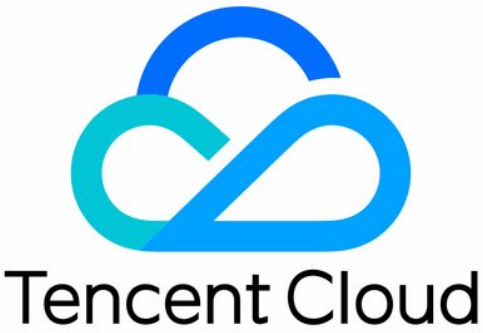
Mobile Live Video Broadcasting

Download SDK

Product Documentation



Contents

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SDK and Demo

Last updated：2019-01-30 18:31:00

Notes

The features displayed in Demo are generally 1-2 weeks ahead of SDK when put into use, and we will carry out bugfix and system testing during this time. So if you cannot find the APIs in SDK for some features in Demo, you can contact us for the internal version.

iOS SDK (5.4.6097)

Functional Features	LVB Simplified Version	Full-featured Professional Version	Commercial Enterprise Version
RTMP Push	✓	✓	✓
LVB Playback	✓	✓	✓
VOD Playback	✓	✓	✓
Basic Beauty Filter	✓	✓	✓
LVB Joint Broadcasting	✓	✓	✓
Video Recording		✓	✓
Video Editing		✓	✓
Video Stitching		✓	✓
Video Publishing		✓	✓
Motion Effect Sticker			✓
Eyes Beautifying and Face Slimming			✓
Green Screen Keying-out			✓

BitCode	✓	✓	
IPA Increment	1.43 MB	4.19 MB	5.98 MB
Pod Installation	COCOAPOD	COCOAPOD	See version notes
SDK Download	DOWNLOAD	DOWNLOAD	See the notes below

- **Commercial Version**

  Compared to the professional version, the commercial enterprise version added special face effects based on the proprietary technology of Tencent YouTu Lab. Click Enterprise(iOS).zip to download. This version is not provided for free, and the decompression password and license are needed for running it. Contact Tencent Cloud Commerce to get the password and license. For more instructions, please see Special Effects .

Android SDK (5.4.6097)

Functional Features	LVB Simplified Version	Full-featured Professional Version	Commercial Enterprise Version
RTMP Push	✓	✓	✓
LVB Playback	✓	✓	✓
VOD Playback	✓	✓	✓
Basic Beauty Filter	✓	✓	✓
LVB Joint Broadcasting	✓	✓	✓
Video Recording		✓	✓
Video Editing		✓	✓
Video Stitching		✓	✓
Video Publishing		✓	✓
Motion Effect Sticker			✓
Eyes Beautifying and Face Slimming			✓

Green Screen Keying-out			✓
SDK Download	DOWNLOAD	DOWNLOAD	See the notes below

- **Commercial Version**

  Compared to the professional version, the commercial enterprise version added special face effects based on the proprietary technology of Tencent YouTu Lab. Click Enterprise(Android).zip to download. This version is not provided for free, and the decompression password and license are needed for running it. Contact Tencent Cloud Commerce to get the password and license. For more instructions, please see Special Effects.

Windows SDK (3.2.0)

Functional Features	ActiveX Plug-in	C#(.NET)	C++(DLL)
Push	✓	✓	✓
RTMP Playback	✓	✓	✓
Video Call	✓	✓	✓
Requirement for Interfacing	With Web development experience	With C# (.NET) development experience	With C++ development experience
Development Environment	Notebook	Visual Studio 2010	Visual Studio 2015
Version Date	3.0.1 @ 2018-05-21	3.2.0 @ 2018-06-15	3.2.1 @ 2018-06-15
Download Address	DOWNLOAD	DOWNLOAD	DOWNLOAD

- **Why not OBS?**

  This SDK is still in its early stages and we are working on it with efforts, therefore this SDK has much less features than OBS. The only advantage of it is low delay. By combining the RTMP_ACC ultra-low latency playback of TXLivePlayer, the delay can be reduced to less than 400 ms.

Mini Program Source Code (1.2.693)

Platform	Version No.	Description	Download Link
WeChat Mini Program	1.2.693	Frontend and backend source codes for the mini program demo of Tencent Video Cloud	wxlite

- **Quick Deployment**

  This set of source codes contains two parts: the source codes in the **wxlite** folder are mini program source codes, and those in the **simpleserver** folder are backend node.js source codes. Quick deployment is supported for this set of source codes on the Tencent Cloud platform, which allows you to have a debugging environment within just 5 minutes. For deployment methods, please see DOC.

Web (PC) Source Code (1.0.0)

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Platform	Version No.	Description	Download Link
Any browser	1.0.0	The source code provides a simple demo that runs the EXE desktop program in a web page and connects with the mini program. You can use a combined solution that implements the browser (IE or Chrome) =>TXCloudRoom.exe + WeChat (mini programs)	[WebEXE]
Chrome	1.0.0	The source code provides a simple demo that connects the Chrome on Windows with the mini program. You can use a combined solution that implements the browser PC(Chrome)+ WeChat (mini programs)	[WebRTC]

Server-end Source Code (1.1.0)

Download Item	Version No.	Feature Description	Download Link

Signature Computing	1.1.0	It is used to compute UserSig and privateMapKey signatures for IM, LiveRoom, RTCRoom and WebRTC solutions based on the ECDSA-SHA256 algorithm.	JAVA & PHP & Node.js
RoomService	1.1.0	RoomService is the backend component of LiveRoom (LVB Joint Broadcasting) and RTCRoom (Video Call). You can download the source code and deploy it in your business server.	JAVA Node.js
Example Room List	1.1.0	It provides a simple (non-authenticated) video room list, supporting creating a call room, closing a call room, keeping the heartbeat alive, etc. You can use it to implements course list, customer service list, meeting list, etc.	JAVA

Mini LVB Source Code (5.1)

Mini LVB is an open source App provided by Tencent Video Cloud's terminal product center that integrates various features (text interaction, on-screen comment, giving likes with floating animation, beauty filter, skin effect, and joint broadcasting), enabling you to build your LVB product prototype quickly. For more information on how to run the following codes quickly, please see How to Build.

