Game Multimedia Engine

FAQ

Product Documentation
Copyright Notice

©2013-2019 Tencent Cloud. All rights reserved.

Copyright in this document is exclusively owned by Tencent Cloud. You must not reproduce, modify, copy or distribute in any way, in whole or in part, the contents of this document without Tencent Cloud's prior written consent.

Trademark Notice

All trademarks associated with Tencent Cloud and its services are owned by Tencent Cloud Computing (Beijing) Company Limited and its affiliated companies. Trademarks of third parties referred to in this document are owned by their respective proprietors.

Service Statement

This document is intended to provide users with general information about Tencent Cloud's products and services only and does not form part of Tencent Cloud's terms and conditions. Tencent Cloud's products or services are subject to change. Specific products and services and the standards applicable to them are exclusively provided for in Tencent Cloud's applicable terms and conditions.
Contents

FAQ
  General
  Billing
  Download and Use
  Voice Chat Room
  Voice Chat Audio
  Voice Messaging and Speech-to-Text
  How to deal with the restrictions of corporate firewall
FAQ

General

Last updated: 2020-05-13 11:41:40

What features does GME have?
GME supports voice chat, offline voice messaging, speech-to-text, and voice analysis.

What are the gaming application scenarios of GME?
E-sports, commander games, casual games, werewolf, etc.

What game engines and platforms does GME support?
The following game engines are supported: Unity, Unreal, and Cocos2d. The following platforms are supported: Windows, macOS, iOS, Android, and HTML5.

Does GME support WeChat Mini Program?
Yes. GME supports WeChat Mini Program; however, only pull (listening) from WeChat Mini Program is supported, while push (speaking) is not.

Does GME provide a demo for WeChat Mini Program?
No. GME currently does not have a demo for WeChat Mini Program.

How do I get started with GME?
For more information on how to get started with GME quickly, please see Access Guide.

Does the .so library on Android support x86_64?
The SDK currently is not available on x86_64.

Does the .so library on Android support ARMv8?
Yes. It is supported on v2.3.5 and above.

How do I configure code obfuscation when integrating with the SDK?
For detailed directions, please see Project Configuration for Android.

How do I ensure the security of authentication?
Generally, you are recommended to use the client deployment scheme in the initial stage, which can be optimized for deployment on the gaming application's backend subsequently.
### How long is the validity of the authentication generated by the client?

It is permanently valid.

### When I access GME, an error code is displayed prompting that authentication failed. What should I do?

When an authentication error occurs during access to voice chat and voice messaging and speech-to-text, check whether the voice messaging and speech-to-text service is enabled in the console; and if yes, make sure that:

- `SDKAppID` matches that in the console.
- `OpenID` must be greater than 10000.
- `null` must be entered as the room ID parameter for the voice messaging and speech-to-text feature.
- The key from the Tencent Cloud Console is correct.

### Can GME on Android and GME on iOS communicate with each other?

Yes, they can be interconnected by entering the same room with the same `SDKAppId`.

### Does GME support Bluetooth switching on mobile phones?

The switching of sound playback is at the OS level. GME supports playback by Bluetooth devices.

### What should I pay attention to when hot-updating GME?

To hot-update the GME SDK, you need to update the modules depending on the SDK together by including all GME-related code in the hot update.

### Does a GME room support mic sequence-based karaoke?

GME's HD sound quality can meet the needs of karaoke; however, mic sequence is something that should be implemented in your own product's application layer through a delivery protocol, for example.
Billing

Last updated: 2019-11-19 14:54:26

**How is the DAU calculated for GME voice chat?**

A user who enters the room in the application is counted as a voice DAU, and the total number of voice DAUs is calculated based on the deduplicated UserIds (UserId is a unique identifier of a user in the application, and one user corresponds to one UserId).

**How is voice duration calculated for GME voice chat?**

Voice duration is calculated based on the time a user enters and exits the room.

**What are the billing methods for GME's voice messaging and speech-to-text service? How do I select one?**

Voice messaging and speech-to-text service is billed by voice messaging DAUs. For detailed prices, see Purchase Guide.

