

# **Tencent Real-Time Communication**

## **SDK Download**

### **Product Documentation**



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# SDK Download

## SDK Download

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Tencent Real-Time Communication (TRTC) is a low-latency, high-quality audio and video communication service provided by Tencent Cloud, dedicated to providing stable, reliable, and low-cost audio and video transmission capabilities for Tencent Cloud customers. This service consists of a global network of audio and video transmission and a set of terminal SDKs. You can download the TRTC SDK covering currently mainstream client platforms and popular frameworks on this page.

## TRTC SDK

## All-In-One SDK

In addition to the Tencent Real-Time Communication (TRTC) SDK, Tencent Cloud also offers quick integration solutions for various audio and video scenarios, including live streaming, short video, and player SDKs.

The All-In-One SDK is designed to address dependency conflicts that may arise when using multiple SDKs simultaneously. It includes all the features of the TRTC SDK, live streaming (MLVB) SDK, short video (UGSV) SDK, and player SDK in one package. If you require multiple SDKs, you can download this version.

# Release Notes (App)

Last updated : 2024-03-06 16:00:37

This page includes the version history of TRTC SDK and All-In-One SDK. Please choose the ideal SDK according to your function needs.

## TRTC SDK 11.7 Released on Mar 4, 2024

### New features

Full platform: Add new Warning codes for camera capture.

Full platform: Adjust the gravity sensing API, see `setGravitySensorAdaptiveMode` .

Full platform: Support callback for local voice volume information, see `enableAudioVolumeEvaluation`.

### Improvements

Full platform: Optimize room entry process to significantly reduce the time taken for secondary room entry.

Full platform: Dashboard monitors the maximum number of end-to-end call quality for a single user, increasing from 16 to 50 channels.

Android: Optimize the parameters and calling order of the system capture audio API to reduce the probability of capturing only noise and improve the sound capture effect.

iOS: Optimize the capture restart logic after system interruption to reduce the probability of capturing silence.

iOS: Optimize Unity 3D engine compatibility issues.

iOS: Improve the focusing effect of rear triple and dual camera capture, increasing the focusing speed.

### Bug fixing

Android: Fix some echo leakage cases.

Android: Fix some Bluetooth interruptions causing external playback issues.

### Interface behavior adjustment

Full platform: When the API `switchRole` is frequently called, only the last call result is returned in `onSwitchRole`.

Full platform: Add camera capture warning codes.

Warning Code	Description
<code>WARNING_CAMERA_IS_OCCUPIED = 1114</code>	The camera is occupied by other process
<code>WARNING_CAMERA_DEVICE_ERROR = 1115</code>	The camera device is error
<code>WARNING_CAMERA_DISCONNECTED = 1116</code>	The camera is disconnected
<code>WARNING_CAMERA_START_FAILED = 1117</code>	The camera is started failed

WARNING\_CAMERA\_SERVER\_DIED = 1118

The camera sever is died

Full platform: Adjust the default frame rate for the setVideoMutelImage interface from 0fps to 5fps, and limit the maximum frame rate to 10fps.

iOS: Change the behavior of the API setSubStreamEncoderParam from setting screen sharing encoding parameters to setting auxiliary stream encoding parameters.

Windows: Change the default highlight color (highLightColor) in the selectScreenCaptureTarget from green to yellow.

Full platform: Adjust the gravity sensing API:

New API	(void)setGravitySensorAdaptiveMode: (TRTCGravitySensorAdaptiveMode)mode;	See Doc
Deprecated API	setVideoEncoderRotation	Deprecated
	setVideoEncoderMirror	Deprecated
	setGSensorMode	Deprecated

## TRTC SDK 11.6 Released on Jan 15, 2024

### New features

iOS : Added Picture-in-Picture support for `TXLivePlayer`.

Windows: Added support for capturing audio from specific application. For more details, see startSystemAudioLoopback.

### Improvements

Android & iOS: Optimized the success rate of playing BGM with URL.

Windows: Optimized and adapted to Intel HEVC software decoder (Quick Sync Video).

All platforms: Optimized poor network performance of audio in low-bandwidth conditions.

All platforms: Optimized poor network performance of video in low-bandwidth conditions.

All platforms: Optimized poor network audio quality under high packet loss and high latency conditions.

All platforms: Optimized SDK overall stability.

### Bug fixing

Android: Fixed occasional slow decoding of the first frame when `switchRoom` is called frequently..

Android: Fixed occasional incorrect screen scaling when trying to `startScreenCapture` again in a single session.

Windows: Fixed the issue that some virtual cameras fail to capture when setting vertical resolution.

## TRTC SDK 11.5 Released on Nov 27, 2023

## Improvements

All platforms: Optimized the performance and stability of the video engine.

All platforms: Optimized the stability of the audio engine.

All platforms: Optimized the behavior strategy of some APIs, see the adjustment of interface behavior for details.

All platforms: Optimized the strategy and performance of the background music module (BGM module), reducing the occurrence of BGM playback exceptions.

Windows: Optimized HEVC hardware decoding compatibility with AMD and Nvidia graphics cards.

Windows: Optimized the overall performance of screen sharing, improved screen capture frame rate and stability.

Android: Optimized the playback effect of TRTC with VODPlayer.

iOS & Mac: Optimized the performance of pre-processing and rendering using Metal.

## Adjustment of Interface Behavior

All platforms: When the video resolution is set to vertical 540P (expecting 540x960), the specific resolution for processing is adjusted from 544x960 to 536x960.

All platforms: The callback interval of BGM progress callback `onPlayProgress` is adjusted from 200ms to 300ms.

All platforms: The internal implementation of the BGM module is adjusted to a singleton, and the musicID needs to be globally unique in multiple instances. When developers use sub-instances to play BGM, please make sure that different instances use different musicIDs.

All platforms: Local recording event status codes are adjusted to be returned asynchronously. The default return is 0 after the related interface is called, and the specific status code is obtained through the corresponding event callback.

