# Alibaba Cloud

视频直播 Product Introduction

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### **Document conventions**

Style	Description	Example
A Danger	A danger notice 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.
O Warning	A warning notice 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 restart an instance.
☐) Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	Notice: If the weight is set to 0, the server no longer receives new requests.
? Note	A note indicates supplemental instructions, best practices, tips, and other content.	Onte: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type.
Bold	Bold formatting is used for buttons , menus, page names, and other UI elements.	Click OK.
Courier font	Courier font is used for commands	Run the cd /d C:/window command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	bae log listinstanceid Instance_ID
[] or [a b]	This format is used for an optional value, where only one item can be selected.	ipconfig [-all -t]
{} or {a b}	This format is used for a required value, where only one item can be selected.	switch {active stand}

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### 1.What is ApsaraVideo Live?

ApsaraVideo Live is an audio and video live streaming platform that is developed based on industryleading content access and delivery capabilities, and large-scale, distributed real-time transcoding technology. ApsaraVideo Live provides easy-to-access audio and video live streaming services that feature low latency, high concurrency, high definition, and smooth playback.

### Live streaming process

The ApsaraVideo Live server enables you to upload live streams, process live streams in real time, and deliver live streams.

- 1. You use a stream ingest SDK to ingest a live stream that is collected by a video collection device. ApsaraVideo Live uses edge ingest to deliver the live stream to content delivery network (CDN) nodes, which ensures the stability of uplink transmission. Then, the live stream is delivered to the live center of ApsaraVideo Live.
- 2. After the live stream is delivered to the live center of ApsaraVideo Live, you can process the stream based on your needs. For example, you can transcode the stream, perform time shifting, record the stream, or capture snapshots of the stream.
- 3. The processed stream is delivered to CDN nodes and then to client devices for playback. To develop mobile players, you can integrate ApsaraVideo Player SDK with the players.
- 4. In addition to transcoding live streams and capturing snapshots of live streams, you can use the Live-to-VOD feature to deliver the recorded live streams to ApsaraVideo VOD. In ApsaraVideo VOD, you can edit the recorded live streams online and provide the recorded live streams as on-demand videos. This process associates live streaming with the production and spread of short videos.

### **Benefits**

- Based on years of technology accumulation, ApsaraVideo Live provides end-to-end services across multiple channels.
- Powered by cutting edge technologies, ApsaraVideo Live leads the market of cloud live streaming with stable and reliable services.
- ApsaraVideo Live helps enterprises expand worldwide with global deployment.
- ApsaraVideo Live provides National Radio and Television Administration (NRTA) regulation-based live streaming.
- ApsaraVideo Live supports real-time interaction and the playback of tens of millions of concurrent streams.
- The Real-Time Streaming (RTS) feature reduces the latency of concurrent live streaming to milliseconds.
- Narrowband HD<sup>™</sup> 2.0 enables your customers to enjoy ultimate high-definition videos at 50 frames per second.
- Panoramic data enables you to analyze data from multiple dimensions.

For more information, see Benefits.

### Value-added features

In addition to the basic features of live stream upload and delivery, ApsaraVideo Live provides the following value-added features:

- RTS
- Live stream security
- Live stream transcoding
- Time shifting during live streaming
- Live stream recording
- Live stream snapshot capture

#### Feature categories

ApsaraVideo Live provides eight categories of features, including live stream ingest, live stream playback, live stream security, live stream management, data statistics, console management, API management, and SDK support. For more information, see Features.

#### Scenarios

ApsaraVideo Live has served more than 10,000 enterprises and applies to various live streaming scenarios, such as live shows, videos generated by users, games, enterprise activities, education, shopping malls, micro business, finance, sports, and events. For more information, see Scenarios.

### Use ApsaraVideo Live

You can use the ApsaraVideo Live console, APIs, and SDKs to access and manage live streaming services. You can also integrate ApsaraVideo Live with your applications and services.

### Pricing

The billing items of ApsaraVideo Live include traffic, bandwidth, transcoding, time shifting, snapshot capture and recording. Fees are charged based on different billing methods. For example, you can choose the pay-as-you-go billing method, which enables you to pay after use. For more information, see Billing overview and the ApsaraVideo Live Pricing page.

