

Alibaba Cloud ApsaraVideo for Live

Product Introduction

Issue: 20181211

Legal disclaimer

Alibaba Cloud reminds you to carefully read and fully understand the terms and conditions of this legal disclaimer before you read or use this document. If you have read or used this document, it shall be deemed as your total acceptance of this legal disclaimer.








1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.
2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company, or individual in any form or by any means without the prior written consent of Alibaba Cloud.
3. The content of this document may be changed due to product version upgrades, adjustments, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and the updated versions of this document will be occasionally released through Alibaba Cloud-authorized channels. You shall pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.
4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides the document in the context that Alibaba Cloud products and services are provided on an "as is", "with all faults" and "as available" basis. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not bear any liability for any errors or financial losses incurred by any organizations, companies, or individuals arising from their download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, bear responsibility for any indirect, consequential, exemplary, incidental, special, or punitive damages, including lost profits arising from the use or trust in this document, even if Alibaba Cloud has been notified of the possibility of such a loss.
5. By law, all the content of the Alibaba Cloud website, including but not limited to works, products, images, archives, information, materials, website architecture, website graphic layout, and webpage design, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade

secrets. No part of the Alibaba Cloud website, product programs, or content shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates).

6. Please contact Alibaba Cloud directly if you discover any errors in this document.

Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 Note: Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus, page names, and other UI elements.	Click OK .
Courier font	It is used for commands.	Run the <code>cd /d C:/windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[] or [a b]	It indicates that it is a optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand / slave}</code>

Contents

Legal disclaimer.....	I
Generic conventions.....	I
1 What is ApsaraVideo Live?.....	1
2 Features.....	2
3 Benefits.....	5
4 Edge streaming.....	7
5 Global acceleration.....	8

1 What is ApsaraVideo Live?

ApsaraVideo Live is an audio-video platform based on the latest accessible content, widely distributed network and largely distributed real-time transcoding technology. It offers high-definition, live audio-video feed services that are fluent and easily accessible with low latency rate and are high in concurrency.

You can use the [ApsaraVideo Live console](#), [API](#) and [SDK](#) to use and manage live video services and integrate them with your own apps and services.

2 Features

Main functions and features

Category	Feature	Description
Live video capture	Stream pushing protocol	Supports stream pushing RTMP.
	Stream pushing mode	Supports Alibaba Cloud's stream pushing SDKs and Demos for iOS, Android, and Web, in addition to common third-party stream pushing softwares such as XSplit, and FMLE.
	Stream pushing device	Supports common third-party codes or boxes based on stream pushing RTMP.
Live video watching	Stream playing protocol	Supports stream playing RTMP, FLV, and HLS.
	Stream playing mode	Supports Alibaba Cloud stream playing SDKs and Demos for iOS, Android, and Web, in addition to common third-party stream playing softwares such as VLC.
	Stream pulling mode	Supports flv and rtmp.
Live video management	Management mode	Supports graphical management and API management using the console.
Console management	Domain management	Creates, modifies, or deletes a domain name; and enables or disables a live video service.
	Template management	Creates, modifies, or deletes transcoding, and screenshot templates.
	Console statistics	Collects and queries the real-time downstream bandwidth, downstream traffic, online

Category	Feature	Description
		viewers, requests (in the operator/region dimension), and quantity and status of live streams.
	Live recording	Supports FLV, MP4 and M3U8 recording, and supports custom recording time duration.
	Live video screenshot	Supports real-time screenshot overwriting and storage, in addition to the custom screenshot frequency.
	Real-time transcoding	Supports the LD, SD, HD, and UHD bit rate formats, and the adaptive aspect ratio of transcoded videos.
	Narrow Band HD TM Transcoding	Supports the LD, SD, HD, and UHD bit rate formats, and the adaptive aspect ratio of transcoded videos.
Live video security	URL authentication	Supports custom authentication key and expiration time.
	IP blacklist	Restricts IP access to acceleration domain name.
	Anti-referer list	Supports blacklist or white list.
Data statistics	Traffic statistics	Collects traffic data for statistics (granularity of one day).
	Peak bandwidth statistics	Collects the peak bandwidth for statistics (granularity of one day).
	Access statistics	Views Uvs, access by location and other data.
	Amount query	Queries transcoding, screenshot, recording and other data.

Category	Feature	Description
API management	Domain name management	Creates, deletes, modifies and queries domain name.
	API traffic management	<ul style="list-style-type: none"> Creates, modifies, deletes, enables, or disables a live video domain. Queries the number of current concurrent viewers. Create, stop recording, etc. Creates or stops a screenshot task.
	Live recording	Uses ApsaraVideo Live console or API interfaces to record and store live videos to OSS.
	Live video screenshot	Takes screenshots through the course of live broadcast and saves them to the Alibaba Cloud OSS platform using APIs.
	Live video transcoding	Transcodes a live video to multiple formats using APIs.
SDK support	Streaming SDK	Real-time adjusting streaming parameters, adaptive bit rate , frame rate, watermark and beautification parameters according to network condition of the streaming end.
	Player SDK	iOS, Android and Web player SDKs, support multiple playing format.
	Demo SDK	Quickly experience the whole process of streaming and stream play.