All platforms: Adjust the following status codes for the `onLocalRecordBegin` callback for starting recording events.

Event	Status code before v11.5	Status code in v11.5
Recording has started, stop previous recording first	-1	-6
Directory has no write permission, please check directory permissions	-2	-8
Incorrect file extension (e.g. unsupported recording format)	-3	-2

iOS & Android: Optimized the continuity of mobile screen sharing, retaining the last frame sent during sharing pause, with a frame rate of 1-2 fps.

iOS & Android: Adjusted the response behavior of gravity sensor, only responding to gravity sensor on or off.

## TRTC SDK 11.4 Released on Sep 14, 2023

### New features

All platforms: `TRTCLocalRecordingParams` adds a new parameter `max\_duration\_per\_file` to control the duration of segmented recording. The path of the segmented file can be obtained through the `onLocalRecordFragment` callback.

Android & iOS: V2TXLivePusher adds a rendering mode setting API `setRenderFillMode` for local preview streaming.  
Mac: Added `enableCrashMonitoring` to support capturing crash information and storing it locally. You need to add `TXCCrashMonitor.framework` to your project when using this feature.

## Improvements

Cross-platform: Optimized performance in IPv6 network environments.

Cross-platform: Optimized lyric alignment in the online singing scenario.

Cross-platform: Optimized AI noise suppression algorithm for better experience.

Cross-platform: Optimized the smoothness of pure audio playback.

Cross-platform: Optimized the speed of `switchRoom`.

Android & iOS: Optimized and improve the live streaming playback startup speed.

Android & iOS: Optimized audio capture processing strategies to reduce the probability of no audio issue caused by abnormal capture devices.

Android: Optimized callback notifications when the microphone is muted by the system.

Android: Optimized the adaptation of gravity sensor for specific customized Android devices that were providing incorrect screen rotation angles.

Android: Optimized the rendering process to support closely following pinch-to-zoom, which means the view undergoes simultaneous scales and moves, closely following the movements of the fingers during pinch-to-zoom. Improving the user experience during floating window playback.

iOS: Optimized the audio capture strategy when app in the background state to reduce the probability of no audio issue caused by system interruption.

iOS: Optimized the speed of audio device restarts.

## TRTC SDK 11.3 Released on July 7, 2023

### New features

All Platforms: Added trapezoid correction for video (only supported by the Professional version) for manual correction of perspective distortion. See `setPerspectiveCorrectionPoints` for details.

All Platforms: Added audio spectrum callback, which can be used for sound wave animation or volume spectrum display. See `enableAudioVolumeEvaluation` and `TRTCVolumeInfo` for details.

All Platforms: Added a new reverb effect "Studio 2". See `TXVoiceReverbType` for details.

All Platforms: Added SEI parameter settings for mixed stream, used for transport SEI information when publishing stream to CDN. See `TRTCTranscodingConfig` for details.

Windows: Added real-time music scoring for Yinsuda Authorized Music, which can be used for real-time scoring of online singing. See `createSongScore` for details.

iOS & Android: Added support for .ogg format music files in `startPlayMusic`.

Flutter: Added `setSystemAudioLoopbackVolume`(iOS).

### Improvements



All platforms: Optimized adaptive digital gain algorithm to improve listening experience.

All platforms: Optimized the loading speed of the first video frame after entering the room.

All platforms: Optimized weak network resistance for single user streaming to improve smoothness under network delay and jitter.

Android: Optimized audio capture and playback feature to avoid abnormal sound issues on some Android devices.

Android: Optimized video sub-stream hardware encoding performance, improving quality of screen sharing.

iOS: Optimized audio device restart strategy to reduce the occurrence of sound interruptions.

iOS & Android: Removed on-demand related interfaces from `TXLivePlayer`. For on-demand video playback, please use `TXVodPlayer`.

### Bug fixing

Android: Fixed the issue where some locally recorded videos on Android 12 and above system versions cannot be played on Apple's Safari.

## TRTC SDK 11.2 Released on June 5, 2023

### TRTC

#### New features

Cross-platform: Supports seamless switching between instrumentals and original vocals of BGM in duet scenes. See `setMusicTrack` for details.

Android: To be compatible with the foreground service launch restrictions on Android 12 and above, a foreground service is initiated during screen capture. See `enableForegroundService` for details.

iOS: Supports use in the Xcode simulator running on Apple chip hardware.

Mac: `TRTCScreenSourceInfo` adds property value width and height.

#### Improvements

Cross-platform: Optimized sound quality in duet scenes, and reduced end-to-end latency.

Cross-platform: Optimized performance when turning on/off microphone, providing a smoother experience.

Cross-platform: Optimized audio experience under extremely bad networks.

Cross-platform: Optimized weak network experience when broadcast live stream only.

Cross-platform: Optimized the smoothness of switching high-quality and low-quality remote video streams.

Android & iOS: Optimized audio quality in music scenes.

Android & iOS: Optimized the experience with Bluetooth headphones.

Android: Optimized hardware decoder latency, improving the speed of rendering the first video image.

Android: Optimized the in-ear monitoring feature, enhancing the experience when switching on/off in-ear monitoring.

Android: Optimized the audio devices capture compatibility.

iOS: Optimized quality of video, enhancing image clarity.

## Bug fixing

Windows: Fixed the occasional screen flickering issue during window sharing.

Mac: Fixed the occasional periodic blurring when using camera with Intel chip hardware encoder.

# TRTC SDK 10.8 Released on October 27, 2022

## TRTC

### New features

All platforms: Added the DJ scratch effect and improved the karaoke experience. For details, see

`TXAudioEffectManager.setMusicScratchSpeedRate` .

### Improvements

Android: Sped up video decoding, which reduces the time to first frame to as short as 50 ms.

All platforms: Improved the accuracy of NTP time. For details, see `TXLiveBase.updateNetworkTime` .

