Game Multimedia Engine

Product Introduction

Product Documentation
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Product Introduction

Overview

Last updated: 2019-12-03 15:19:24

Tencent Cloud Game Multimedia Engine (GME) is a one-stop voice solution featuring high quality and cost effectiveness, which covers a wide range of internet-based application scenarios, such as gaming, social networking, entertainment, live broadcasting, and ecommerce. It supports group voice chat, 3D location voice, voice messaging and speech-to-text, and voice analysis.

Voice Chat Service

3D sound effects
Leveraging HRTF, 3D spatial processing, and distance-based EQ compensation technologies, GME can create a voice model based on human perception to process and convert non-directional sound into 3D immersive sound, thereby generating the sound sensation to human ears as if from a sound source at any spatial position.

Public messaging
Public voice within a certain range with 3D sound effects in 6 directions is supported.

Mic sequence mode
Users take turns to speak with mic on. This mode allows a high sound quality and fluency and is suitable for such scenarios as Werewolf.

Free audio call
This mode allows multiple players to speak at the same time with ultra low latency, which is suitable for competitive gaming scenarios such as multi-player team chat.

Command mode
This mode is suitable for one-to-many commanding, audio interaction with host and other scenarios in large-scale commander games.

Voice Message and Speech-to-text Service
GME supports sending recorded voice messages to game channels and converting them into text messages in real time, with clear sound quality and high accuracy of voice recognition.
Strengths

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

Comprehensive Application Scenarios
In gaming, social networking, entertainment, live broadcasting, ecommerce, and other application scenarios, GME helps you meet common voice requirements such as in-game voice chat, voice chat room, live voice broadcasting, and online karaoke.

Global Service Availability
Backed by Tencent's 10-Gigabit cloud-based data centers and 20 BGP lines, GME delivers a stable and ultra-smooth gaming voice experience. In addition, it supports deployment in third-party data centers and covers regions hard to be reached by traditional cloud vendors such as the Middle East, South America, and Australia to make its services available globally.

Professional Network Access
GME reuses QQ's access deployment and scheduling policies to effectively solve the connectivity problem in weak network environments, achieving a connectivity rate of up to 99.995%.

Superior Service Hosting Capacity
GME hosts QQ's service capacity and can sustain hundreds of millions of online users. It ensures service security and reliability through real-time monitoring, remote disaster recovery, and intelligent scheduling.

Ultra-low Integration Threshold
GME provides a universal framework to meet diverse voice service requirements with no repeated integration needed.

Complete and Comprehensive Features
GME has many commonly used features for gaming scenarios, such as multi-person voice chat, real-time video chat, voice messaging, speech-to-text conversion, and voice analysis.
Use Cases

Last updated: 2019-11-01 11:01:26

Table Games

The traditional role-playing table game, Werewolf, can now be played online. Players greet each other before they start, speak in turn during the game, and review the game after it ends. This interaction is made possible by real-time audio and video chats. GME provides real-time audio services that focus on picture clarity and sound quality. The services are specifically customized for table games to meet players' needs for audio interaction.

Casual Games

In chess and cards, karaoke, music, and other casual games, voice messages and voice talkback are also indispensable. In some casual games, VJs may play songs for players, or join karaoke games with music track. GME not only provides real-time audio chats for users, but also offers other interesting features, including in-ear monitoring and voice changing, to guarantee the best casual gaming experience.

E-Sports

In e-sports games, battle situations are constantly changing and players in the same camp need to share their strategies against the enemy in real time. GME makes this possible by implementing real-time in-game free voice chat that features ultra-low latency and prioritizes smoothness, allowing players to better communicate with each other and enjoy the battle games.

Commander Games

MMORPG is a typical example of commander games. Since these games involve squads, gangs, and many other playing modes, they have a higher requirement for voice latency. GME offers real-time automatic broadcasting joining/quitting and voice calls with ultra-low latency. These features can perfectly meet players' voice chat requirements during commander games even when a large number of players are online at the same time.
Release History
Last updated: 2020-02-27 19:19:51

GME_SDK2.5 2019 MULT06MULY27

New features
- Added Voice Chat to get upstream volume interface and downstream volume interface for room members.
- Increase Voice Message to set recording / Playback volume and get recording / Playback volume API.
- Add Voice Message recording pause recording and Resume recording interface.