### 2.Features

ApsaraVideo Live supports live stream collection and edge ingest. The following table describes the feature categories that are supported by ApsaraVideo Live. The categories include live stream ingest, live stream playback, live stream security, live stream management, data statistics, console management, API management, and SDK support.

Category	Feature	Description	References	
	Stream ingest protocol	Supports the Real-Time Messaging Protocol (RTMP), Real-Time Streaming (RTS), and Secure Reliable Transport (SRT) protocols.	Stream ingest, stream pulling, and streaming	
Live stream ingest	Stream ingest method	Supports Push SDKs and demos for iOS, Android, and Web, and common third-party stream ingest software such as Open Broadcaster Software (OBS), XSplit, and Flash Media Live Encoder (FMLE).		
	Stream ingest device	Supports common third-party RTMP-based codecs or set-top boxes (STBs).		
Live stream playback	Streaming protocol	Supports the RTMP, Flash Video (FLV), HTTP Live Streaming (HLS), and RTS protocols.		
	Streaming method	Supports ApsaraVideo Player SDKs and demos for iOS, Android, and Web, and common third-party streaming software such as VLC media player.	Stream ingest, stream pulling, and streaming	
	Stream pulling	Supports the FLV, RTMP, M3U8, and RTS protocols.		
	URL authentication	Supports custom authentication keys and expiration time.		
	IP address blacklist	Restricts specific IP addresses from accessing accelerated domain names.		
Live stream security	Hotlink protection	Supports a blacklist or whitelist to prevent hotlinking.		
	User-Agent blacklist or whitelist	Allows you to configure a User-Agent blacklist or whitelist to control access from specific browsers or devices.	Live stream security	

#### Product Introduction Features

Category	Feature	Description	References
	Content moderation	Allows you to review frames that are captured from live streams and audio of live streams.	
Live stream management	Management method	Supports graphical management in the console and API management.	Stream management
	Traffic statistics	Collects traffic data for statistical analysis by day.	
Data statistics	Peak bandwidth statistics	Collects the peak bandwidth for statistical analysis by day.	Data statistics
	AccessAllows you to view access data such as the numberstatisticsof unique visitors (UVs) and the regions of requests.		
	Feature usage statistics	Allows you to query the resource usage during transcoding, snapshot capture, and recording.	
	Domain name management	Allows you to create, modify, and delete domain names, and enable or disable ApsaraVideo Live.	
	Template management	Allows you to create, modify, and delete the templates for transcoding, snapshot capture, and recording.	
	DRM Management	Allows you to manage the keys and certificates for the digital rights management (DRM) encryption feature.	
	Live stream recording	Allows you to record live streams in FLV, MP4, and M3U8 formats, and supports the custom recording duration.	
	Live stream snapshots	Supports real-time snapshot overwriting and storage and the custom snapshot frequency.	

Category	Feature	Description	Console References
Console management	Real-time transcoding	Supports low definition (LD), standard definition (SD), high definition (HD), and ultra-high definition (UHD), and the adaptive aspect ratio of transcoded videos.	
	Narrowband HD™ transcoding	Supports LD, SD, HD, and UHD, and the adaptive aspect ratio of transcoded videos.	
	Console statistics	Allows you to query downstream bandwidth, downstream traffic, the number of online viewers, the number of requests for live streaming, the number of live streams, and the status of live streams. The number of requests for live streaming can be queried by Internet service provider (ISP) or region.	
	Time shifting	Allows you to watch the content of live streams.	
	Production studio	Allows you to move video production to the cloud. ApsaraVideo Live delivers a wide range of live and interactive streaming capabilities, including real-time media processing, background replacement, speech-to-text conversion and real-time translation based on Automatic Speech Recognition (ASR), video AI, and image and text effects for live streams. These capabilities are easy to use and can meet the requirements in scenarios such as standard and professional live streaming, and carousel playback.	Production studio
	Domain name management	Allows you to create, delete, modify, and view domain names.	Domain name management