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Platform	Version No.	Description	Download Link
iOS Source Code Package	5.1	It is composed of RTMP SDK, IM SDK, COS SDK, business logic layer code and interface layer code. For more information on source codes, please see [DOC]	DOWNLOAD
Android Source Code Package	5.1	It is composed of RTMP SDK, IM SDK, COS SDK, business logic layer code and interface layer code. For more information on source codes, please see [DOC]	DOWNLOAD
PHP Source Code Package	4.4	It provides the live room list and playback list for viewers.	DOWNLOAD
Web Sharing Page	1.1.0	Web sharing page constructed based on HTML5. It allows users to view LVB on regular mobile browsers and PC browsers, as well as perform message interaction with VJs. For information on implementation principle, please see [DOC]	DOWNLOAD

Update History

Last updated：2018-09-15 15:18:23

Version 4.7 @ 2018-05-25

- iOS & Android: LVB supports stereo playback.
- iOS & Android: Stutter threshold becomes customizable to satisfy customers' stutter duration customization demands.
- iOS: The screen can stop at the last frame after the VOD playback ends. And notification events for resolution change are supported.
- iOS: Fixed the failure of rotation angle setting for local rendering during push process in landscape screen mode.
- Android: The texture can be configured using custom data.
- iOS & Android: Added new filter effects to UGSVs, including blinds, phantom, lightning, mirroring, illusions, etc.
- iOS: Added the image to video conversion capability for UGSVs. Image switching supports multiple animations, including sliding up/down, zoom in, zoom out, rotating zoom, fades, etc.
- iOS: Fixed the problem that the UGSV BGM must end before the callback.
- Android: Optimized the memory performance for UGSV editing and synthetic to lower the peak memory consumption during the editing process.

Version 4.6 @ 2018-05-04

- iOS & Android: VOD supports MP4 H265 hard decoding feature.
- iOS & Android: Added the callback of original audio data for the push end.
- iOS & Android: Added the VJ PK feature in Demo.
- Android: Optimize the small file upload to improve the success rate.
- Android: Fixed the Crash problem caused by invalid motion effect file path.
- iOS & Android: APIs for reverb and voice changing are added for UGSV recording.
- iOS & Android: Added the API for external setting of multipart storage directory for UGSV recording.
- iOS & Android: Video-only flow can be added as BGM for UGSV.
- iOS & Android: Added the API for UGSV synthetic by screen.
- iOS & Android: Cancelled the upper limit of bitrate for UGSV recording.
- iOS: UGSV supports bitcode.

Version 4.5 @ 2018-04-13

- Audio effects: Add the voice changing feature, which supports such sound as the voice of a cute girl, mature gentleman or heavy metals. API: setVoiceChangerType.

- Player: VOD supports images.
- Player: VOD supports HLS file download and offline playback to facilitate the local cache playback for customers in the education field.
- Player: Optimize the bitrate switching speed for VOD multi-bitrate HLS files to achieve fast bitrate switching.
- Player: Optimize the player Jitter policy by integrating the adaptive mode and the buffer mode.
- DEMO: Add the demo code for the upload feature to integrate with the VOD service, thus providing an integrated solution for video recording, special effects, upload, transcoding, porn detection, distribution and playback.
- Cover: Files in the gif format can be uploaded as covers. And the fragment synthetic feature is added.
- Special effects of UGSV: Add two special features: the background music of the motion effect can be removed; all the filter effects can be cancelled with one click.
- iOS: Optimize the iOS screencap with a better screencap solution for iOS 11 than cracking airplay.
- Android: Optimized the UGSV creation process, which fixed such problems as playback failure of uploaded big files, incidental black frames when obtaining thumbnails, mismatch between sound and screen in some videos.
- Android: The bitrate setting can be customized for UGSV editing.
- Android: Support the editing of video files without audio track.

Version 4.4

- iOS: Added the API for the callback of audio data on the push end.
- iOS & Android: Added the joint broadcasting solution in Demo, in which the liveroom API is integrated based on the RoomService service. For more information, please see the LVB code for experience.
- iOS & Android: Added the multi-person video chat solution in Demo, in which the rtcroom API is integrated based on the RoomService service. For more information, please see the multi-person audio/video code.

Version 4.3

- iOS & Android: LVB players support custom Http Header, which can specify the Refer hotlink protection.
- iOS & Android: Video titles can be obtained in the FieldID playback of VOD players.
- iOS & Android: Added the API for obtaining the exposed audio data of LVB players.
- iOS & Android: Fixed the issues reported by users recently.

Version 4.2

- iOS & Android: Improved the performance of the Enterprise SDK, and enabled the motion effects of image altering. The frame rate is significantly improved in iOS, and the GPU consumption is reduced in Android.

- iOS & Android: Optimized the synchronization of sound and screen of LVB players. The new synchronization scheme for sound and screen is better adapted to OBS push.
- iOS & Android: VOD players support FieldID, which improves the usability of multi-resolution switching.