### Bug fixing

All platforms: Fixed the occasional issue where, when the streams of a room are mixed and pushed to another TRTC room that does not have upstream audio or video, playback fails and callbacks stop working.

All platforms: Fixed the occasional issue where, after an audience member changes their role upon room entry, they fail to publish audio and video due to network type change.

All platforms: Fixed the issue where, after a disconnection, audio quality cannot be changed during reconnection.

All platforms: Fixed the issue where, after a disconnection, there is sometimes no audio in the published stream during reconnection.

Android & iOS: Fixed the issue where `muteRemoteVideoStream` removes the last video frame.

# TRTC SDK 10.7 Released on September 20, 2022

## TRTC

### New features

All platforms: You can now independently adjust the audio volume of each stream in On-Cloud MixTranscoding. For details, see `TRTCMixUser.soundLevel` .

All platforms: Added the `onRemoteAudioStatusUpdated` API, which is used to monitor the audio status of remote streams.

### Improvements

All platforms: Upgraded the encoding engine, improving the video quality of screen sharing streams.

All platforms: Improved rate control for encoding under poor network conditions.

### Bug fixing

iOS: Fixed the issue of low capturing volume on some iPad devices.

Android: Fixed the occasional issue where Bluetooth earphones are connected, but audio is played from the device's speaker.

All platforms: Fixed the issue where the SDK occasionally crashes if a user enters and leaves the room repeatedly.

## TRTC SDK 10.6 Released on September 9, 2022

### TRTC

#### Improvements

All platforms: Sped up room entry in IPv6 networks.

All platforms: Improved the audio recovery performance and audio-to-video synchronization under bad network conditions, enhancing user experience.

All platforms: Improved the ability to maintain connection under poor network conditions, reducing disconnections.

All platforms: Fixed the issue where the volume is low in the music mode (which is specified when `startLocalAudio` is called).

macOS: Improved call experiences when Bluetooth earphones are used, reducing noise and delivering clearer audio.

Android: Supported stereo audio capturing for more devices.

Android: Fixed occasional echoes, improving call experience.

#### Bug fixing

Android & iOS: Fixed the issue of audio loss in the speech mode (which is specified when `startLocalAudio` is called).

macOS: Fixed the issue where echo cancellation occasionally fails to work after the mic is changed.

## All-in-One SDK 10.5 Released on August 24, 2022

### MLVB

#### Improvements

Android: Optimized memory management for video decoding, preventing the accumulation of memory leaks.

Windows: Optimized noise suppression for the built-in mic, especially in the music mode.

macOS: Fixed the frequent noise issue when the mic is turned on.

## Bug fixing

All platforms: Fixed the issue where, in the LEB scenario with V2TXLivePlayer, SEI messages are sometimes not received.

All platforms: Fixed the issue where, in the LEB scenario with V2TXLivePlayer, audio is missing because the timestamp moves backward.

## UGSV

### Bug fixing

Android: Fixed the green screen issue in videos made from pictures on HarmonyOS.

Android: Fixed the issue of incorrect length for edited videos.

Android: Fixed failure to play or re-encode videos with multiple audio tracks.

Android: Fixed the issue where the “rock light” effect is applied only once during the selected time period.

Android & iOS: Fixed the issue where, after a video segment is deleted during shooting, the playback progress of the background music does not match.

## TRTC

### Improvements

All platforms: Optimized the QoS control policy, enhancing user experience under poor network conditions.

iOS & Android: Reduced end-to-end latency and improved in-ear monitoring experience.

Android: Optimized memory management for video decoding, preventing the accumulation of memory leaks.

Windows: Optimized noise suppression for the built-in mic, especially in the music mode.

macOS: Fixed the frequent noise issue when the mic is turned on.

### Bug fixing

All platforms: Fixed occasional errors for the [OnUserVideoAvailable](#) and [OnUserAudioAvailable](#) callbacks when a user enters and leaves different rooms consecutively.

## Player

### Bug fixing

Android & iOS: Fixed failure to play URLs that do not include video formats at the end.

# All-in-One SDK 10.4 Released on July 25, 2022

## MLVB

### New features

iOS & Android: V2TXLivePlayer can now freeze the last frame after playback ends.

### Improvements

All platforms: Fixed the issue of high memory usage when TXLivePlayer\V2TXLivePlayer plays FLV streams.

Android: Fixed occasional playback stutter with TXLivePlayer\V2TXLivePlayer.

Android: Improved the compatibility of low-latency in-ear monitoring and dual-channel capturing.

Android: Optimized the policy for switching from hardware to software decoding.

iOS: Fixed the issue of low capturing volume on iPad.

### Bug fixing

Android: Fixed the issue where TXLivePlayer\V2TXLivePlayer occasionally switches to software decoding when playing streams.

## UGSV

### Improvements

Android: Added the `setBGMLoop` API for video editing.

### Bug fixing

Android: Fixed the issue of `setWaterMark` not working.

Android: Fixed the issue where, when videos are previewed, TXVideoEditor fails to use the specified rendering mode.

## TRTC

### New features

iOS & Android: Added support for the RGBA32 format for custom capturing. For details, see

`sendCustomVideoData` .

Windows & macOS: Added support for watermark preview after configuration. For details, see `setWaterMark` .

### Improvements

Android: Improved the compatibility of low-latency in-ear monitoring and dual-channel capturing.

Android: Optimized the policy for switching from hardware to software decoding.

iOS: Fixed the issue of low capturing volume on iPad.

### Bug fixing

All platforms: Fixed occasional room entry/exit callback errors.

Windows: Fixed the issue where, after the window shared changes, the new window is not displayed in full.

## Player

## Improvements

Android & iOS: Added support for adaptive bitrate HLS playback.

## Bug fixing

Android: Fixed abnormal intervals for the `onNetStatus` callback and the progress callback.

