Overview

Low-Latency Live Streaming (L3) is a stable and reliable live streaming product that can provide developers with multi-terminal strong synchronization, tens of millions of concurrency, and millisecond-level latency. It can achieve live streaming of large classes, e-commerce Live, show live, watch and other scenes together.

1 Products Comparison

Category	Real-time Audio and Video	Low-Latency Live Streaming	CDN Live Streaming
Typical scenarios	Frequent audio and video interactions between viewers and anchors are required, such as small classes, online meetings and other scenarios.	Strong synchronization is required between viewers, and the anchor needs to respond to the audience’s text, barrage, or reward information immediately, such as live streaming of large classes, watching movies together and other scenes.	The audience does not need to interact with the anchor audio, and there is no strong requirement for the synchronization of the live content between the audience, such as game live streaming and live show show.
Delay situation	The content delay between the viewer and the anchor linking the microphone is	The content delay range between the viewer and the host is between 600 ms and 1000 ms.	The content delay between the viewer and the host is more than 3000 ms.

	less than 400 ms.		
Synchronization	Strong synchronization between audiences.	The synchronization between the audience is good.	Poor synchronization between viewers.
Interactive experience	Excellent	Good	Poor
Price	High	Moderate	Low

2 Key Features

Category	Main Function	Function Description
Basic functions	Low-latency streaming	High-concurrency, stable and reliable, multi-terminal synchronization low-latency live streaming distribution service, supporting up to tens of millions of concurrent.
	Live streaming with microphones	Supports multiple anchors linked with microphones, multi-person real-time communication and other functions, which can realize up to 32 channels of linked microphones with live streaming. And users can connect to the microphone and pull streaming with low latency at the same time.
	Basic beauty	Supports basic beauty functions, including setting effects such as whitening and dermabrasion.
Advanced Features	Screen Sharing	The host can simultaneously display the screen content to other users in the channel, support designated sharing a certain screen or window, and support designated sharing areas.
	Voice Changer/Sound	SDK has built-in multiple voice changers and sound effects, which can increase the fun of

	Effects	live streaming and enhance the live streaming experience.
	Media Player	A feature-rich media player that can play local or online media resources during the live streaming and push them to the live streaming room.
	Echo cancellation	The engine has its own echo cancellation function. In the case of dual talk, each party has a clear voice, a good duplex experience, and supports three echo cancellation modes: comfortable, moderate and aggressive.
	Noise suppression	The engine has its own noise suppression function. Combined with the psychoacoustic model, it can increase the signal-to-noise ratio by 20 dB+ without compromising the voice quality.
	Automatic gain	The engine has its own automatic gain function, which can automatically adjust the microphone volume to adapt to near and far pickup, bringing a good experience in noisy environments.
	Multiple encodings	Support multiple hard coding and multiple soft coding to meet the coding requirements of multiple application scenarios and network environments.
	Multiple decoding	Support multiple hard solutions and multiple soft solutions to meet the decoding requirements of multiple application scenarios and network environments.
	GPU processing	All data goes to GPU memory, with good performance, good stability, and low latency.

3 Applicable Scenarios

- Live large classes: ultra-low latency online classroom experience, perfectly adapted to diverse teaching interactions, strong synchronization between teachers and students, and students, teaching immersion is comparable to offline classrooms.
- Show live streaming: The host quickly responds to the real-time barrage, and the audience immediately rewards with a millisecond delay to create a new show experience and detonate the live streaming.
- E-commerce live streaming: Assist new e-commerce gameplay such as spike and issuance, create richer e-commerce interactive scenes, and help improve the platform's UV conversion rate and GMV.
- Watch together: Massive audiences from all over the world gather in the live room to watch movies, concerts, competitions and other content simultaneously. The low-latency experience helps to share the joy with zero distance.
- Online auction: low-latency and high-smooth bidding experience, strong synchronous bidding process, to ensure fairness and openness in every link from quotation to hammer transaction.

4 Feature Indexes

Features	Specifications
SDK package size	Express-Video SDK (standard version) installation package increment size is as follows: • iOS (arm64): 4.77 MB • Android (arm64): 7.41 MB • Android (armv7): 7.11 MB • macOS (x86_64): 17.58 MB • Windows (x86): 13.43 MB • Windows (x86_64) : 16.96 MB Express-Video SDK (including whiteboard function) installation package incremental size as follows:

	• iOS (arm64): 5.39 MB • Android (arm64): 8.34 MB • Android (armv7): 8.00 MB • macOS (x86_64): 19.66 MB • Windows (x86): 14.92 MB • Windows (x86_64): 19.16 MB
Live streaming delay	600 ms ～ 1000 ms
Video quality	Up to 4K resolution, 1 fps ~ 60 fps
Audio quality	• Audio sampling rate: 16 k ～ 48 k • Support single and dual channels
Massive Concurrency	More than 200 BGP nodes worldwide, supporting tens of millions of concurrent.

5 Compatibility

Low-latency live streaming supports platforms such as iOS, Android, Windows, macOS, Web, and WeChat applets. See the table below for specific compatibility requirements.

Platform	Support Version	Support Architecture
iOS	7.0+	• arm64 • armv7

		• x86_64 (emulator)
Android	4.1+	• arm64-v8a • armeabi-v7a • x86 • x86_64
Windows	Windows 7+	• x86 • x64
Linux	Ubuntu 16.04+ / CentOS	x86_64
macOS	10.10+	x86_64
Web (under implementation)	• Chrome 58+ • Firefox 56+ • Safari 11+ • Opera 45+ • QQ browser windows 10.1+, macOS 4.4+ • 360 secure browser speed mode	-
WeChat Mini Program	-	-