Version 4.1

- iOS & Android: Allowed LVB push and playback to carry messages in audio/video streams.
- iOS & Android: Added the API for switching between bitrate and resolution in UGSV recording.
- iOS & Android: Added the photographing API in UGSV recording.
- iOS & Android: Added screenshot and recording in LVB push.
- iOS & Android: Allowed UGSV editing BGM to set the playback start time and loop playback.
- iOS & Android: Automatic rotation is supported by VOD MP4.
- iOS: Added VOD full-featured player in Demo, so you can own a Youku player by using just a few lines of codes.

Version 3.9

- iOS & Android: Added H.265 hard decoding feature.
- iOS & Android: Added two-person/multi-person real-time audio/video feature in Demo.
- iOS & Android: Upgraded the motion effect stickers by adding the HDR and high-resolution sticker effects, making the stickers more beautiful.
- iOS & Android: Added AI background keying-out, so VJs no longer needs the green screen.
- iOS & Android: Added seamless switch of video definition during VOD playback.
- iOS & Android: Fixed a few bugs.
- iOS & Android: Added three time effects: slow motion, repeated playback, and reverse playback.
- iOS & Android: Added a variety of filters, and more effects available.
- iOS & Android: Added various dynamic and static stickers. Sticker customization is supported.
- iOS & Android: Bubble subtitles can be added to the videos.
- iOS & Android: Silent shooting is supported to facilitate the post-production.
- iOS & Android: Switching between landscape/portrait modes is supported during shooting.
- Android: Optimized UGSV upload process with UGCPublish being connected to the new cos architecture.

Version 3.7

- iOS & Android: Optimized Demo and added low latency playback, and users can experience push LVB playback directly.
- iOS & Android: Added multi-end audio/video interaction to Demo, making it possible to start multi-person session between mini programs, windows and multiple ends.
- Android: Fixed the invalid acquisition of backend camera data.

- Android: Fixed the invalid SetMirror settings.
- Android: Fixed the rendering display problem of multiple TXCloudViews.

Version 3.5

- iOS & Android: Optimized the joint broadcasting sending policy, making the sound smoother in weak network environment.
- iOS & Android: Updated the sound re-sampling algorithm, providing better compatibility for the background sounds of different sampling rates.
- IOS & Android: Added the independent VOD API (TXVodPlayer), making it easier to meet VOD needs. The original LVB VOD API (TXLivePlayer) remains unchanged and can be used continuously.
- Android: System AEC in joint broadcasting is supported for some mobile phones, providing better performance.
- Android: Allowed the API sendCustomVideoData to send I420, NV21 and other custom data.
- Android: The YUV video data callback API is supported by the playback end.

Version 3.4

- iOS & Android: Added features such as deletion, multi-scale switching, and focal length adjustment in UGSV recording.
- iOS & Android: Added tail watermarking in UGSV editing.
- iOS & Android: Fixed the LVB compatibility problem of third-party pushing FLV.
- IOS: Fixed the iOS11 compatibility problem.
- Android: Fixed the inaccurate VOD callback.

Version 3.3

- iOS & Android: Tag EXT-X-DISCONTINUITY is supported by VOD HLS.
- Android: Backend push acquisition is supported.
- Fixed the problems of green screen in recording and black screen in playing for some Android models.
- Fixed the problems of abnormal playback and inaccurate progress callback of BGM on some Android models.
- Fixed some bugs reported by customers in the last week.

Version 3.2

- iOS & Android: Playback of local caching of mp4 videos is supported in VOD.
- Fixed the blurred screen problem in backend recording under exceptional circumstances.
- Fixed the incompatibility of BGM with low sampling rate.
- Fixed some bugs reported by customers in the last week.

Version 3.1

- iOS & Android: Optimized the beauty filter algorithm and added the blush effect and multiple beautifying styles.
- iOS: Added two beautifying styles: smooth and natural.
- Android: Added three beautifying styles: smooth, natural, and hazy.
- Android: Added variable speed, background music, and subtitle features in UGSV editing.
- Added face slimming, nose narrowing, and chin thinning features to the commercial enterprise version.

Version 3.0

- iOS & Android: Restructured the beauty filter module by enhancing the beauty filter effects while reducing GPU utilization.
- iOS & Android: Restructured the internal of VOD player. Multi-speed (such as x2, x4) playback is supported.
- iOS & Android: Optimized the anti-jitter capability of underlying network components for joint broadcasting, and provided better model adaptation for AEC (Acoustic Echo Cancellation) components.
- iOS & Android: Added APIs pauseRecord and resumeRecord to TXUGCRecord for multi-fragment recording.
- iOS: Added fast clipping and editing APIs.

Version 2.0.5

- Android: Added watermarking in UGSV editing.
- Android: Added multi-fragment recording in UGSV recording.
- iOS & Android: Fixed a few bugs.

Version 2.0.4

- iOS: Added features such as filter, watermarking, background music, subtitle, speed control in UGSV recording.
- Android: Optimized UGSV clipping and stitching, and added filter editing.
- iOS & Android: Added the beauty callback pre-processing API in UGC recording.
- iOS & Android: Added resuming from break point in UGSV uploads.

Version 2.0.3

- Android: Added UGC cropping/stitching features.
- Android: Optimized player and render views. Animation, floating window and big/small screen switching features become supported.
- Android: Added "Auto" option for software/hardware encoding. The SDK will automatically choose hardware or software encoding based on mobile phone performance.

- iOS: Optimized exposure mechanism to address overexposure problems. Exposure will look more natural.
- iOS & Android: Optimized bitrate control adaption for weak network environments and added two low push resolutions (180*320, 270*480).
- iOS & Android: Optimized directory and code structure for Demos, reducing interfacing cost. Added simple-to-use Demos for UGSV recording, cropping, stitching and joint broadcasting.