**How is the DAU calculated for GME's voice messaging and speed-to-text service?**

A user who sends a voice message in the application is counted as a voice messaging DAU, and the total number of voice messaging DAUs is calculated based on the deduplicated UserIds (UserId is a unique identifier of the user in the application, and one user corresponds to one UserId).
Download and Use

Where can I download GME demos and SDKs?

Please download the relevant demos and SDKs as instructed in Download Guide. Currently, there are demos for Unity, Cocos2d, native Android development, and native iOS development.

How do I change the account after downloading the GME demo?

- You need to get the SDKAppID and permission key from the console.
- To use your own AppID, you need to change the key of voice chat in GetAuthBuffer in AVChatViewController.

How can I experience the effect locally if there is only myself in the room?

To experience the effect, use the demo on another device to enter the same room.

What should I do if errinfo=priv map info error is displayed when I use the demo?

There is an error in the relevant room entry parameters. Please check whether the SDKAppID and permission key have been replaced.

How do I use a downloaded demo?

Please see the demo user guide.

How do I get logs?

When providing logs, please also specify the time point when the problem occurred. The file named QAVSDK_date.log is the log file, which is in the following directories:

<table>
<thead>
<tr>
<th>OS</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>%appdata%\Tencent\GME\ProcessName</td>
</tr>
<tr>
<td>iOS</td>
<td>Application/xxxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxxx/Documents</td>
</tr>
<tr>
<td>Android</td>
<td>/sdcard/Android/data/xxx.xxx.xxx/files</td>
</tr>
<tr>
<td>macOS</td>
<td>/Users/username/Library/Containers/xxx.xxx.xxx/Data/Documents</td>
</tr>
</tbody>
</table>

Why there is no Authbuffer file in the downloaded SDK documentation and demo?
The Authbuffer file has been merged. Please search for it globally in the SDK.

Is there a lib file for TEA encryption?

We provide an Authbuffer compilation document and ZIP package.

Do the SDKs for Cocos2d-x, native Android, and native iOS have different operation efficiency?

They have no difference on the operation efficiency.

What should I do if the screen goes black when I try to open an application after integrating the GME SDK and exporting an APK file?

Some lib files may be missing. Please decompress the APK file and check whether all library files are present in each folder under `lib`.

Does the SDK for iOS support debugging in a simulator?

Yes. Please use the latest package from the official website for verification.

What should I do if an error occurs during compilation when I try to export an executable file from Xcode after adding the GMESDK.framework library?

Select "Build Setting" in the project file and check whether the "-all_load" flag is used in "Other Linker Flags"; and if yes, delete it and compile the project again.

An ARMv7-related error occurred when I tried to export an iOS executable file from the SDK for Unity, but export worked properly after I deleted ARMv7. What should I do?

You are recommended to upgrade Unity. For more information, please see this thread in Unity's forums.

If you have no upgrade needs, simply ignore the ARMv7 architecture during packaging.

What should I do if the downloaded demo for iOS cannot run?

After you download the official demo for iOS, if an error similar to "ld: warning: directory not found for option" occurs during compilation through Xcode (above v10), you need to manually add the GMESDK.framework file in the GME_SDK folder at the same level of the demo folder to the Framework list of the project.

What should I do if an error occurs when I download the demo for Unity and export an executable file for PC?

If an error similar to "Found plugins with same names and architectures" occurs, it is because that the GME SDK is available for both the x86 and x86_64 architectures by default. Please delete either
What should I do if another player (such as QQ Player) is required to play back accompaniment on the Windows client?

Please call the related API as instructed in the document of player accompaniment for Windows. As accompaniment with a third-party player uses an advanced API, you need to submit a ticket for assistance and provide the `tmg_adv_win.h` header file.
Voice Chat Room

Last updated: 2020-05-26 17:05:55

What gaming scenarios does the voice chat service support?

There are mainly three types of applicable scenarios:

- **Mic sequence mode:** this mode allows players to mic on in turn with high and smooth sound quality, which is suitable for voice chat-enabled games such as werewolf.
- **Free audio call mode:** this mode allows multiple players to speak at the same time with ultra low latency, which is suitable for competitive games such as multi-player team battles.
- **Command mode:** this mode is suitable for commander games such as one-to-many command battles and audio interaction with host.