3 Benefits

Various solutions

- ApsaraVideo Live provides a full range of technical solutions from streaming, transcoding, and distribution to playback,
- In addition to responsive uplink bit rate, narrow-band HD™ transcoding, screenshot, recording, time shifting and data monitoring among other features and services.

Global coverage

- ApsaraVideo Live has 1,500-plus live video nodes for full global coverage.
- Gradually expanding construction of live center, covering Europe, Southeast Asia and other countries and regions, to serve the global users.

End-to-end seamless support

- Provides collection SDKs and playback SDKs for multiple platforms and terminals, covering Android, iOS devices, TV sets and STBs.
- Offers an easy-to-use open terminal interface, eliminating complex architectural design and reducing maintenance costs, which enables you to focus on business logic implementation and the improvement of user experience.
- Provides various application features, beauty, sound mixing, filters, one second ATF (Above the fold), time shifting and other live broadcast functions for you to choose from.

Smoothness, low latency and high concurrency

- ApsaraVideo Live has the lowest video lagging rate industry-wide, and provides the smoothest live video watching experience.
- ApsaraVideo Live adopts best-quality BGP rooms and bandwidth to reduce live video latency and ensure real-time interactions in live videos.
- With a concurrency capacity of 10 million live streams, the live video technical architecture can be dynamically scaled to handle any live video service requirements.

Self-help management

- Self-help console, allowing customized, intelligent, and minute-level deployment on all CDN nodes.

- Quick access to ApsaraVideo Live service. You can manage live streams using the console. In addition, you can also set up live capabilities that suit your business scenarios according to your needs, such as recording, transcoding, anti-theft chain and other functions.
- Open and scalable APIs. Using ApsaraVideo Live APIs, you can flexibly set functions, monitor data, and quickly deploy acceleration domain name , exactly use distribution resources and timely monitor data. In addition, you can combine with other Alibaba Cloud product's APIs to create custom portal in multiple platforms.

Panoramic data, multi-dimensional data analysis

- Panoramic data monitoring, including bandwidth, access quality, visitor data, and amount query .
- Multi-dimensional data analysis.
- Download of all the logs.

4 Edge streaming

Introduction

The edge streaming function preferentially pushes your video streams to the optimal CDN node to ensure that users can access the best uplink network. Besides, it can minimize such problems as video lagging and slow stream-pulling ratio caused by uplink transmission.

Advantages

Wide coverage: over 1,500 CDN nodes all over the world, and over 700 nodes in mainland China, covering main stream cities and regions.

Intelligentization: to preferentially access the CDN node nearest users, so as to ensure the transmission stability.

Comparison between edge streaming and center streaming

	Edge streaming	Center streaming
Explanations	Preferentially schedule stream data to the optimal node nearest to user, and transmit the data to Alibaba Cloud's live center directly and rapidly for content delivery by using Alibaba Cloud's intelligent scheduling system.	Transmit video streams directly to live center for content delivery by using BGP.
Advantage	Rich CDN nodes, wide coverage to ensure optimal link transmission.	High-quality multi-line BGP room.

5 Global acceleration

Introduction

Global acceleration function aims to create a high-speed channel across region between the video capture region and the play source station, so that the video can be transmitted using the shortest , and the optimal link between the video capture region and the play region, to help your business solve the problem of video lagging or high delay.

Advantages

Low-cost access: Access in a highly flexible way, and no development and server purchase costs are needed, the function is enabled when the configuration is completed.

High speed and stability: access and distribution from the nearest edge node, global nodes are connected by high-speed dedicated line.

Global coverage: mainstream regions such as Europe and America are covered.

Flexible sale: the service is billed with day as the time granularity, which supports the configuration of dedicated lines at stream level, to meet different user needs.

Comparison between public network transmission with global acceleration

Functions	Public network	High-speed dedicated line
Communication quality and availability	The quality of long-distance public network communication is affected by a variety of factors, therefore, the delay stability and packet loss rate are difficult to guarantee.	Alibaba Cloud's high-quality infrastructure delivers enhanced link quality and availability.
Cost	On-demand payment of public network transmission fees	No hardware cost required. Flexible billing methods and affordable prices.

Scenarios

When the anchor is abroad or in Hong Kong, Macao, and Taiwan, the video stream is pushed to domestic China for acceleration.

When the anchor is in domestic China, the video stream is pushed abroad or to Hong Kong, Macao, and Taiwan for acceleration.