Version 2.0.2

- iOS: Added UGC cropping/stitching features.
- iOS: Bitcode became supported by the simplified version.
- Android: Added eye enlargement/face slimming features for VIP version.
- Android: Optimized hardware coding and increased encoding quality.
- Android: Developed data APIs for player end. Hardware decoding data is provided in the form of Surface, while software decoding data is provided in the form of buffer.
- iOS & Android: Optimized front camera performance when image altering or green screen is enabled.
- iOS & Android: Optimized UGC upload protocols.

Version 2.0.1

- iOS & Android: Optimized joint broadcasting. Multiple users may participate in joint broadcasting.
- iOS & Android: Users can now add background music to UGC short videos.
- iOS & Android: Added audio-only push feature.
- iOS & Android: Added screenshot feature for player end.
- iOS & Android: Updated FFMPEG library to secure version.
- iOS & Android: Optimized FLV, RTMP data packet resolution.
- Android: Added reverb feature and multiple preset reverb effects.
- Android: Added green screen feature for VIP version.
- iOS: Optimized software decoding performance. Data callback APIs became available for users and can be used to customize playback rendering.

Version 2.0.0

- iOS & Android: Users can now collect and publish UGC short videos.
- iOS & Android: Added stream capture recording feature. Viewers can capture a portion of the LVB video they are viewing as UGC short video and share it.
- iOS: Added "whitening" filter, which is suitable for users who prefer beautify features.

Version 1.9.2

- iOS & Android: Users can now play local files. (Configure PLAY_TYPE_LOCAL_VIDEO in startPlay)

- iOS & Android: Re-designed buffer solution for the player, optimizing audio fluency for low-delay linkages.
- iOS: Added setReverbType API, which is used to configure multiple audio reverb effects.
- iOS: Optimized performance when adding watermarks during LVB.

Version 1.9.1

- iOS & Android: Optimized beauty filter effect and video quality during camera LVB.
- iOS & Android: Added beauty filter feature. VJs may use various filter effects.
- iOS & Android: Added setVideoQuality API, which can be used to choose video quality in a simpler manner.
- iOS: Addressed overexposure problem on iOS platform as reported by users. You will see bigger difference when there are strong artificial light sources.
- iOS: Further optimized microphone feedback delay. This is not completed due to bugs in the reverb feature. Release is delayed by one week.
  See Update History for features in previous versions.

Version 1.9.0

- iOS: Users can now enable Bitcode to reduce the size of AppStore installation packages.
- iOS: Software/hardware encoding and beauty filter feature now all use GPU acceleration solutions.
- iOS + Android: Optimized audio module. Users can now play background music in joint broadcasting scenarios.
- iOS + Android: Optimized multi-thread feature for VOD scenarios (multi-instance is already supported for LVB in the previous version).
- iOS + Android: Addressed problem where stopPlay will block the UI thread for a long time when the network stutters.
- iOS: Added microphone feedback feature. VJs can now hear their own voices in real time when singing with their earphones on.
- Android: This is not supported due to delay problems of system APIs. We will be working on this.

Version 1.9.0

- iOS: Users can now enable Bitcode to reduce the size of AppStore installation packages.
- iOS: Software/hardware encoding and beauty filter feature now all use GPU acceleration solutions.
- iOS + Android: Optimized audio module. Users can now play background music in joint broadcasting scenarios.
- iOS + Android: Optimized multi-thread feature for VOD scenarios (multi-instance is already supported for LVB in the previous version).

- iOS + Android: Addressed problem where stopPlay will block the UI thread for a long time when the network stutters.
- iOS: Added microphone feedback feature. VJs can now hear their own voices in real time when singing with their earphones on.
- Android: This is not supported due to delay problems of system APIs. We will be working on this.

Version 1.8.2

- Joint broadcasting can be achieved through Tencent Cloud accelerated linkages, while 1v1 server stream mixing is also supported (audio mixing is not supported in joint broadcasting scenarios. This is solved in 1.8.3).
- Multi-instance playback is supported for LVB (this is not supported for VOD).

Version 1.8.1

- Addressed naming conflict problem for iOS.
- Multi-instance playback is supported for LVB on iOS and Android platforms (this is not supported for VOD).
- Optimized playback performance in weak network environments.
- Optimized audio mixing feature.

Version 1.8.0

- Added simplified version for iOS, which includes LVB push and playback features.
- Optimized hardware decoding for Android, addressing Crash and ANR problems caused by multi-thread feature.
- Optimized dynamic bitrate adjustment feature, increasing adjustment accuracy.
- Added mirror APIs used for push.
- Optimized high-level collection for iOS.
- Optimized new beauty filter feature for Android. FPS control is now more accurate.
- Added progress callback API for audio mixing feature.
- SDK now supports HTTPS.

Version 1.7.2

- Re-modeled video collection codes for Android.
- New beauty filter feature is now supported by software encoding on Android.
- Added cloud blacklist control for hardware encoding on Android.
- Addressed multi-thread problems which will occur when the camera is turned on and off frequently on Android.
- Added feature for pushing the VJ's audio when screen capping in privacy mode on Android.

- Addressed problems regarding blurred screens when switching between foreground/background, when playing HLS or MP4 videos in VOD scenarios on Android.
- Addressed problems regarding blurred screens during video playbacks in iOS simulators.

Version 1.7.1

- Fixed black screen problem which may occur during LVB on iOS.
- Fixed problem where compile would fail in iOS simulators.
- Fixed Crash problems on iOS where using physical key will sometimes cause screen lock or background switch.
- Fixed problems where the preview camera is inverted on certain Android models.
- Fixed problems where hardware encoding bitrate is too high on certain Android models.
- Optimized audio mixing APIs on Android, making them easier to use.