Voice chat features provided by the GME SDK can meet the needs of the above-mentioned scenarios. However, the specific mode (such as mic sequence) is something that should be implemented in your own product’s application layer through a delivery protocol, for example.

What are the requirements for the value of **openid**?

Only a 64-bit unsigned integer can be an **openid**. Convert it to a string before passing it to the SDK.

Can one single **openid** enter multiple rooms at the same time?

No. One **openid** can only exist in one room at a time.

When should the **Poll** function in the GME SDK be invoked?

Please start invoking the **Poll** function periodically after initializing the SDK.

The trigger event needs to periodically invoke the **Poll** function. Is it okay to start a new thread, wake it up periodically, and then invoke the function?

Theoretically, all TencentCloud APIs need to be called in the same thread. If you choose to call them in child threads, be sure to call them in the same child thread, especially for **Init** and **Poll**.

How often should I invoke the **Poll** function?

If there are no special requirements, please invoke the function as instructed in the sample code of the demo.

Is there a limit on the number of voice chat rooms or members in GME?

There is no limit on the number of voice chat rooms or the number of members.
How many users can be in a room? How many users can speak at the same time?

GME has no limit on the number of users in a room, but only up to 6 users can speak at the same time.

What are the requirements for room ID?

A room ID can contain up to 127 characters (for the voice messaging and speech-to-text feature, `null` must be entered).

Why room entry fails even if 0 is returned when the ` EnterRoom ` API is called?

A callback will be returned after the ` EnterRoom ` API is called, which, instead of the API returned value, should be used to determine whether room entry succeeds.

How do I troubleshoot failures such as 10001 returned for room entry?

The troubleshooting steps are as follows:

1. View and confirm the validity of the parameters in the room entry API, such as `Appid`, `UIN`, and `AuthBuffer` (please see the API documentation for the corresponding platform).
2. Check whether the relevant parameters in the console match the local ones.
3. Check whether your account is in arrears in the console.
4. Check whether your testing devices are in the private network or public network. If they are in the private network, please troubleshoot as instructed in Dealing with Corporate Firewall Restrictions.

What should I do if the callback returns the error code 1101 when the ` EnterRoom ` API is called for room entry after the ` Init ` method is called?

Please make sure that all APIs are called in the same thread and the ` Poll ` API is called periodically.

Why is "HTTP Invalid id" returned when I enter a room in an application?

If your account mapped by the `OpenId` parameter when you call the ` EnterRoom ` API starts from 0, you are recommended to add 10000 to it. For example, if your account is 999, 10999 should be entered as your `OpenId`.

What should I do if the error code 7004 indicating a network error is returned during room entry?

1. View and confirm the validity of the parameters in the room entry API, such as `Appid`, `UIN`, and `AuthBuffer` (please see the API documentation for the corresponding platform).
2. Check whether your testing devices are in the private network or public network. If they are in the private network, please troubleshoot as instructed in Dealing with Corporate Firewall Restrictions.
3. Troubleshoot network problems as instructed below.

**How do I troubleshoot network problems?**

**Network diagnosis:**

- Click here to check the domain name tcloud.tim.qq.com or directly copy the following link: https://ping.huatuo.qq.com/tcloud.tim.qq.com
- Click here to check the domain name gmeconf.qcloud.com or directly copy the following link: https://ping.huatuo.qq.com/gmeconf.qcloud.com
- Click here to check the domain name yun.tim.qq.com or directly copy the following link: https://ping.huatuo.qq.com/yun.tim.qq.com

Use a browser on the device with network problems to open the three links above, wait for the check to be completed (it may take 5–10 seconds), click **Copy Result URL for Sharing** to copy the result, and provide it to Tencent Cloud technical support for assistance.

**SSO diagnosis:**

On the device with network problems, click here to check the domain name tcloud.tim.qq.com, view the displayed content, copy or take a screenshot of the content, and provide it to Tencent Cloud technical support for assistance.

Sample: {
"ActionStatus":"FAIL","ErrorCode":60002,"ErrorInfo":"HTTP parse Error"
}

**What should I do if a client is disconnected from a voice chat room?**

If the network connection is interrupted, the client will try reconnecting to the room in 60 minutes. **ITMG_MAIN_EVENT_TYPE_ROOM_DISCONNECT** will be called back after 60 minutes. After the reconnection, the mic and speaker status do not need to be set.