#### Product Introduction Features

Category	Feature	Description	References
API management	Stream management	<ul> <li>Allows you to create, modify, delete, and enable or disable streaming domain names.</li> <li>Allows you to query the number of concurrent viewers.</li> <li>Allows you to create and stop recording tasks.</li> <li>Allows you to create and stop snapshot tasks.</li> </ul>	Live stream management
	Live stream recording	Allows you to use the ApsaraVideo Live console or API operations to record live streams and store them to Object Storage Service (OSS).	Live Stream Recording
	Live stream snapshots	Allows you to capture snapshots during live streaming and store them to OSS by calling API operations.	Live stream snapshots
	Live stream transcoding	Allows you to transcode a live stream to multiple formats by calling API operations.	Live stream transcoding
	Push SDK	Adjusts parameters in real time based on the network conditions of the stream ingest clients, such as parameters that are related to stream ingest, adaptive bitrates, frame rates, watermarks, and face retouching.	Push SDK
SDK support	Queen SDK	Provides face retouching and special video effects.	Queen SDK
	All-in-one live streaming demo	Allows you to experience the whole process of stream ingest and live streaming.	All-in-one live streaming demo

### 3.Benefits

ApsaraVideo Live is a live streaming platform developed by Alibaba Cloud. ApsaraVideo Live leverages the strong technical capabilities of Alibaba Cloud and provides various benefits such as end-to-end coverage, global deployment, high security and stability, ultra-low latency, and unparalleled high definition.

### End-to-end coverage

ApsaraVideo Live leverages the technical capabilities of Alibaba Cloud gained over the years to provide end-to-end services across multiple channels.

- ApsaraVideo Live provides solutions for stream ingest, video processing, content delivery, and video playback.
- ApsaraVideo Live supports features such as adaptive bitrate streaming for uplink and downlink transmission, Narrowband HD<sup>TM</sup> transcoding, snapshot capture, recording, time shifting, data monitoring, production studio, Real-Time Streaming (RTS), and stream management.

### Global deployment

ApsaraVideo Live helps enterprises deploy live streaming services around the world.

- Node distribution: More than 2,800 edge nodes are deployed around the world, with over 2,300 nodes deployed in 31 regions in the Chinese mainland and over 500 nodes deployed in more than 70 countries and regions outside the Chinese mainland. Edge nodes cover most countries or regions, ensuring worldwide coverage for your live streaming services.
- Live center distribution: The live centers of ApsaraVideo Live cover nine countries and regions across China, Europe, and Southeast Asia, providing reliable live streaming services in and outside China.

### High security and stability

ApsaraVideo Live provides live streaming services that are compliant with National Radio and Television Administration (NRTA) regulations.

- Multiple security mechanisms are used to ensure the security of video transmission.
- The end-to-end monitoring feature is accurate to the second, and allows you to obtain the live streaming status in real time.
- The live stream merging feature allows you to merge multiple video streams into a single live stream and ensures the stability of live streaming.

### Smooth experience

ApsaraVideo Live supports real-time interaction and the playback of tens of millions of concurrent streams.

- Ultra-low playback stuttering rate ensures a smooth live streaming experience.
- CDN schedules streaming data to nodes that are nearest to users. This ensures the quality of realtime interactions during live streaming.
- Dynamic scaling and the playback of tens of millions of concurrent streams ensure the stability of your live streaming services.

### Ultra-low latency

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ApsaraVideo Live supports the RTS feature. This feature reduces the latency of concurrent live streaming to milliseconds.

- Millisecond-level latency ensures the quality of real-time interactions.
- Playback of millions of concurrent streams is supported based on the extensive network of edge nodes deployed around the world.
- RTS capabilities have been extensively tried and tested by online businesses and are mature and stable.
- Integration of new SDKs with the player is supported without the need to change the stream ingest architecture. This simplifies service deployment.

### Unparalleled high definition

ApsaraVideo Live supports Narrowband HD<sup>™</sup> 2.0 to provide high-definition videos at 50 frames per second.

- The narrowband HD<sup>™</sup> technology that is developed based on the human vision model reduces the bitrate of videos and delivers videos in higher definitions. The narrowband HD<sup>™</sup> technology saves 20% to 40% of bandwidth cost without compromising video quality.
- Different encoding optimization policies are applied to different images to allow a vivid video experience.