Version 1.7.0

- Added ZoomIn and ZoomOut APIs for iOS and Android
- VOD now supports MPEG4 v3 decoding
- Added smart speed control mode, which will automatically adjust bitrate and resolution according to connection speed.
- Fixed fast forward problems when recording HLS or MP4 videos, as well as various HLS/MP4 playback problems when the videos are recorded in exceptional modes.
- Optimized video collection on iOS, completely eliminating problems such as flickering screen.
- Optimized JNI on Android and fixed occasional callback failure problems.

Version 1.6.2

- Updated new beauty filter algorithm for iOS, significantly increasing performance and effect. (Only effective when hardware acceleration is enabled)
- Updated new beauty filter algorithm for Android and fixed problems where the algorithm is ineffective on certain models, while significantly increasing performance and effect. (Only effective for API 18 or above, and when hardware acceleration is enabled)
- replaykit screencap became supported for iOS SDK.
- Added Pause/Resume APIs for LVB playback which are used to pause or resume playback process.
- Addressed problem on Android where there will be no data after a long push process in hardware encoding mode.
- Addressed stream anomalies such as inconsistent audio/video, caused by jumping time stamps during long push processes.
- Addressed Crash problems caused by AAC decoding in certain scenarios.

Version 1.6.1

- Added phone screencap feature for Android SDK. Users can now watch mobile game LVB (privacy mode is supported).
- Added background audio mixing feature. VJs may choose their favorite music as background.
- Optimized push logic when switching App to background. We use video ad to address the problem where the viewer end will continue to reconnect (and disconnect in the end) when the VJ has switched the App to background.
- Enhanced video collection API customization features for users. Users may collect video data in different formats and provide the data to SDK.
- Added mute feature for VOD on iOS (suggestion from the Mogu Street team)
- Fixed flickering screen problems caused by incorrect releases of push playbacks

Version 1.6.0

- Added fast audio data process feature in order to improve fast playback experience. Playback delay can be reduced without user's awareness.
- Added PUSH_WARNING_SERVER_DISCONNECT notification for situations where push is actively rejected by the backend.
- Addressed problem where black screen would occur when video is opened for the first time. Now OpenGL render layer is no longer presented before presenting the first frame.
- Added landscape screen push and local file playback features for iOS. See API Changes for how to use the features
- When App is switched to background, the RTMP push connection can now be maintained for a short time.
- Introduced openGL conflict detection mechanism in order to prevent flickering screen on iOS, caused by player release issues.
- Optimized log performance and added external log callback APIs (the setLogLevel API does not affect the behaviors of log callback functions).

Version 1.5.2

- Now HE-AAC V2 is supported by audio decoding.
- Users can now adjust the size of the VideoView in pushes and playbacks, as well as retain the last render frame.
- Optimized closest location access feature. The optimal path will be chosen automatically.
- Completely eliminated conflict issues when using Libyuv characters.
- Hardware encoding is now supported for top100 Android models.
- Addressed a bug regarding auto reconnection when the video stays still in hardware encoding mode.
- Addressed problem where StopPlay will become stuck for 2 seconds in VOD scenarios.

- Addressed a bug where the player end will keep reconnecting when the push end is switched to backend or the system fails to disconnect the network push.

Version 1.5.1

- Hardware acceleration is now supported when pushing on Android devices (we will keep adding new models to the whitelist).
- Hardware decoding is now supported when playing MP4 or HLS videos in VOD scenarios.
- Addressed conflict problems with LVB libraries.
- Added reconnection mechanism for VOD scenarios.

Version 1.5.0

- Remodeled push SDK and player SDK to improve their stability.
- Added GOP configuration parameters. It is recommended to configure it as 3 seconds (default) in beauty show scenarios.
- Addressed conflict problems with AVGSDK characters.
- Fixed crash problems during push process in landscape screen mode.

Version 1.4.2

- Online VOD is now supported for MP4 and HLS videos.
- aar is no longer used as the packaging method for Android SDK. This is changed to the traditional jar+lib method.
- Added arm64 mode for Android SDK.

Version 1.4.1

- Improved push performance and audio encoding/decoding performance.
- FLV VOD is now supported.

Version 1.3.1

- Improved playback performance.
- Optimized cache policy and added various parameter configurations.
- Watermark is now supported for the push end.

Version 1.2.1

- Optimized beauty filter and whitening effects.
- Hardware decoding is now supported for iOS and Android platforms, while hardware encoding is now supported for iOS platform.

Version 1.1.1

- RTMP protocol, beauty filter/whitening, resolution configuration features are now supported by the push SDK.
- FLV/RTMP protocol, image cropping, landscape/portrait screen switching features are now supported by the playback SDK.