**Is there an API for room ID recycling?**

No. After the last member exits the room, the room will be automatically terminated.
How should be APIs called when room entry is performed immediately after room exit?

If there is a scenario in the application where room entry is performed immediately after room exit, you don't need to wait for the `RoomExitComplete` callback notification from the `ExitRoom` API during API call; instead, you can directly call the API.

Are room entry and exit operations async? Can the two APIs be called at the same time?

You need to call `exitroom` first and then call `enterroom` after receiving a callback for successful room exit. If there is a scenario in the application where room entry is performed immediately after room exit, you don't need to wait for the `RoomExitComplete` callback notification from the `ExitRoom` API during API call; instead, you can directly call the API.

When is the member status synced? Will a user receive a notification when entering the room for the first time?

Notifications for audio events are subject to a threshold, and the notification "A member sends an audio packet" will be sent only when this threshold is exceeded. If a member in the room does not speak for two seconds, the notification "A member stops sending audio packets" will be sent. There will be a notification when a user enters the room for the first time.

Will a blacklisted user stay in the blacklist after exiting the room?

No. After voice room exit, the blacklist becomes invalid.
Voice Chat Audio

How do I choose the audio type that suits me?

Different application scenarios require different audio types. For more information, please see Sound Quality Selection.

The first user entering the room determines the room's audio type, which will be applied to subsequent users entering the room. To change the room audio type, please call the ChangeRoomType API.

What should I do if the mobile phone volume level becomes very low after room entry but becomes very high after the mic turns on?

A mobile phone's volume can divide into media volume and call volume. If the mic is not enabled during room entry, the media volume will be used by default. In this case, when the media volume level is low, even if the call volume is high, the actual volume level will be low. You need to ensure that the media volume level is appropriate. Similarly, if the volume level becomes low after the mic is enabled, you need to adjust the mobile phone's call volume.

What should I do if I cannot hear other users speaking after entering a room on iPhone?

Please check whether the mute switch on the side of iPhone is on.

What if the sound comes out of the receiver instead of the speaker after the mic is enabled on an Android phone?

Grant the &lt;uses-permission android:name=&quot;android.permission.MODIFY_AUDIO_SETTINGS&quot; /&gt; permission to GME.

How do I set enabling speaker instead of receiver by default after integrating the SDK?

The speaker is enabled by default in GME.

Can the SDK play back sound in the receiver?

Voice chat does not support the receiver.

How do I implement the scenario where only two members in a room can talk to each other while other members can only listen to them?

You should configure the client so that mic cannot be enabled by other members.
How do I remind a user that no local mic is available?

`GetMicListCount` can be used to get the number of mics, so you can use this API for checking.

Can I set the mic volume level before room entry?

No, the voice chat API `ITMGAudioCtrl ITMGAudioEffectCtrl` can be called only after room entry.

When will the mic be occupied?

- Mic is occupied after the `EnterRoom` function is successfully invoked, during which other applications cannot use the mic.
- Calling `EnableMic(false)` does not release the mic.
- If it is required to release the mic, call `PauseAudio`. After `PauseAudio` is called, the entire engine will be paused, and `ResumeAudio` can be called to resume the engine service.

Is there an API to get the mic status before the `EnableMic` function is invoked?

The `getMicCount` API can be used to see whether the mic is available.

How often can the mic volume level be returned when the GME method for getting the real-time volume level is used?

The `GetMicLevel` API collects the volume level once every 20 milliseconds. Therefore, you can get the volume level as frequently as once every 20 milliseconds at most.

How can I determine whether there is music played in the background?

Use the `IsAccompanyPlayEnd()` API.

What formats of local audio files does the SDK support?

The SDK supports the .m4a, .wav, and .mp3 formats.

When the SDK is used, what if music cannot be played back and the sound card of the computer cannot be used in the simulator?

The simulator does not support .mp3.

Does the voice changing effect generate a file?

The voice changing effect is real-time, and no files will be generated for transfer.

How can GME voice chat's range voice mode be accessed? Does range voice have distance attenuation?

