

# Takarub

A proposal to mobile operators and service providers

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## Introduction

Takarub is a technology/content and a solution provider, was established to serve both customers and mobile operators since 2004. Takarub offers mobile consumers rich content that is distributed over SMS, MMS and IVR. Takarub serves mobile operators by providing various voice and SMS solutions such as Ring Back Tones, Video Ring Back Tones, Back Ground Music, Back Ground Videos, USSD Gateways, Billing and Intelligent Networks Multiplexers.

Operators in their struggle to keep a competitive advantage are always seeking differential services. Takarub in its highly flexible BGM solution can offer the operator with the ability to design a complete set of products with the proper promotional and pricing plans. The platform is supported by a highly exquisite library of content that would make the solution more appealing to end users.

The idea of giving subscribers the capability to use back ground tones and effects during a call came about towards the end of 2006. BGM will increase the ARPU and enhance customers experience if the operator is able to make provisioning as simple as a normal call.

Customers will have to subscribe to the service once and choose their library of songs/effects and then:

- 1- Their MSISDNs would be flagged on the switch/HLR so that every time they make a call they will pass through the BGM platform and be always ready to use effects.
- 2- They can use a prefix before every BGM call the subscriber would want to initiate, in this case, the operator forwards only the calls with the BGM prefix to Takarub's BGM platform.

Takarub can have customized content including Arabic, English, Sound Effects and pranks content to enrich the offering to your customers.

## Solution

Takarub's BGM platform is based on LINUX operating system and an open source call handler which is built in house, the solution supports dynamic management and handling, it is tested with many operators and known to be stable. The system supports all types of audio files and it is dynamic and can be modified to fit any of the operators needs.

The web application that comes with the solution is a highly organized interface that supports adding/editing/deleting/managing all types of content, it has many types of users, the most common are the Administrator (all types of privileges), Content Provider (uploading new content), System Administrator (managing the service and the service), and the end user – which is the subscriber (managing account, using some extra features that are not available on IVR).

Users can enjoy uploading their own content from the web interface, or they can use the Karaoke feature from either the web interface or the IVR menu.

The solution can be modified so that both parties can initiate BGM, which can only happen if the source (caller) is not subscribed to BGM calls a destination that is subscribed to BGM.

## Features

### **IVR System:**

- 1- Callers can subscribe by calling a specific number.
- 2- Once subscribed, subscribers can manage their juke box using the same IVR number, or by using USSD commands, or by using the web application described above.
- 3- Callers can assign dynamic DTMF digits to each ring tone assign in their library, DTMF digits range from 1-8.
- 4- Once the caller is subscribed and has items in juke box, s/he can enjoy calling other parties with BGM support, using one of the two scenarios described in the previous page.
- 5- Subscribers don't have to use any IVR number to make any BGM calls; the calls are treated just like any other normal call.
- 6- Callers can unsubscribe from the service using:
  - a. SMS
  - b. USSD
  - c. Calling the same IVR number they used in subscribing to the service.

### **Call Handling:**

- 1- Callers start their BGM call normally like any other call.
- 2- The BGM server sends acknowledgment commands to the destination to check if the destination is busy, turned off or out of reach.
- 3- If the destination is reachable, the call is initiated, the line starts ringing.
- 4- There won't be any music once the destination answers, the call will go on as any normal call.
- 5- The music starts when the source presses a DTMF digit (1-8), once a digit is pressed, the system fetches the tone that is assigned to this DTMF and to this user, and starts playing the music to both of the parties.
- 6- The caller can press \* to decrease the playing volume, or # to increase it.
- 7- The caller can stop the playing by pressing any key (1-8) during the playing of the song.

## Web application:

### 1- Administrator:

- a. Report generation and stats viewing.
- b. Add/Edit/Delete tones, categories, packages and users.
- c. Accepting tones uploaded by Content Providers or subscribers.
- d. Monitoring the service and the server.
- e. Modify the system features.
- f. Change account settings.

### 2- Content Providers:

- a. Upload new content, which is only launched after the administrator accepts the uploaded content.
- b. Create new packages.
- c. View stats and hits on the content uploaded by this content provider.
- d. Change account settings.

### 3- Customer Care:

- a. Add/Edit/Delete users.
- b. View call logs.
- c. View subscriber's stats.
- d. Edit subscribers' playlists.

### 4- Users:

- a. Add/Edit/Delete content from playlist.
- b. Use Karaoke, Voice Modulation, and time and month control.
- c. Upload content, which has to be accepted by administrator.
- d. Unsubscribe from the service.

### 5- System Administrator:

- a. Monitor the service and sever.
- b. Control the service and serve r.
- c. Manage the service and server.

## SMS Gateway:

BGM has its own SMS handler for sending and receiving text messages to/from subscribers and users.

## SMS Alerts:

SMS alerts are sent for:

- 1- Subscribing to the service.
- 2- Un-subscribing from the service.
- 3- Renewal of items.
- 4- New purchases.
- 5- Notification of new items.