New Features

Last updated：2018-06-06 11:35:08

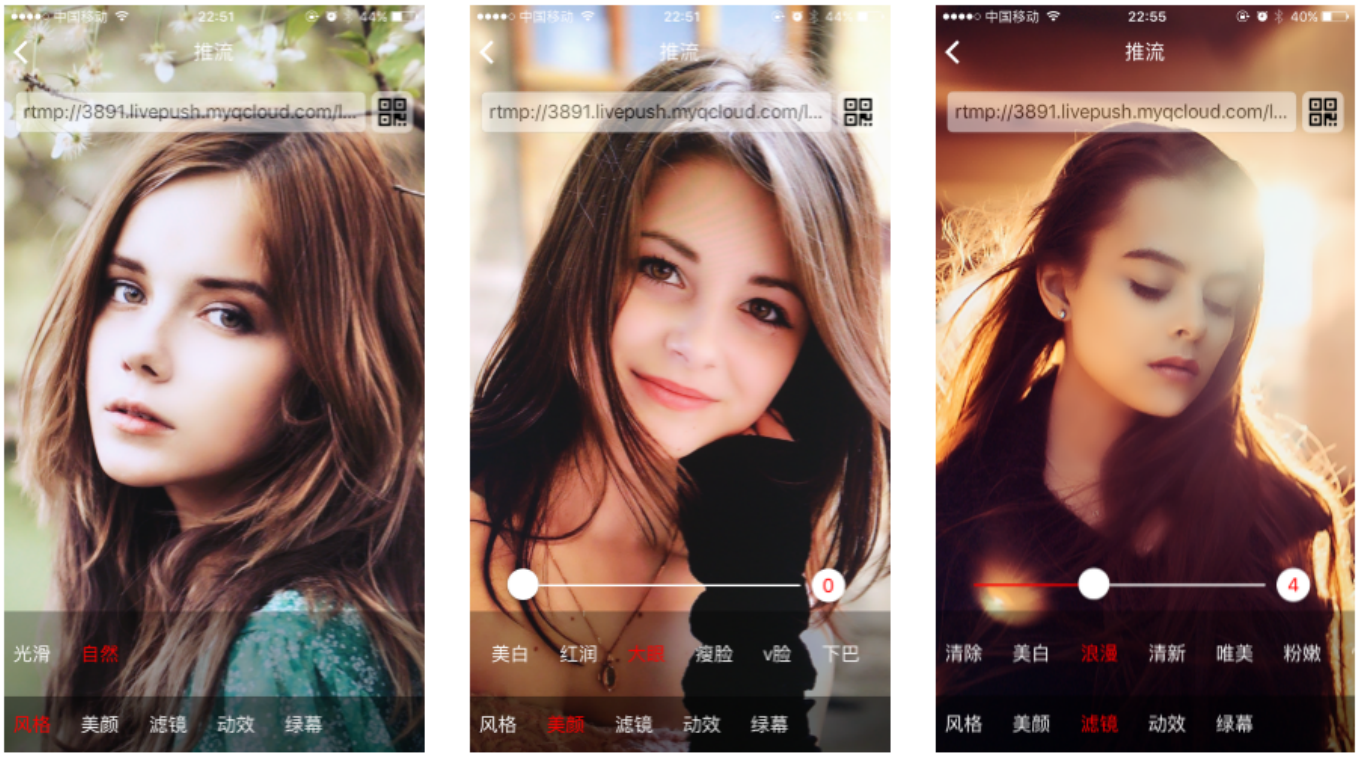
LVB Feature

- **RTMP-UDP Acceleration**
  Tencent Cloud provides a standard RTMP UDP acceleration capability. When you use the RTMP push feature in the SDK to push to Tencent Cloud servers, you can enable the UDP acceleration, which can improve the push quality with a better network fluctuation resistance capability than the standard RTMP push, and can speed up the push. Thus, viewers can get a better LVB viewing experience with the reduced global stutter rate. The following is a set of results of a comparison test performed at the customer site:

测试时间	码率(kps)	卡顿次数(500ms以上)		卡顿次数(1000ms以上)		最大卡顿时长(ms)		平均卡顿时长(ms)	
		SDK	[illegible]	SDK	[illegible]	SDK	[illegible]	SDK	[illegible]
2017/06/28 10:37-10:57	SDK:1200 [illegible]:1000	37	161	0	38	833	10042	606	971
2017/06/28 12:02-12:22	SDK:1200 [illegible]:1000	29	46	6	14	1873	1724	782	818
2017/06/28 16:03-16:13	SDK:1200 [illegible]:1000	19	45	4	19	2944	6777	872	1442
2017/06/29 10:45-11:15	SDK:1200 [illegible]:1000	11	49	5	17	1762	3213	943	1097
2017/06/29 11:53-12:17	SDK:1200 [illegible]:1000	20	70	2	23	2659	3713	833	1029
2017/06/29 18:15-18:37	SDK:1200 [illegible]:1000	11	71	2	25	1793	5846	872	1139
2017/06/29 14:31-14:53	SDK:1200 [illegible]:1000	40	270	7	102	1717	8946	802	1421

- **Basic Beauty Filter**
  In the thorough reconstruction of the basic beauty filter module (free), the original dermabrasion feature and the filter feature are greatly optimized and integrated. Thus the GPU usage is further

reduced while the beauty effect is improved, so the device heating-up problem is relieved.



- **AI Effects**
  The SDK commercial version realized a series of **beautifying effects** (such as face slimming, eyes beautifying, V-shaped face and nose re-shaping) and **dynamic stickers**, etc. in combination with Tencent YouTu Lab and Pitu.

- **LVB Joint Broadcasting**
  The SDK integrates the TRAE acoustic processing component, the pride of Tencent Audio/Video Lab, for the in-depth optimization of LVB joint broadcasting based on the difference between LVB and the video chat scenario, and realized the real-time audio/video call technology which is more suitable for the joint broadcasting scenario.

VOD Feature

- **Playback Speed Control**
  The VOD player supports playback speed control. You can set the VOD playback speed, such as 0.5X,

1.0X, 1.2X, 2X, using the API `setRate` to speed up or slow down the playback.

- **Local Cache**
  The VOD player supports the video cache to avoid extra traffic consumption in the second playback of the video played before. You can customize the cache size or the number of files using the API `config`.