Android: Fixed the null pointer exception caused by failure to call `setConfig` .

iOS: Fixed the stuttering issue when videos are replayed in some scenarios.

# All-in-One SDK 10.3 Released on July 8, 2022

## MLVB

### New features:

All platforms: `TXLivePlayer`\\`V2TXLivePlayer` added support for HLS playback.

### Improvement:

All platforms: Improved audio quality in the music mode.

All platforms: Optimized the SEI parsing logic. `TXLivePlayer`\\`V2TXLivePlayer` can parse some non-standard SEI messages now.

All platforms: Fixed the issue of audio and video being out of sync as a result of the timestamp moving backward when `TXLivePlayer`\\`V2TXLivePlayer` plays FLV or RTMP streams.

### Bug fixing:

All platforms: Fixed the abnormal audio that occurs when `TXLivePlayer`\\`V2TXLivePlayer` plays some AAC-HEv2 streams in the LEB scenario.

All platforms: Fixed incorrect cache calculation with `TXLivePlayer`.

## UGSV

### Bug fixing:

Android: Fixed the issue of `setZoom` not working during video shooting.

Android: Fixed failure to shoot videos with Samsung Galaxy S22.

iOS: Fixed failure to trigger the callback for custom video pre-processing.

## TRTC

### New features:

Windows: Added support for recording live streaming sessions and audio/video calls to local storage. For details, see the description of `ITXLiteAVLocalRecord` .

Windows & macOS: Added a parameter to `startMicDeviceTest` , which allows you to specify whether to play the audio captured during mic testing. For details, see the description of `startMicDeviceTest` .

**Improvement:**

All platforms: Improved audio quality in the music mode.

**Bug fixing:**

All platforms: Fixed occasional errors for the user list callback.

Windows: Fixed the issue where videos sometimes freeze during playback.

Windows: Fixed occasional video playback failure.

Windows: Fixed the echo issue for custom audio capturing.

**Player****New features:**

iOS: Added support for picture-in-picture playback.

**Bug fixing:**

Android: Fixed the issue where, when hardware decoding is used and a video playlist is played in the background, the player fails to automatically play the next video when one video is finished.

Android & iOS: Fixed failure to trigger the callback when seeking is completed.

## All-in-One SDK 10.2 Released on June 26, 2022

**MLVB****New features:**

All platforms: Added support for license authentication for playback with `TXLivePlayer`\\`V2TXLivePlayer`.

All platforms: Added support for HTTP header configuration for FLV playback with `V2TXLivePlayer`.

All platforms: Allowed changing audio encoding parameters dynamically when pushing RTMP streams with `TXLivePusher`\\`V2TXLivePusher`.

**Improvement:**

All platforms: Optimized the adaptive bitrate API of `V2TXLivePlayer` for LEB.

All platforms: Fixed the issue where `V2TXLivePlayer` takes a long time to reconnect in the LEB scenario.

All platforms: Fixed the issue of small local cache size when `TXLivePlayer`\\`V2TXLivePlayer` plays FLV or RTMP streams.

Android: Sped up the loading of the first frame for playback with `TXLivePlayer`\\`V2TXLivePlayer`.

iOS: Reduced the size of the iOS SDK package.

iOS: Packaged `TXLiveBase.h` into the MLVB SDK.

**Bug fixing:**

All platforms: Fixed the issue where the stutter rate limit configured for TXLivePlayer does not take effect.

All platforms: Fixed abnormal timing of the callback for the first audio/video frame when V2TXLivePusher pushes RTC streams.

Android: Fixed the black screen issue that occurs when TXLivePlayer\V2TXLivePlayer stops and starts playback within a short period of time.

**UGSV****New features:**

Android: Added support for editing videos without audio tracks.

**Improvement:**

Android: Sped up the loading of the first frame for short video playback.

**Bug fixing:**

Android: Fixed the issue where the wrong section of video is cropped during video shooting.

Android: Fixed incorrect aspect ratio for H.265 videos decoded with hardware.

iOS: Fixed the issue of incorrect video clipping time.

iOS: Fixed occasional noise that occurs in videos shot with devices with OS later than iOS 14.

iOS: Fixed the issue where the SDK occasionally crashes when the user returns to the shooting view after finishing video shooting.

**TRTC****New features:**

All platforms: Launched a new API for stream mixing and relaying, which offers more powerful features and greater flexibility. For details, see the description of `startPublishMediaStream`.

All platforms: Added support for 3D spatial audio. For details, see the description of `enable3DSpatialAudioEffect`.

All platforms: Added support for voice activity detection. This feature works even when local audio is muted (`muteLocalAudio`) or the capturing volume is set to zero (`setAudioCaptureVolume`). It allows you to remind users when they are talking but have not turned their mics on. For details, see the description of `enableAudioVolumeEvaluation`.

All platforms: Added support for checking a user's permission when they switch roles. For details, see the description of `switchRole(TRTCRoleType role, const char* privateMapKey)`.

iOS & macOS: The C++ API for custom pre-processing supported using textures for video processing.

**Improvement:**

Android: Optimized in-ear monitoring, reducing latency.

Android: Optimized audio capturing, fixing the issue of noise on some devices.

iOS: Optimized the processing of upstream video data, reducing CPU and GPU usage.



Windows & macOS: Improved encoding for screen sharing. The height and width of the output video are no longer limited by the window size.

Windows: Reduced memory fragmentation and performance overhead.

**Bug fixing:**

All platforms: Fixed the issue where push occasionally fails after changing to a different type of network.

iOS: Fixed the issue of noise in recording files saved locally on some devices with iOS 14.

## Player

**Improvement:**

Android & iOS: Optimized the callback of information including cached bytes and IP address during playback.

**Bug fixing:**

Android & iOS: Fixed failure to play H.265 videos when hardware decoding is used.

Android & iOS: Fixed HLS playback errors.

iOS: Fixed failure to get `supportedBitrates` in some scenarios.