### Panoramic data

ApsaraVideo Live supports the panoramic data feature that allows you to analyze data in multiple dimensions.

- Panoramic data monitoring allows you to monitor bandwidth, traffic, access quality, and the usage of various features.
- Multi-dimensional data analysis allows you to analyze various data such as unique visitors (UVs), user distribution, and domain ranking.
- Full log download and real-time log subscription features allow you to analyze your business data. This facilitates data statistics and helps you make business decisions.

### Cutting-edge technology

ApsaraVideo Live leverages cutting-edge technologies to lead the video cloud market.

- Millisecond-level time shifting and the strong verification mode ensure the security of your live streaming services.
- Traditional video production tools are migrated to the cloud, allowing you to set up your video production studio in the cloud.
- 8K live streaming with a resolution up to 7680 × 4320 delivers more vivid images.
- The Secure Reliable Transport (SRT) protocol is supported for professional live streaming, and Dolby sound is supported.

# 4.Scenarios

This topic describes the scenarios of ApsaraVideo Live.

### **Online education**

We recommend that you use the Real-Time Streaming (RTS) feature of ApsaraVideo Live for online classes that require interaction between teachers and students. RTS ensures synchronous communication between teachers and students. Teachers can answer students' questions in time, which improves the efficiency of class activities. You can also use the recording, time shifting, and transcoding features of ApsaraVideo Live to deliver on-demand videos of online classes. This way, students can review their lessons and consolidate knowledge anytime, which improves learning outcomes.

### Entertainment live streaming

ApsaraVideo Live provides easy-to-access entertainment live streaming services that feature high definition and low latency. Entertainment live streaming does not require well-trained casters and, in some cases, can be misused to broadcast illegal content such as pornography or terrorism. ApsaraVideo Live provides review features to help review videos, images, and audio content. You can use the review features of ApsaraVideo Live to reduce review costs.

### Live streaming sale in e-commerce

Live streaming is an activity that attracts target customer groups with similar interests and encourages frequent interaction at a low marketing cost. In the e-commerce field, live streaming has become an indispensable marketing strategy to bring in high-quality customers. The RTS feature of ApsaraVideo Live minimizes the latency between live streams and interaction messages. This prevents asynchronous communication when the audience and casters interact with each other. RTS is also used by Taobao. Lower-latency interaction can drive higher gross merchandise volume (GMV).

### Event live streaming

ApsaraVideo Live provides a large number of content delivery network (CDN) nodes across the globe and powerful media processing capabilities. These capabilities ensure the high concurrency, low latency, security, and stability of live streaming. You can use the production studio feature of ApsaraVideo Live to mix streams from multiple cameras, add components such as the score board, add introductions, insert advertisements, and add roll advertisements of sponsors.

### Radio, television, and new media

ApsaraVideo Live supports the Secure Reliable Transport (SRT) protocol that is widely used in the radio, television, and new media industry. In addition, ApsaraVideo Live supports high resolutions such as 4K and 8K, and provides the Narrowband HD<sup>TM</sup> feature. This enables you to achieve higher image quality at the same bitrate. You can also use the production studio feature to split the screen, add station logos, add bilingual subtitles, and play standby videos.

### Enterprise live streaming

ApsaraVideo Live provides content protection features, such as IP whitelist or blacklist, to protect the live streaming of enterprises from illegal distribution. ApsaraVideo Live also provides the recording feature so that you can save the videos of sessions or trainings for on-demand playback.

# 5.Terms

This topic describes the terms that are used in ApsaraVideo Live.

### Stream ingest

Stream ingest refers to the process of delivering the collected audio and video live streams to the live center of ApsaraVideo Live.

### Stream pulling

Stream pulling refers to the process of uploading third-party streaming URLs to the live center of ApsaraVideo Live for content delivery network (CDN) acceleration.

### Streaming

Streaming refers to the process of delivering live streams from the live center of ApsaraVideo Live to players for playback.

### Edge ingest

Edge ingest preferentially schedules streaming data to the optimal nodes that are nearest to users. The intelligent scheduling system of Alibaba Cloud is used to transmit the data to the live center of ApsaraVideo Live for content delivery. Supported by abundant CDN nodes with wide coverage, edge ingest ensures optimal link transmission and provides optimal uplink networks for user access. This resolves the issues of stuttering and slow stream pulling during uplink transmission.