For more information on how to access range voice, please see `Range Voice`. After range voice is enabled, there is no distance attenuation for team voice, but the global voice will attenuate as the
distance increases. For the attenuation coefficients, please see the documentation.

**What are the requirements for the mic and speaker in order to achieve 3D sound effect?**

The playback client needs to support dual-channel.

**How can GME voice chat's 3D sound effect be accessed?**

For more information on how to access voice chat's 3D sound effect, please see 3D Sound.

**What are the main causes for sound lagging?**

- **Poor sound source:** for example, the host uses an external device to play back music and uses a mobile phone to capture the sound for live streaming (lagging is inevitable in this case, and the host is recommended to use earphones).
- **Poor network connection:** viewers will hear lagged sound if the upstream packet loss rate is too high or the upstream latency fluctuates greatly.
- You need to determine whether the lagging occurs in the sound itself or is caused by the sound transfer delay.
Voice Messaging and Speech-to-Text

What languages does GME's voice messaging and speech-to-text service support?

At present, the voice messaging and speech-to-text service activated in the Tencent Cloud Console supports over 120 languages such as Simplified Chinese, English, Traditional Chinese, Japanese, and Korean.

Can GME's voice messaging and speech-to-text service be used together with voice chat?

Yes. They can be switched by calling the relevant APIs.

After the API for voice file uploading is called successfully, the fileid in the returned value is a URL. How do I use it?

Call the API for file downloading and use this URL to download the file. Specifically, the fileid called back upon file upload completion needs to be sent to the server, and other clients can get the voice message through the fileid.

Can offline voice files be downloaded?

After a file is uploaded, a URL will be returned which can be used to download the voice file.

How long is the validity of an offline voice file?

An offline voice file will be retained on the server for 90 days. Then, the download link to the file will become invalid. If you want to retain the file permanently, please store it on your own server.

Is there a time limit for offline voice recording?

The voice messaging and speech-to-text service supports recording for 1–60 seconds.

What should I do if error 8200 is reported when the voice messaging and speech-to-text service is used?

This error is caused by incorrect initialization of the voice messaging and speech-to-text service, and you are recommended to check whether the appid and openid entered during initialization and authentication are correct.

What should I do if it takes too long to upload or download an offline recording file?
For the voice messaging and speech-to-text service, if the conversion delay is too high, you are recommended to use the streaming recording API which calls back the returned text.
How to deal with the restrictions of corporate firewall

Last updated : 2020-04-20 10:35:08

If your organization has restrictions placed on public network access, you need to configure the firewall whitelist accordingly before you can get access. The following describes the relevant rules:

Client Native SDK (v2.2 or Above)

Firewall port:

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Whitelist Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP port</td>
<td>443</td>
</tr>
<tr>
<td>UDP port</td>
<td>8000</td>
</tr>
</tbody>
</table>

Domain name whitelist:

- [tcloud.tim.qq.com](http://tcloud.tim.qq.com)
- [gmeconf.qcloud.com](http://gmeconf.qcloud.com)
- [yun.tim.qq.com](http://yun.tim.qq.com)

Tencent Cloud server IP addresses are dynamically updated, so we cannot provide you with a list of fixed IPs.

To use the GME SDK on Windows XP, you need to add the following items to the firewall whitelist:

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Whitelist Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP port</td>
<td>15000</td>
</tr>
</tbody>
</table>

Domain name whitelist:

- [cloud.tim.qq.com](http://cloud.tim.qq.com)
- [openmsf.3g.qq.com](http://openmsf.3g.qq.com)
Using the SDK for HTML5

Firewall port:

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Whitelist Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP port</td>
<td>443, 8687</td>
</tr>
<tr>
<td>UDP port</td>
<td>8000, 8800, 843, 443</td>
</tr>
</tbody>
</table>

Domain name whitelist:

- qcloud.rtc.qq.com
- rtc.qcloud.qq.com

Using Voice Messaging and Speech-to-Text Conversion Service

Firewall port:

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Whitelist Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP port</td>
<td>80, 443</td>
</tr>
</tbody>
</table>

Domain name whitelist:

- gmespeech.qcloud.com
- yun.tim.qq.com
- gmeconf.qcloud.com