# Release Notes (Electron)

Last updated : 2023-09-19 14:20:14

## Version 11.0.501 Released on June 30, 2023

### improvements:

Added two events [onStartPublishing](#) and [onStopPublishing](#) to the API documentation.

Improved the documentation of the `onScreenCapturePaused` interface fields in the API documentation.

Electron SDK now supports Linux (beta version).

## Version 10.9.405 Released on April 17, 2023

### improvements:

New interface "[setCameraCaptureParams](#)" added, supports setting camera capture parameters, currently only available on Windows.

New interface "[setVideoMuteImage](#)" added, supports setting a placeholder image when camera is muted.

New interface "[enableFollowingDefaultAudioDevice](#)" added, supports speaker and microphone following current system device.

Interface "[setMixTranscodingConfig](#)" modified, supports setting input type, rendering mode, and placeholder image for each video stream.

Interface "[getScreenCaptureSources](#)" modified, adds a new field "isMainWindow" to the return value, currently only available on Windows.

### Bug fixing:

Fix the issue of occasional application crashes caused by refreshing the page at the application layer.

## Version 10.7.405 Released on February 27, 2023

### improvements:

New interfaces, [updateLocalView](#) and [updateRemoteView](#), have been added to support modifying the position of video viewing and preview on the page.

Under Windows, the [getScreenCaptureSources](#) interface returns additional `isMainScreen` field information for screens and windows.

**Bug fixing:**

Fixed the issue where multiple people's screen sharing couldn't be rendered for viewing at the same time in a room. Changed the video rendering DOM element scaling from `transform scale` to `zoom` to maintain backward compatibility. Resolved the issue of occasional green screen frames appearing during local preview when the camera is frequently turned on and off.

The dynamic library for audio and video software decoding under Mac has been changed from a physical file to an external link file to resolve the signature exception that occurs when building the application package under Mac.

Resolved the issue where the `fillMode` parameter set by the [setRemoteRenderParams](#) interface does not take effect when called before [startRemoteView](#)

## Version 10.3.406 Released on February 4,2023

**improvements:**

On Windows, the [getScreenCaptureSources](#) API now includes the `isMainScreen` field for screen and window information.

**Bug fixing:**

On Windows, if the microphone is in a mute state when starting up, the mute will be canceled automatically.

Fixed an issue where the highlight setting was not effective in the [selectScreenCaptureTarget](#) API.

Optimized the video rendering process on Windows.

## Version 10.3.405 Released on December 12,2022

**Bug fixing:**

Fixed some usability issues that were discovered.

## Version 10.7.404 Released on October 31,2022

**improvements:**

The `setWaterMark` interface now supports Windows systems, and on Mac, it also supports setting watermarks through image paths.

The startPublishCDNStream interface for pushing streams to non-Tencent Cloud CDNs now has a new input parameter called "streamId," which supports setting the stream ID.

## Version 10.6.404 Released on October 31,2022

### improvements:

The setWaterMark interface now supports Windows systems, and on Mac, it also supports setting watermarks through image paths.

The startPublishCDNStream interface for pushing streams to non-Tencent Cloud CDNs now has a new input parameter called "streamId," which supports setting the stream ID.

### Bug fixing:

Fixed the issue where calling setRemoteVideoStreamType() would cause the rendering of small video streams to become stuck.

Fixed the occasional green screen frame issue during video rendering.

Fixed the problem of mirror image not being supported during camera detection on Mac, and solved the issue where the first shared window did not appear with a highlighted green frame on Mac.

Fixed the issue where the upstream frame rate was zero when sharing a window or screen on Mac, which caused the remote user to not receive the onUserSubStreamAvailable event.

## Version 10.3.404 Released on October 31,2022

Fixed the issue of video rendering getting stuck when calling setRemoteVideoStreamType() to switch to low stream.

## Version 10.6.403 Released on September 09,2022

### improvements:

Windows & Mac: Added local media recording interface, which supports saving local audio and video data to local files during live broadcast. Specific interfaces include: [startLocalRecording](#)、 [stopLocalRecording](#)、 [onLocalRecordBegin](#)、 [onLocalRecording](#)、 [onLocalRecordComplete](#)。

### Function modification:

Windows&Mac:Abandoned the [setRenderMode](#)interface and no longer support calling this interface to modify the default rendering method (WebGL or Canvas 2D) of the video. The SDK will automatically select the appropriate rendering method internally to improve video rendering performance.

**Function improvement:**

Optimization of video rendering performance. Upgrade the underlying library.

On Mac, support building applications with the ARM64 instruction set to leverage the advantages of the M1 chip and improve performance.

## Version 10.3.402 Released on August 12, 2022

**Bug fixing:**

Window & Mac: After calling the mixing interface, the mixing event returns an error of -3324 "user id invalid".

## Version 10.3.401 Released on July 20, 2022

**Improvements**

Improved performance.

Updated the underlying library.

## Version 9.3.201 Released on January 5, 2022

**New features**

Windows & macOS: Added the [onSpeedTestResult](#) callback, which returns the result of network speed testing.

**Improvements**

Windows & macOS: Improved the performance of the speed testing API [startSpeedTest](#).

Windows & macOS: Added the `streamType` parameter to the [muteLocalVideo](#) API.

Windows & macOS: Added the `streamType` parameter to the [muteRemoteVideoStream](#) API.

Windows & macOS: Added the `params` parameter to the [startScreenCapture](#) API.

**Bug fixing**

macOS: Fixed the camera video capturing issue on macOS 12.

Windows & macOS: Optimized the QoS control policy under poor network conditions for smoother communication.

Windows: Improved the AGC algorithm, reducing cases of excessively low or high volume.

Windows: Fixed the issue of abnormal capturing frame rate for screen sharing.

## Version 8.9.102 Released on August 11, 2021

## New features

Windows & macOS: Added the new parameter `gatewayRtt` to the [onStatistics](#) callback.