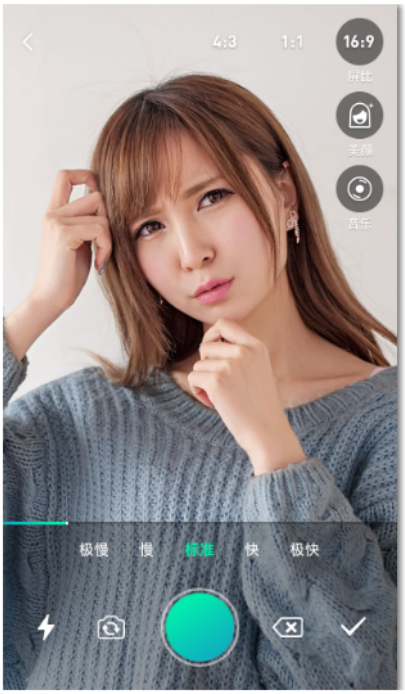
- **Encrypted Playback**
  The video encryption scheme is mainly used for such scenarios as online education, which need to protect the video copyright. It supports the encryption schemes specified by the HLS standard protocol, so this scheme has a strong universality.

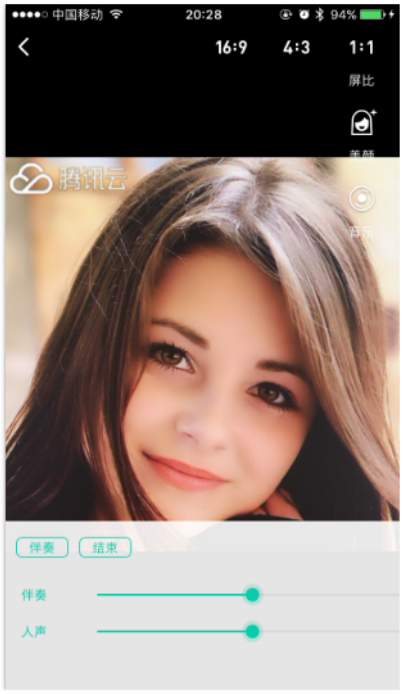
- **Preloading**
  When a video is in playback, the next video to be played is preloaded in the background, thus greatly improving the video switching experience when viewing a video. Preloading can also be used in the pre-roll ads scenario. Preloading the video to be played when playing an ad video is also a basic user experience requirement.

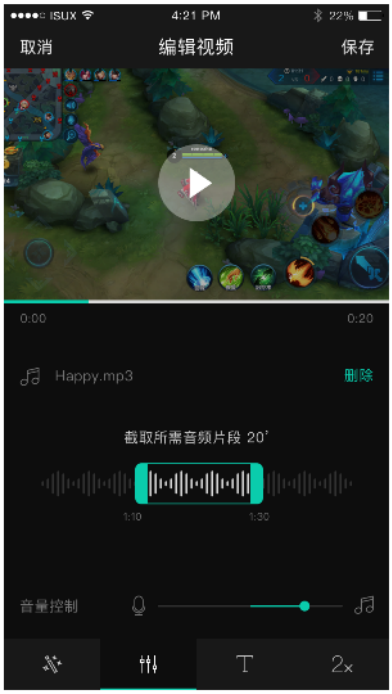
UGSV Feature

- **Excellent Interface Interaction**
  Compared to the video processing features which need professional audio/video experience, the UI implementation of the video processing is not very difficult, but it also takes lots of development workload to build a UGSV feature. This SDK provides a set of open source UI implementations while providing the basic video processing features to make you stand on a higher starting point and speed

up the coming-out of the product.







- **Segmented Recording and Deletion**
  With the `pauseRecord` and `resumeRecord` features of `TXUGCRecord`, a video recording process can be segmented into multiple segments. If the recording effect is not satisfied, you can delete the last segment using `deleteLastPart` instead of recording the entire video from the starting, thus greatly improving the use experience.

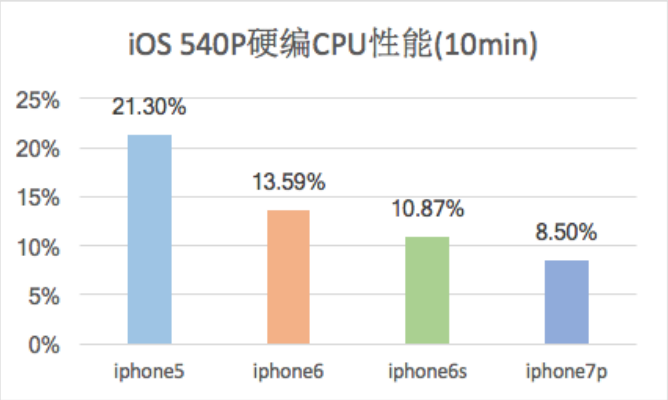
- **Fast Clipping and Stitching**
  APIs for fast video clipping and stitching (`quickGenerateVideo` and `quickJoinVideo`) are provided for IOS. The video clipping and stitching can be completed within 1s.