### Real-Time Streaming (RTS)

The RTS feature is developed based on ApsaraVideo Live. This feature monitors the latency during the complete live streaming process, reconstructs the CDN protocol, and optimizes the underlying technologies such as User Datagram Protocol (UDP). RTS SDK is integrated with player SDK of ApsaraVideo Live. RTS supports the playback of tens of millions of concurrent streams with a latency of milliseconds. You can use RTS to reduce latency and stuttering, and ensure instant loading and smooth playback for live streaming.

### Live stream transcoding

Live streaming transcoding refers to the process of converting a video stream to another video stream. You can use transcoding to modify the parameters of original video streams, such as the encoding format, resolution, and bitrate. This enables you to play transcoded video streams on different terminals across different network environments. Transcoding enables you to adapt video streams to different network bandwidths and terminal processing capabilities. This enables you to satisfy the expectations of different users, such as low-latency playback.

### Narrowband HD™

The Narrowband HD<sup>™</sup> technology optimizes video encoding based on video images, which improves the definition of videos without changing the network bandwidth. Developed based on the human vision model, the Narrowband HD<sup>™</sup> technology reduces the bitrate of videos and delivers videos with higher definition. In addition, the Narrowband HD<sup>™</sup> technology saves 20% to 40% of bandwidth without compromising the image quality.

### Time shifting during live streaming

Time shifting during live streaming enables you to review the content of a live stream at a specific historical point in time. ApsaraVideo Live supports time shifting at a granularity accurate to the millisecond. The strong verification mode prevents a wrong timestamp of the live streaming signal source from causing dirty data and image discontinuity during time shifting.

### Ingest domain

Ingest domains are used to ingest live streams. To use ApsaraVideo Live, you must register an ingest domain, apply for an Internet Content Provider (ICP) filing, and configure the ingest domain. After you add a canonical name (CNAME) record for the ingest domain, associate the ingest domain with a streaming domain, and configure URL signing, you can use the URL generator provided by the ApsaraVideo Live console to obtain the ingest URL. The URL signing is optional.

### Streaming domain

Streaming domains are used to pull live streams. To use ApsaraVideo Live, you must register a streaming domain, apply for an ICP filing, and configure the streaming domain. After you add a CNAME record for the streaming domain, associate an ingest domain with the streaming domain, and configure URL signing, you can use the URL generator provided by the ApsaraVideo Live console to obtain the streaming URL. The URL signing is optional.

### CNAME

A CNAME is the domain that is assigned to you after you add a domain name for CDN in the Alibaba Cloud CDN console. The CNAME is in the format of \*.\*kunlun\*.com . You must add a CNAME record to the Domain Name System (DNS) server to map the domain name for CDN to \*.\*kunlun\*.com . After the CNAME record takes effect, ApsaraVideo Live is responsible for domain resolution. All requests that are sent to the domain name for CDN are redirected to the edge CDN nodes of ApsaraVideo Live. This way, content delivery is accelerated.

### H.264

H.264, also referred to as MPEG-4 Part 10, is a video compression standard. H.264 is standardized by the Joint Video Team (JVT) that is jointly founded by the ITU-T Video Coding Experts Group (VCEG) and the ISO/IEC JTC1 Moving Picture Experts Group (MPEG). The advantages of videos in the H.264 format include low bitrates, high image quality, strong fault tolerance capability, and strong adaptability to networks.

### H.265

H.265 is a video compression standard that is designed by the ITU-T VCEG as a successor to H.264. Based on H.264, H.265 retains specific technologies that are used for H.264 and adopts new technologies for improvement. The new technologies improve the relationship among streams, encoding quality, latency, and algorithm complexity, which optimizes video settings.

### Live streaming URL

Live streaming URLs refer to ingest URLs or streaming URLs. A live streaming URL consists of a domain, an AppName parameter, a StreamName parameter, and an access token. The access token is optional. You can create multiple applications for a domain and create multiple live streams for an application. The ApsaraVideo Live console provides a URL generator to help you generate ingest URLs and streaming URLs with ease. You can use the generated ingest URLs in third-party stream ingest software, for example, Open Broadcaster Software (OBS), to ingest streams.