## Bug fixing

macOS: Fixed crash caused by logging on special devices.

macOS: Fixed the issue where, after `setAudioCaptureVolume(0)` is used to mute audio, the mic testing volume is 0.

Windows: Improved performance and fixed the issue of black screen after the camera is turned on.

Windows: Fixed the issue where the resolution is not restored after being automatically reduced during screen sharing.

Windows & macOS: Fixed other bugs.

# Version 8.6.101 Released on May 28, 2021

## New features

Windows & macOS: Added APIs for excluding windows from screen sharing: [addExcludedShareWindow](#), [removeExcludedShareWindow](#), [removeAllExcludedShareWindow](#).

Windows & macOS: Added the `isMinimizeWindow` field to the data returned by the [getScreenCaptureSources](#) API.

Windows & macOS: Added support for passing constructor functions as parameters to APIs.

## Bug fixing

Windows: Fixed the issue where paths containing Chinese characters are not supported for plugin loading.

Windows & macOS: Fixed the `webgl context lost` issue.

Windows & macOS: Fixed the issue where the videos of remote users freeze after the local user switches to the low-quality stream (dual-stream mode enabled).

Windows & macOS: Fixed the issue where, when a user enters the room and starts pulling streams, the images of remote users are blurred before they gradually become clear.

# Version 8.4.1 Released on March 26, 2021

## New features

macOS: Added support for capturing system audio via [startSystemAudioLoopback](#), i.e., the system loopback feature that is enabled on Windows. The feature allows the SDK to capture system audio so that anchors can stream local audio or video files to other users.

macOS: Added the [onSystemAudioLoopbackError](#) callback, which updates you on the status of the system audio driver.

macOS: Added support for local preview for screen sharing. You can now display screen sharing preview in a small window.

All platforms: Added support for beauty filter plugins.

## Improvements

All platforms: Improved audio quality in the [music](#) mode, which makes it more suitable for Clubhouse-like audio streaming scenarios.

All platforms: Improved the adaptability to poor network conditions. Smooth audio and video can be delivered even when the packet loss rate reaches 70%.

Windows: Improved audio quality in some streaming scenarios by significantly reducing audio damage.

Windows: Improved performance by 20%-30% in some scenarios.

## Bug fixing

macOS: Fixed the issue where, after the screen sharing user switches to desktop sharing and then back to the sharing of a specific window on Mac mini (M1), remote users still see the user's desktop.

macOS: Fixed the issue where the shared content is not highlighted (on macOS 11.1 and 10.14.5, there isn't a green border around the shared content; on macOS 10.3.2, the green border is displayed, but the shared window flickers when maximized).

macOS: Fixed the issue where, when users on Mac mini (M1) get the screen sharing list, the SDK crashes because `sourceName` is null and "" is returned.

macOS: Fixed the issue on Mac mini (M1) where, when `getCurrentMicDevice` is called, the SDK crashes because `sourceName` is empty.

Windows: Fixed the issue where the SDK crashes when the desktop is shared on Windows Server 2019 Datacenter x64.

Windows: Fixed the issue where screen sharing sometimes ends unexpectedly when the target window is resized during screen sharing.

Windows: Fixed image capturing failure with some cameras.

# Version 8.2.7 Released on January 6, 2021

## New features

Windows & macOS: Added the [switchRoom](#) API.

Windows & macOS: Added the [setLocalRenderParams](#) API, which can be used to set rendering parameters for the local image (primary stream).

Windows & macOS: Added the [setRemoteRenderParams](#) API, which can be used to set rendering parameters for a remote image.

Windows & macOS: Added the [startPlayMusic](#) API, which is used to play background music.

Windows & macOS: Added the [stopPlayMusic](#) API, which is used to stop background music.

Windows & macOS: Added the [pausePlayMusic](#) API, which is used to pause background music.

Windows & macOS: Added the [resumePlayMusic](#) API, which is used to resume background music.

Windows & macOS: Added the [getMusicDurationInMS](#) API, which is used to get the total length of the background music file, in milliseconds.

Windows & macOS: Added the [seekMusicToPosInTime](#) API, which is used to set the playback progress of background music.

Windows & macOS: Added the [setAllMusicVolume](#) API, which is used to set the audio mixing volume of background music.

Windows & macOS: Added the [setMusicPlayoutVolume](#) API, which is used to set the local playback volume of background music.

Windows & macOS: Added the [setMusicPublishVolume](#) API, which is used to set the remote playback volume of background music.

Windows & macOS: Added the [onSwitchRoom](#) callback for room switching.

Windows & macOS: Added the [setRemoteAudioVolume](#) API, which is used to set the playback volume of a remote user.

Windows & macOS: Added the [snapshotVideo](#) API, which is used to take a video screenshot.

Windows & macOS: Added the [onSnapshotComplete](#) callback for the completion of a screenshot.

### Improvements

Windows & macOS: Added support for string-type `strRoomId` for the `enterRoom` and `switchRoom` APIs.

Windows & macOS: Fixed other bugs.

## Version 7.9.348 Released on November 12, 2020

### Improvements

Windows: Added support for the use of paths containing Chinese characters to save recording files.

Windows: Added support for the anti-covering feature in the window capturing area.

## Version 7.8.342 Released on October 10, 2020

### New features

Windows & macOS: Added the [onAudioDeviceCaptureVolumeChanged](#) callback for volume change of the current audio capturing device.

Windows & macOS: Added the [onAudioDevicePlayoutVolumeChanged](#) callback for volume change of the current audio playback device.



## Version 7.7.330 Released on September 11, 2020

### New features

Windows & macOS: Added the [setAudioQuality](#) API, which is used to adjust audio quality.

### Improvements

Windows: Fixed the issue of high CPU utilization when some low-end cameras are used.

Windows: Improved compatibility with multiple USB cameras and mics to make it easier to turn on such devices.