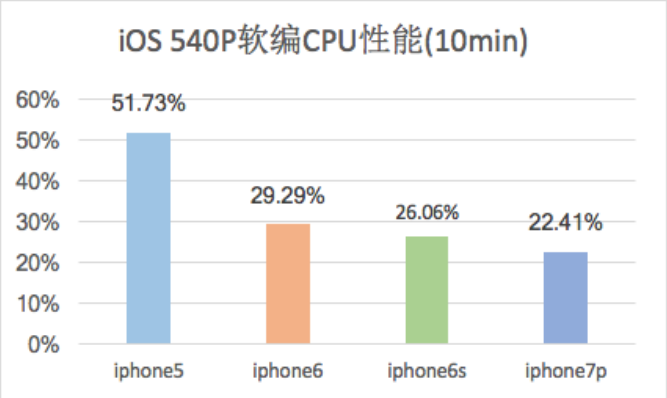
Performance Data

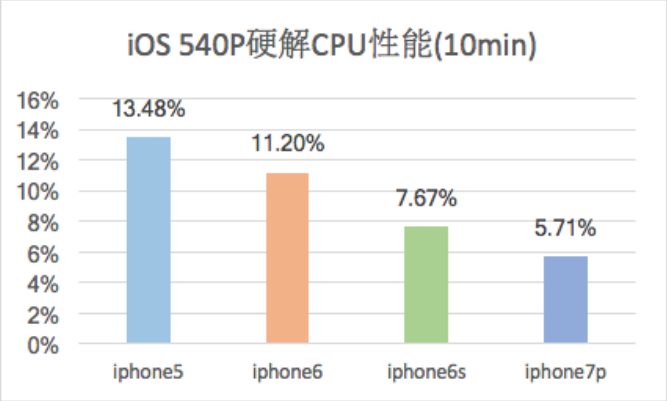
Last updated：2018-06-06 11:35:27

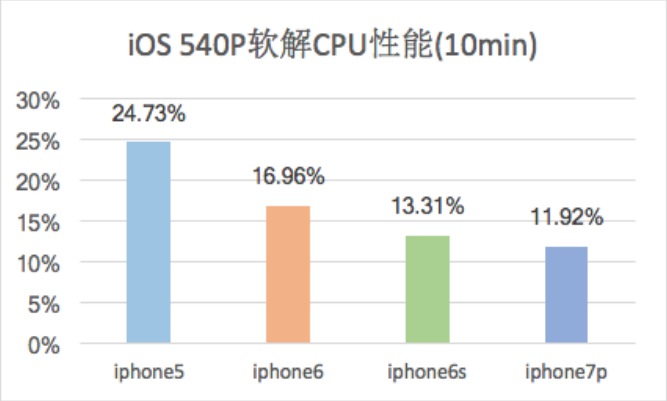
A complete performance test has been performed on the latest SDK Ver.3.5. The performance data is as follows.

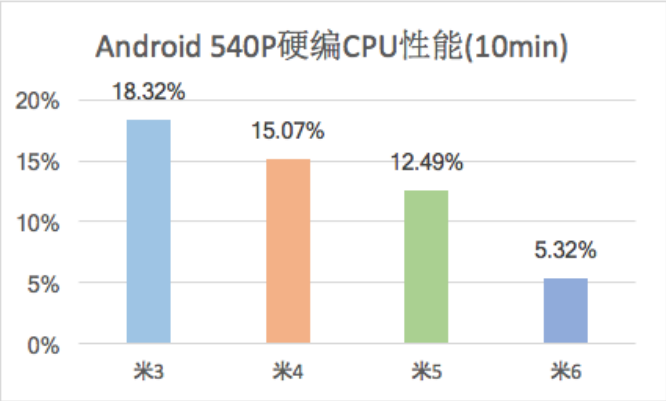
CPU Performance Data

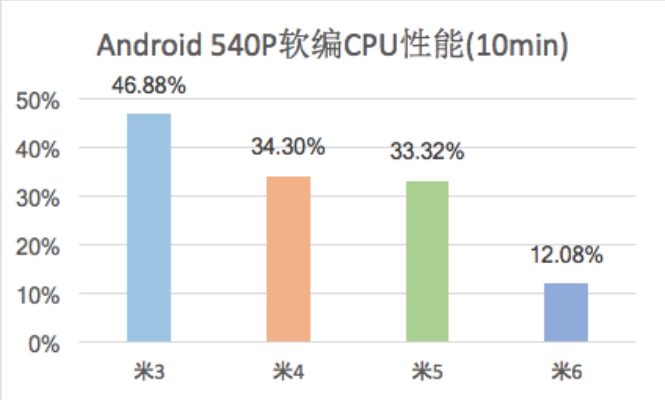


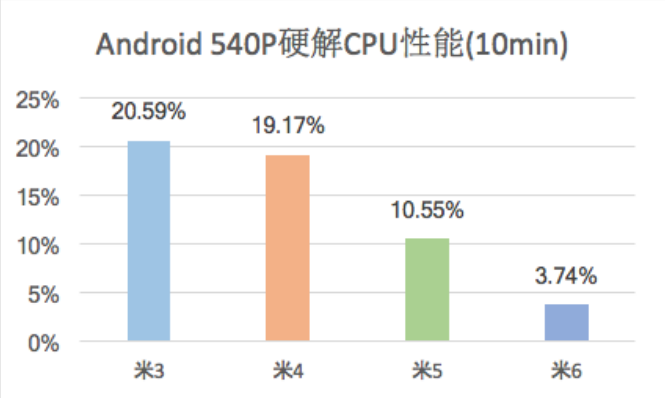


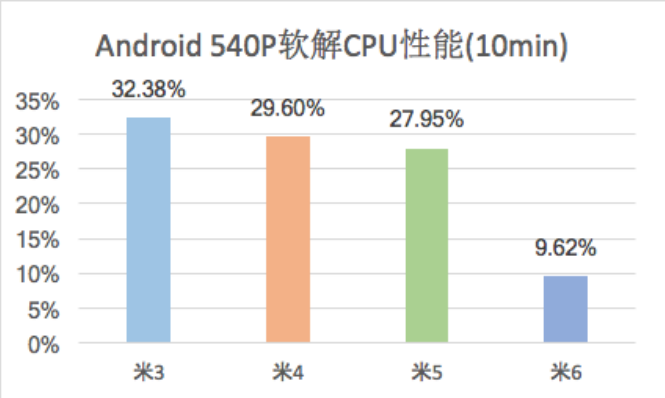












Memory Performance Data

iphone6 540P硬编内存

iphone6 540P软编内存

iphone6 540P硬解内存

iphone6 540P软解内存