strategy will ring first available agent, the second call will ring the first available agent ignoring the agent that answered previous call.	1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017

The following figure shows company ABC call queue flow:
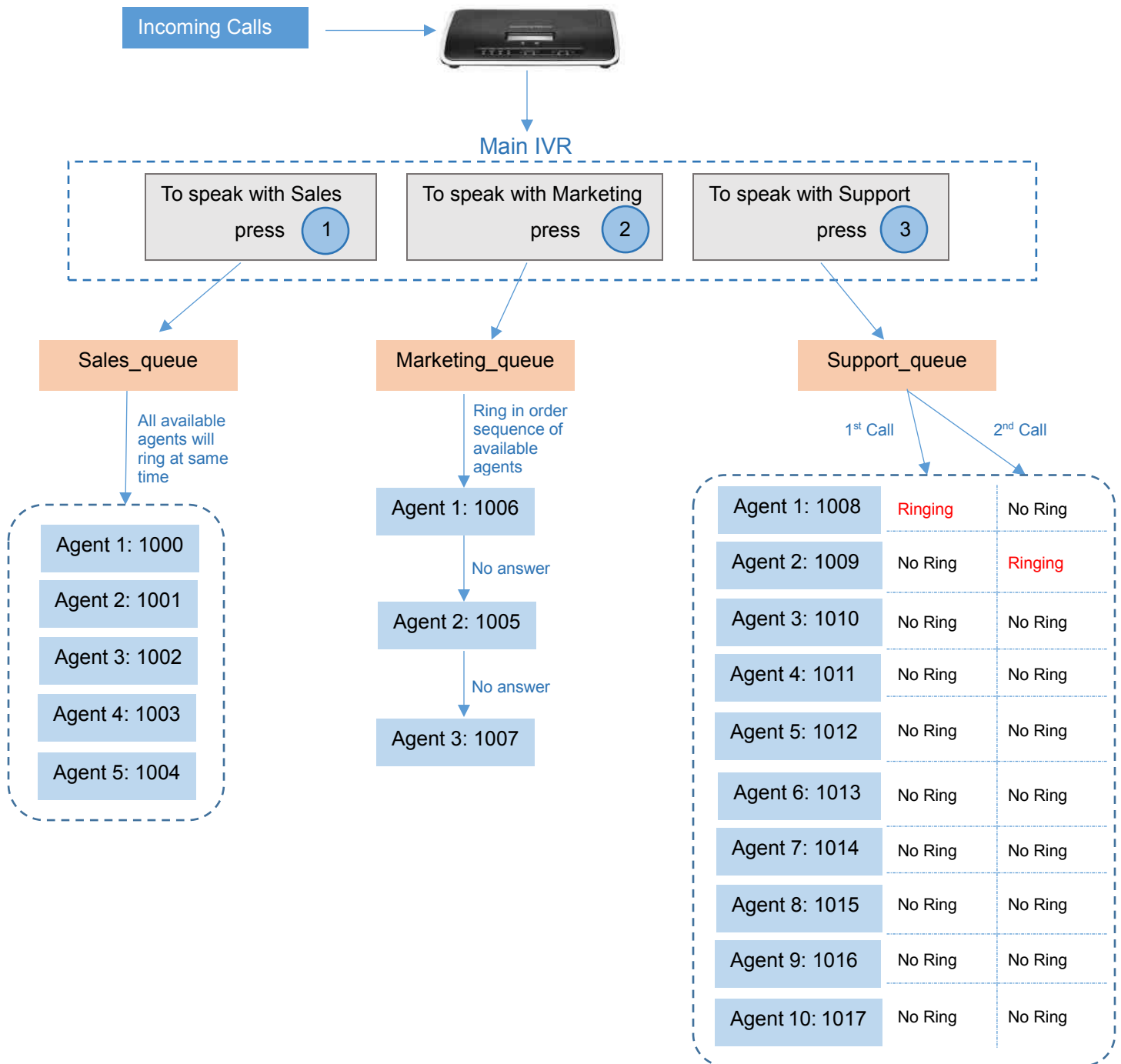
Figure 4: Call Queue flow example