### AppName

The AppName parameter indicates the name of the application in which live streaming is implemented. This parameter is used to distinguish the storage paths of the media files of live streams.

#### StreamName

The StreamName parameter indicates the name of a live stream. This parameter is used together with a domain to identify a unique live stream.

# 6.Limits

This topic describes the limits of ApsaraVideo Live and how to remove the limits.

### **Billing limits**

ltem	Limit	How to remove the limit
Billing of live data transfer plans	Fees for live streaming traffic are deducted from live data transfer plans on a daily basis.	None.
Query of details about resource plans	You can query only valid resource plans and resource plans that expired within one year.	None.
Pay-by-traffic	lf you pay by traffic, the maximum bandwidth is 10 Gbit/s.	Submit a ticket.
Bandwidth throttling	According to the Product-Specific Terms in the Alibaba Cloud International Website Product Terms of Service, if the billing method for network usage of your domain name is pay-by- traffic or pay-by-bandwidth and the peak bandwidth within one minute reaches 10 Gbit/s, Alibaba Cloud enables bandwidth throttling for the domain name to prevent attacks from harming your network or affecting your business.	To disable bandwidth throttling, contact Alibaba Cloud customer service or <mark>submit a ticket</mark> .

### **Feature limits**

Feature	Limit	How to remove the limit
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Feature	Limit	How to remove the limit
Domain name for CDN	<ul> <li>If the acceleration region of your domain name is Global or Mainland China, the domain name must have an Internet Content Provider (ICP) number. For more information, see Domain name ICP filing.</li> <li>By default, you can add up to 20 domain names for CDN to ApsaraVideo Live within each Alibaba Cloud account.</li> </ul>	Submit a ticket.
Stream ingest	• For live centers of the China (Beijing), China (Shanghai), China (Shenzhen), and Singapore (Singapore) regions, each domain name for CDN supports concurrent ingestion of up to 50 live streams that are not transcoded by default. For live centers of other regions, each domain name for CDN supports concurrent ingestion of up to 20 live streams that are not transcoded by default.	Submit a ticket.
	• ApsaraVideo Live does not limit the bitrate of ingested streams and supports common resolutions and bitrates. To prevent stuttering during stream ingestion, we recommend that you use a bitrate that is not greater than 4 Mbit/s.	None.
User-Agent blacklist and whitelist	• You cannot configure the User-Agent blacklist and whitelist in the console due to cumbersome configurations and risks of misoperations.	Submit a ticket.
Video encryption (Alibaba Cloud video encryption and DRM encryption)	<ul> <li>Videos can be generated only in the HTTP Live Streaming (HLS) format.</li> <li>The encrypted videos can be played only by using ApsaraVideo Player and cannot be played on a web client.</li> </ul>	None.
Live stream management	<ul> <li>You can call the ForbidLiveStream operation to forbid up to 10,000 live streams. If the threshold is exceeded, the operation fails.</li> <li>You can call the ForbidLiveStream operation up to 20 times per second.</li> </ul>	None.
Live snapshots	<ul> <li>Live snapshots can be generated only in the JPG format.</li> </ul>	None.

Feature	Limit	How to remove the limit
DRM	<ul> <li>You cannot configure DRM by calling API operations. Instead, you must configure DRM in the ApsaraVideo Live console.</li> <li>DRM is available only in the live center of the China (Shanghai), Singapore (Singapore) and Indonesia (Jakarta) regions.</li> <li>The first time that you use the DRM feature for your domain name, you must submit a ticket to enable the feature.</li> <li>DRM is supported only for ApsaraVideo Player V5.3.4 and later.</li> </ul>	Submit a ticket.
Domain name management	• You must upload a certificate for an accelerated domain name for which the HTTPS secure acceleration feature has been enabled. The Tengine service that is used by ApsaraVideo Live is based on NGINX. Therefore, only certificates that can be read by NGINX, which are in the PEM format, are supported.	None.
EdgeScript	• You can create only one script for each domain name.	Submit a ticket.
IP address blacklist and whitelist	<ul> <li>The IP address blacklist and whitelist support IPv6 addresses. An IPv6 address can contain only uppercase letters. Example:</li> <li>2001:DB8:0:23:8:XXX:XXXC:417A or</li> <li>2001:0DB8:0000:XXXX:XXX:0800:200C:417A. You cannot shorten the representation of an IPv6 address. For example,</li> <li>2001:0DB8:XXXX:XXX:200C:417A is not supported.</li> </ul>	None.