Optimizations
Update the error code to refine the error scenario.

GME_SDK2.3.5 2019 MULT03MUL25

New features
- Android v8a architecture is supported now.
- Low-latency capture and playback is adaptive to Android now.

Optimizations
Improved stability.

GME_SDK2.3 2019 Mui 01 Mui 11

New features
- Offline voice can be used during voice chat now.
- Voice chat can be filtered for terrorism, pornographic, and politically sensitive information now.
- HTML5-based voice chat is supported now, making voice chat available across all operating systems.

Optimizations
- Optimized the range voice APIs of the SDK to lower the access threshold.
- Optimized noise reduction for voice.
- Greatly reduced memory usage by the SDK.

**GME_SDK2.2 2018 MULT0MUL29**

**New features**
- Support a variety of singing sound effects.

2. Optimizes the user experience in super-large rooms with lower latency and higher fluency.

- Voice Message news supports streaming Voice-to-text Conversion.
- Accompaniment is supported on Windows.

**Optimizations**
- Optimized voice bandwidth to save Traffic.
- CPU and memory performance optimization.

**API changes**
1. Changes the type of parameter roomId in GenAuthBuffer from int32 to string.
2. Changes the type of parameter roomId in EnterRoom from int32 to string.
3. Changes the function of SetMicVolume from setting the microphone device volume to setting the microphone software volume.
4. Changes the function of GetMicVolume from getting the microphone device volume to getting the microphone software volume.

**Optimizations**
1. Upgrades the type of room number from int32 to string.
2. Changes the functions of the APIs for setting/getting device volume to setting/getting software volume.

- Repair Bug, to improve stability.
New features

- The Windows version supports voice changing.
- Voice Message is supported on Windows.

3. Supports 3D sound effect on Windows.
4. Supports x86 architecture in Android SDK.
5. IOS and Mac SDKs are adapted to XCode10.

Optimizations

- Voice Message authentication optimization.
- Mobile Device supports shutting down separately.
- Immunity to bad network condition who optimizes the sound quality.

GME_SDK2.0 2018 MULT06MULY22

New features

1. PC Native and PC Unity versions of GME are made available.
2. GME supports Unreal engine.

- GME Voice Message text transfer provides multilingual support, up to 120 languages.

4. GME PC terminals support 3D voice chat.

Optimizations

- Improve the high sound quality experience under the call volume.

2. Lowers the bar for integration, and provides multiple sound quality options-Fluent, Standard, and HD.

- Improved stability.

GME_SDK1.2 2018 MULT04MULY02

New features

- GME supports the Cocos engine.
- Provides an interface to adjust the microphone volume.

3. Supports team chatting on mobile devices to better support battle royale games.
4. Supports accompaniment playback in various formats on PC.
5. Supports accompaniment playback in various formats on Android devices.

**Optimizations**

1. Optimizes the audio pre-processing effect for Werewolf scenarios to deliver a more clear sound quality in multi-person chatting.
2. Optimizes the sound quality in online Karaoke and other scenarios and supports configuring higher sound quality.
3. Reduces the voice delay in Moba scenarios to achieve lower delay in team chatting.
4. Optimizes the noise cancellation algorithm to deliver more pure sound.

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**GME_SDK1.1 2017MULT0MUL18**

**New features**

1. Game SDK supports accompaniments and sound effects in various formats.
2. Adds offline voice and voice-to-text conversion features in game scenarios.

**Optimizations**

1. Provides the module for authentication of user entering room on client and lowers the bar for integrating SDK.
2. Optimizes the howling suppressing effect on iOS/Android.
3. Optimizes the sound quality consistency, immunity to bad network condition and other metrics in Werewolf scenario.

** Fixes**

Fixes the system crash issue on Android 4.2 and below.