Windows: Optimized the selection policy of cameras and mics to avoid audio/video capturing errors caused by device change.

Windows & macOS: Fixed other bugs.

## Version 7.6.300 Released on August 26, 2020

### New features

Windows & macOS: Added APIs [setCurrentMicDeviceMute](#), [getCurrentMicDeviceMute](#), [setCurrentSpeakerDeviceMute](#), and [getCurrentSpeakerDeviceMute](#), which are used to control mics and speakers on PC.

## Version 7.5.210 Released on August 11, 2020

### Improvements

Windows & macOS: Fixed the issue where SDK callbacks are not in sequence.

Windows & macOS: Fixed the issue where switching rendering modes causes crashes.

Windows & macOS: Fixed the issue where rendering fails for certain resolutions.

Windows & macOS: Fixed other bugs.

## Version 7.4.204 Released on July 01, 2020

### Improvements

Windows: Optimized the acoustic echo cancellation (AEC) effect on Windows.

Windows: Improved compatibility with cameras on Windows.

Windows: Improved compatibility with audio devices (mics and speakers) on Windows.

Windows: Fixed the issue where the `UserID` returned by `onPlayAudioFrame` is incorrect on Windows.

Windows: Added support for system audio mixing on 64-bit Windows.

## Version 7.2.174 Released on April 20, 2020

### Improvements

macOS: Fixed occasional resolution inconsistency for local custom rendering on macOS.

Windows: Optimized the `getCurrentCameraDevice` logic on Windows to return the first device when the camera is not used.

Windows: Fixed the issue where the highlighted window is displayed as a gray screen during screen sharing.

Windows: Fixed the issue where the system occasionally freezes when users get screen share thumbnails on Windows 10.

Windows & macOS: Fixed the issue where the custom stream ID occasionally fails to take effect immediately after role switching.

Windows & macOS: Fixed the issue where encoding parameters for screen sharing do not take effect.

Windows: Fixed the issue where it takes a long time for a screen shared by a Windows user to be displayed to a WebRTC user.

## Version 7.1.157 Released on April 02, 2020

### New features

Supported [screen sharing](#) via the primary stream.

### Improvements

Improved the usability of [preset stream mixing templates](#).

Increased the success rate of [stream mixing](#).

Optimized screen sharing on Windows.

## Version 7.0.149 Released on March 19, 2020

### New features

Added the [trtc.d.ts](#) file for TypeScript developers.

# Release Notes (Web)

Last updated : 2024-04-08 17:58:05

A version number is in the format of `major.minor.patch` .

`major` : Major version number. If there is major version refactoring, this field will be incremented. Generally, the APIs of different major versions are not compatible with each other.

`minor` : Minor version number. The APIs of different minor versions are compatible with each other. If there is a new or optimized API, this field will be incremented.

`patch` : Patch number. If there is a feature improvement or bug fix, this field will be incremented.

## Note

Please update to the latest version in a timely manner for service stability and better online support.

For version upgrade precautions, please refer to: [Upgrade Guide](#).

## Version 5.5.0 @2024.03.29

### Feature

Add [Beauty](#) plugin.

### Improvement

Optimize the capability of the AI Denoiser plugin in mobile phone.

Improve the success rate of media recapturing.

### Bug Fixed

Fixed the issue that the preview of local video is black in iOS 16.

Fixed the issue that the user cannot hear the sound of remote audio occasionally in iOS 14.

Fixed the issue that `startLocalAudio` throws `TypeError` occasionally.

## Version 5.4.3 @2024.03.15

### Feature

Added support for passing `MediaStreamTrack` to the [AudioMixer](#) plugin.

Added support for calling `trtc.getAudioTrack` to obtain the screen sharing audio `MediaStreamTrack`.

### Bug Fixed

Fixed the occasional issue where setting `setRemoteAudioVolume` to 0 did not works.

Fixed the issue that screen sharing audio was not published after calling `updateScreenShare({ publish: true })`.

Fixed the issue where virtual backgrounds could not be enabled in Safari.

## Version 5.4.2 @2024.03.01

### Bug Fixed

Fixed the issue that startRemoteVideo failed occasionally.

Fixed the issue that unpublish failed occasionally.

Fixed the issue that audio & video are not synchronized.

Fixed the issue that enterRoom failed when using nginx proxy.

## Version 5.4.1 @2024.02.05

### Improvement

Optimize the reconnection logic to improve the success rate of reconnection.

### Bug Fixed

Fixed the issue that mirror is reset by calling updateLocalVideo.

Fixed the issue that CONNECTING state is not emitted by CONNECTION\_STATE\_CHANGED event.

## Version 5.4.0 @2024.01.16

### Feature

Support obtaining video snapshot. Refer to: [getVideoSnapshot\(\)](#).

Support setting an image after mute video. Refer to: the mute parameter of [startLocalVideo\(\)](#).

Support publishing the video streams only when the view is visible. Refer to: [Multi-Person Video Calls](#).

Support screen sharing to capture a certain DOM element on the page. Refer to: [startScreenShare\(\)](#).

### Improvement

Optimize the logic of enterRoom and reduce the time cost of enterRoom.

Optimize the reconnection logic of laptop closed and reopened.

### Bug Fixed

Fix the issue that publish failed on the version before Chrome 69.

Fix the issue that publish 1080p video failed on iOS 13 & 14.

## Version 5.3.2 @2023.12.26

### Feature

Support watermark plugin, refer to: [Enable Watermark](#).

Support encoding mirror, refer to: [startLocalVideo\(\) 's mirror parameter](#).

### Improvement

Improve audio and video encoding stability and quality.

### Bug Fixed

Fix known issues with the CDNStreaming plugin.

Fix the issue where the volume value returned by the volume event is 0 after setting `remoteAudioVolume` to 0.

Fix the issue of occasional vocals dropping words when AI denoiser is enabled on some external microphones.