Feature	Limit	How to remove the limit
Live stream transcoding	<ul> <li>A standard transcoding template and a Narrowband HD<sup>TM</sup> transcoding template cannot be used at the same time. You can use only one type of transcoding template for a specific application name in each domain name.</li> <li>For live centers of the China (Beijing), China (Shanghai), China (Shenzhen), and Singapore (Singapore) regions, each domain name supports up to 50 concurrent transcoding streams. For live centers of other regions, each domain name supports up to 10 concurrent transcoding streams.</li> <li>Note</li> <li>If a high definition (HD) live stream is transcoded to standard definition (SD) and low definition (LD) for playback, two transcoding streams are recognized.</li> <li>A Narrowband HD<sup>TM</sup> transcoding template cannot transcode streams by using the H.265 codec.</li> <li>You can configure parameters in a multi-bitrate transcoding template based on your business requirements. Multi-bitrate transcoding is supported only for streaming domains in the live centers of the Singapore (Singapore), Japan (Tokyo), and Indonesia (Jakarta) regions.</li> </ul>	Submit a ticket.
Live stream recording	<ul> <li>The Object Storage Service (OSS) bucket that is used to store live recordings must reside in the same region as the live center of the domain name. Cross-region recording is not supported.</li> <li>The VOD transcoding template group must be in the same region as the live center.</li> <li>If one of the following conditions is met, a live stream cannot be recorded: The resolution is 4K or 8K, the bitrate of the ingested stream exceeds 25 Mbit/s, or the size of a TS segment exceeds 100 MB.</li> </ul>	None.

Feature	Limit	How to remove the limit
Stream pulling	<ul> <li>You cannot pull streams from IPv6 addresses.</li> <li>The following limits apply when you configure regular stream pulling: <ul> <li>You can add up to four back-to-origin URLs.</li> <li>You can use up to 10 templates to pull streams at the same time.</li> <li>The duration from the time when stream pulling starts to the time when stream pulling ends cannot exceed seven days.</li> </ul> </li> <li>You can call the AddLivePullStreamInfoConfig operation to pull live streams in the RTMP, HTTP, and FLV formats. You can call the operation up to 15 times per second.</li> </ul>	None.
Production studio, transcoding, time shifting, recording, snapshot capture, , and Live to VOD	• Some features of ApsaraVideo Live are unavailable in specific regions. For more information, see Supported regions.	Submit a ticket.
Production studio	<ul> <li>By default, you can create up to 50 production studio instances.</li> <li>The virtual studio feature is not supported on the Alibaba Cloud International site (alibabacloud.com).</li> </ul>	Submit a ticket.
Real-Time Streaming (RTS)	<ul> <li>Take note of the following limits on audio and video decoding when you use the RTS feature for ApsaraVideo Player SDK for HTML5:</li> <li>Videos that contain B-frames are not supported. If you play a video that contains B-frames, frame skips may occur.</li> <li>AAC encoding is not supported. If you play a video whose audio is encoded in AAC, noise may occur.</li> </ul>	You can perform RTS transcoding to remove the limits. For more information, see RTS transcoding.

Feature	Limit	How to remove the limit
Live stream recording	Live stream recording only supports the following encoding formats: • Video: H.264, HEVC, and MPEG4 • Audio: AAC and MP3	None.
Live stream transfer	• You can call the SetLiveEdgeTransfer operation to configure live stream transfer. The configurations take effect on ingested streams that start after live stream transfer is configured. For more information, see SetLiveEdgeTransfer.	None.
Push SDK	<ul> <li>Push SDK download: Each version of Push SDK contains two editions. One edition applies only to the ARM architecture and supports debugging on physical devices. The other edition applies to the ARM architecture and simulators and supports debugging on physical devices and in simulators. If you want to publish your project online, you must use the edition that applies only to the ARM architecture.</li> <li>Demo compilation: The demo runs only on physical devices. You cannot run the demo on a virtual machine.</li> <li>Stream ingest on mobile clients: When you ingest a local video on a mobile client, the original YUV format of video images is used.</li> </ul>	None.