## Extra Features (Needs a month for deployment):

- 1- **Voice Modulation:** This can be used with BGM to modulate the subscriber's voice.  
Example: DTMF 1 is assigned to a robot voice and DTMF 2 is assigned to alien voice, once the subscriber presses 1 during a call, the destination hears robot voice instead of the caller's normal voice.
- 2- **Time control:** that is, a subscriber can set more than one tone to one DTMF digit, but every tone starts on a specific time.
- 3- **Date control:** a subscriber can set more than one tone to one DTMF digit, but every tone starts on a specific date.
- 4- Song gifting and copying.
- 5- **Sponsored Call Support:** where calls can be handled with sponsorship offering low call rates in return of listening to ads during the call.

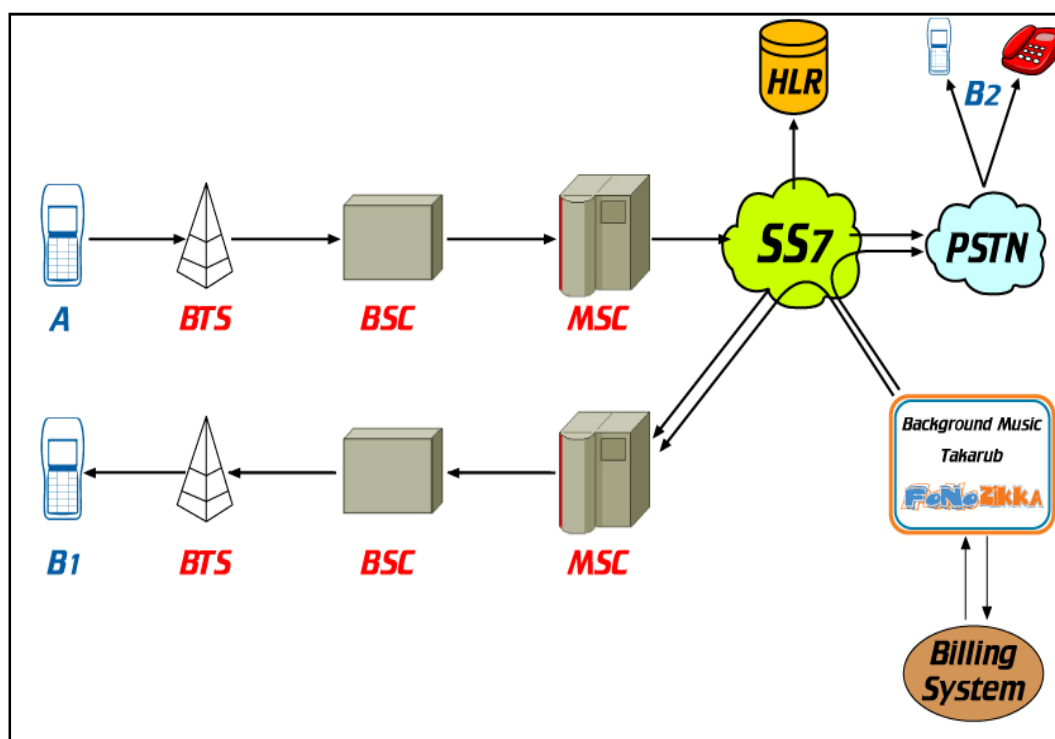
## Capacity

Takarub's BGM platform will be able to cope with operators of any size depending on the marketing and advertising plan and the target penetration rate. The nature of the solution is that calls will go through it from beginning to end. The number of concurrent calls and the average duration per call per user in any operator is a key to determine the hardware final structure and the number of E1s deployed.

Takarub's solution is scalable. Operator could start with an initial structure to serve X numbers of subscribers but could always upgrade to cope with the demand in a very flexible manner.

Since calls will be handled by Takarub's solution; it is crucial to know that the system accounts for zero UPL (User Perceived Latency) and the call pass rate is carefully planned using optimum resource utilization. The system depends on Erlang traffic model where by *1 Erlang = 1 continuous 3600 second (60 minute) call*. The system will accommodate the busiest hour on the network.

## Network Design



## Implementation Plan

A thorough research, design planning and implementation strategy must be put in place to have a successful implementation.

### **Methodology:**

In our plan we try to account for vendor delays and other unexpected delays in tasks so that implementation could supersede actual planned dates and at least to avoid delays.

### **Schedule:**

This system could be deployed in one week without the Extra Features described above.

## Support

First year free of any time of support, Second year 15% of total price of the solution.

Takarub offers three levels of support:

**First level of support:** Operator's staff will be trained extensively for 2 days to be able to handle the most basic updates and maintenance tasks required, and to how to use the solutions web application.

**Second level support:** Takarub has an in country team of professionals for immediate response to any inquiry over the phone or for in house visits if required.

**Third level support:** Takarub's 12/7 team at our main office in Amman.

## Financial proposal

The following component will be included in the offer where servers are to be provided in the country of installation:

- IVR basic license (two ports)
- SS7 or ISDN boards including signaling and voice link license.
- E1 cards that are compatible and recommended to work with our solution supporting 8 ports and 240 concurrent calls
- CENTOS Operating system: You don't have to buy and pay for that license.
- BGM platform and all of its modules
- Content management system
- Web based operator/content providers/users provisioning interfaces
- Statistical tools for operators and content providers.
- Installation at Operator (Airline tickets and accommodation in Operator for one or two people is required to be supplied by buyer)
- Training