## Version 5.3.1 @2023.12.08

### Bug Fixed

Fix the abnormal issue with the mixing plugin.

Fix the inability to enter the room in earlier versions of Chrome 74.

Fix the issue that some audio interfaces do not perform as expected with AI noise reduction open.

Fix the issue that in multiple TRTC instance scenarios, the destruction of one instance prevents the others from receiving the `DEVICE_CHANGED` event.

## Version 5.3.0 @2023.12.01

### Feature

Support SEI messaging, which can be used for functions such as lyric synchronization and live quiz. For more details, please refer to [sendSEIMessage](#).

Enable dynamic switching of large and small streams. For more details, please refer to the **option.small** parameter in [updateLocalVideo](#).

Support mute pushing. For more details, please refer to the **mute** parameter in [startLocalAudio\(\)](#).

Enable role switching with updated **privateMapKey**. For more details, please refer to the **privateMapKey** parameter in [switchRole](#).

Add [TRTC.EVENT.TRACK](#) event.

### Improvement

Improve the room entry process to reduce the time consuming.

Improve the encoding quality for high-resolution call scenarios and earlier devices of Android Chrome.

Improve device acquisition logic. With media access unauthorized, the SDK may temporarily request media permissions to ensure normal access to media devices, which will then be released.

Improve the parsing logic of the **url** parameter in the mixing plugin.

Improve the noise reduction effect of the AI noise reduction plugin.

### Bug Fixed

Fix the issue of Android Chrome being unable to encode 120p.

Fix the issue where stopping screen sharing in non-pushing scenarios would cause the camera pushing to stop.  
Fix the issue of the invalid **CDN mixing plugin** parameter.

## Version 5.2.1 @2023.11.08

### Feature

Add 'captureVolume' parameter to API [startLocalAudio](#) & [updateLocalAudio](#).

Support [TRTC.EVENT.DEVICE\\_CHANGED](#) event on mobile phone. You can implement the feature that auto switch to new microphone when a new headset is connected based on this event. Refer to [Handle Device Change](#).

### Bug Fixed

Fix the issue that local microphone is muted after switching microphone.

Fix the issue that the mediaType of [TRTC.EVENT.PUBLISH\\_STATE\\_CHANGED](#) is wrong after [stopScreenShare](#).

## Version 5.2.0 @2023.10.31

### Feature

Add [TRTC.EVENT.STATISTICS](#) event.

### Improvement

Improve the success rate of device capture.

Optimize the mirror processing logic of "Picture-in-Picture mode".

When the user's system rejects the browser permission, `RtcError.handler()` can be called to jump to the system authorization settings and guide the user to turn on the permission quickly. Refer to [5302](#).

### Bug Fixed

Fixed a occasional issue that remote audio is not playing in low version of Chrome.

## Version 5.1.3 @2023.09.11

### Feature

[trtc.setRemoteAudioVolume](#) supports setting the volume higher than 100 to gain the remote playback volume.

### Improvement

Avoided [iOS 15.1 bug](#) that caused page crash when switching camera.

### Bug Fixed

Fix the issue that Firefox `stopLocalVideo` and then restart `startLocalVideo` failed.

Fix the issue that Firefox fails to capture camera with certain resolution, e.g. 640 \* 360.

Fix the issue of remote video not playing occasionally.

## Version 5.1.2 @2023.08.25

### Improvement

Reduce time cost to enter a room.

### Bug Fixed

Fix the issue that webpack package build of trtc.esm.js occasionally reporting errors.

Fix the issue that startLocalAudio passing in custom capture audioTrack does not work.

## Version 5.1.1 @2023.08.18

### Improvement

Default video profile changed to 480p\_2 to reduce uplink bandwidth consumption.

Avoid the [Chrome Bug](#) that Android Chrome 115 occasionally fails to encode at resolutions lower than 360p.

### Bug Fixed

Fix the issue that cannot enter room or startLocalVideo on Windows Chrome 57 and iOS Safari 12.

Fix the issue that the video bitrate is abnormal on Dashboard.

## Version 5.1.0 @2023.08.11

### Breaking Change

Restrict the roomId parameter of the [trtc.enterRoom](#) interface to be of number type and no longer support passing in string type. If you want to use a string roomId, please use the strRoomId parameter. When upgrading, please pay attention, see [Upgrade Guide](#) for details.

### Feature.

Support background music plugin, refer to the tutorial: [Implement Background Music](#).

Support AI noise reduction plugin, refer to tutorial: [Implement AI Denoise](#).

### Bug Fixed.

Fix the issue that setting screen sharing capture resolution does not work.

Fix the issue of occasional playback failure of remote screen sharing.

## Version 5.0.3 @2023.07.31

### Improvement

Optimize the reconnection mechanism to improve the stability of network connection.

### Bug Fixed

Fix the issue that when calling `trtc.stopRemoteVideo` to stop the main video, the sub video is also stopped.

## Version 5.0.2 @2023.07.21

### Improvement

Optimize the performance and weak network resistance in multi-person call.

Optimize device capture logic to avoid the issue that some Lenovo devices cannot turn on the camera.

Optimize the capture parameters of screen sharing to avoid the issue of occasional frame dropping in long-time screen sharing.

### Bug Fixed

Fix the issue that the small stream bit rate setting does not take effect.

Fix the issue that `systemAudio` parameter does not work.

Fix the issue that video tag is not destroyed after remote user screen sharing stopped.

## Version 5.0.1 @2023.06.25

### Feature

Support playing video with multiple view at the same time.

### Bug Fixed

Fix the issue that screen sharing cannot be restarted after clicking the browser hover window to close screen sharing.

## Version 5.0.0 @2023.05.26

The new architecture version of the TRTC Web SDK provides a flat interface that dramatically simplifies the API and reduces access costs. Features of the new API:

Flatter APIs that are easier to access.

Better stability.

Better performance.