### Domain name ICP filing

Whether a domain name for CDN that is added to ApsaraVideo Live requires ICP filing depends on the acceleration region.

If the acceleration region of a domain name for CDN is **Global** or **Mainland China**, ICP filing is required for the domain name for CDN. We recommend that you apply for ICP filing on the ICP Registration Support page.

#### ? Note

If you want to use the stream ingest or stream pulling feature that is provided by ApsaraVideo Live in the Chinese mainland, you must complete ICP filing for the domain name of your application on the origin server, regardless of where the origin server resides.

### **Content moderation**

The site content of domain names that are added to ApsaraVideo Live must be reviewed. The domain names for CDN that cannot be added to ApsaraVideo Live include but are not limited to the following types:

- Domain names that cannot be accessed or contain no valid information
- Domain names that point to servers that host pirated games
- Domain names of websites that provide multiplayer games and card games
- Domain names of websites for unauthorized software download.
- Domain names of websites for peer-to-peer (P2P) lending
- Domain names of unofficial lottery websites
- Domain names of websites of unlicensed hospitals and pharmaceuticals
- Domain names of websites that contain illicit content, such as pornography, drugs, and gambling

#### ? Note

- You are legally responsible for the content hosted on your accelerated domain name. Alibaba Cloud regularly reviews the content of domain names. If illicit content is detected from a domain name, Alibaba Cloud immediately disables or blocks the domain name. If the violation is severe, ApsaraVideo Live may even permanently block all domain names that belong to the Alibaba Cloud account.
- If you add a wildcard domain name, such as \*.aliyundoc.com, to ApsaraVideo Live and this wildcard domain name includes a specific domain name, such as demo.aliyundoc.com, that contains illicit content, ApsaraVideo Live disables the wildcard domain name \*.aliyundoc.com.
- If your domain name is rejected after the review, you can check the reason for the rejection on the Domain Management page in the ApsaraVideo Live console. You can modify the content based on the rejection details and submit the domain name for review again.

# 7.Supported regions

This topic describes the regions in which ApsaraVideo Live is supported and the features that are supported in these regions.

The live center of ApsaraVideo Live is available in the following regions: China (Shanghai), China (Beijing), China (Shenzhen), China (Qingdao), Singapore (Singapore), Germany (Frankfurt), Japan (Tokyo), India (Mumbai), and Indonesia (Jakarta).

The following table describes the features that are supported in each region. You can choose a region as the live center based on your needs. If you use an Object Storage Service (OSS) bucket to store your media files, make sure that your live center resides in the same region as the OSS bucket.

Featur e	China (Shang hai)	China (Beijing )	China (Shenz hen)	China (Qingd ao)	Singap ore (Singa pore)	Germa ny (Frankf urt)	Japan (Tokyo )	India (Mumb ai)	Indone sia (Jakart a)
Recordi ng	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted
Live to VOD	Suppor ted	Suppor ted	Suppor ted	Not suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted
T ransc oding	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted
Stream pulling	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted
Time shiftin g	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Not suppor ted	Suppor ted	Suppor ted
Snapsh ot captur e	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted
Produc tion studio (virtual studio)	Suppor ted	Suppor ted	Not suppor ted	Not suppor ted	Suppor ted	Not suppor ted	Not suppor ted	Not suppor ted	Not suppor ted
Digital rights manag ement (DRM) encryp tion	Suppor ted	Not suppor ted	Not suppor ted	Not suppor ted	Suppor ted	Not suppor ted	Not suppor ted	Not suppor ted	Suppor ted

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Featur e	China (Shang hai)	China (Beijing )	China (Shenz hen)	China (Qingd ao)	Singap ore (Singa pore)	Germa ny (Frankf urt)	Japan (Tokyo )	India (Mumb ai)	Indone sia (Jakart a)
Video encryp tion	Suppor ted	Not suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted	Suppor ted