Alibaba Cloud
视频直播

Best Practices

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Document conventions

Style	Description	Example
	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.
	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.
	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.
	A note indicates supplemental instructions, best practices, tips, and other content.	**Note:** 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 list `--instanceid` Instance_ID
[] or [a|b]	This format is used for an optional value, where only one item can be selected.	ipconfig [-all|-t]

Style	Description	Example
{} or {a|b}	This format is used for a required value, where only one item can be selected.	switch {active|stand}

Contents

1 How to record live videos

The recording service of ApsaraVideo Live converts live videos to on-demand videos, stores and manages the on-demand videos. You can store the recorded videos to OSS.

Recording by scenarios

You can perform recording configuration based on your needs and different scenarios.

- Recording at domain name, AppName and StreamName levels

  You can record exactly a specific stream by entering a specific domain name, AppName, and StreamName. For more information, see Store live recordings to OSS.

- Recording at specified time

  You can use API to control the start time and end time of recording, so as to record at the specified time. For more information, see AddLiveAppRecordConfig.

- Recording based on your needs

  You can configure a callback URL to exactly control the recording method of each stream . For more information, see On-demand recording.

- Manual recording

  The manual recording is disabled by default. You can use the API to record videos. For more information, see Manual recording.

Recording based on storage position

You can store live recordings to OSS.

Store live recordings to OSS

The live recordings stored to OSS can serve the purpose of storage and playback. For more information, see Store live recordings to OSS.

- If you want to preview and manage your recorded videos, you can preview and manage in the recording management list in the ApsaraVideo live console or in OSS console. For more information, see View recorded files.

- If you want to deliver recorded videos, you can log on to the OSS console to configure a CDN domain name. CDN delivers your videos stored in OSS to nodes across China. And users can access the nearest nodes to read files, which not only improves the access

speed and experience of edge users, but also effectively saves the overall network cost. For more information, see Configure OSS.

> **Note:**
>
> - You can record videos in flv format, mp4 format, and hls format.
> - The recorded videos are original videos.
> - You can index and edit the recorded hls files to quickly splice m3u8 video clips.
> - The information of recorded files are stored for 6 months by default. Within 6 months , you can use API or the console to view recorded files. If the storage time exceeds 6 months, you must go to OSS to get data.

2 Pure live audio and live video

Alibaba Cloud supports pure live audio and live video. You can push pure live audio streams or pure live video streams to Alibaba Cloud video center. You can also directly play pure live audio streams or pure live video streams.

- Streaming

  Audio and video streaming based on RTMP protocol are supported.

- Stream play

  - You can add parameters at the end of the address to separately play pure audio or pure video streams.

    ■ Play audio only: onlyaudio = 1

    ■ Play video only: onlyvideo = 1

  - Examples

    ■ RTMP format: rtmp://domain name/APPName/Streamname?onlyaudio=1

    ■ FLV format: http://domain name/APPName/Streamname.flv?onlyaudio=1

      > 📋 **Note:**
      > Only stream play addresses in FLV format and RTMP format are supported.

- Scenarios

  - Audio and video streaming

    rtmp://streaming domain name/APPName/Streamname?

  - Enter pure audio or video addresses, and you can play pure audio or video stream.

    ■ Play audio only: RTMP format: rtmp://stream play domain name/APPName/Streamname?onlyaudio=1

    ■ Play video only: FLV format: http://stream play domain name/APPName/Streamname.flv?onlyvideo=1

3 How to perform overseas live activities

Overseas live activities includes two types:

- Streamer is abroad or in Hong Kong, Macao or Taiwan, and audience is at home and abroad
- Streamer is at home, and audience is at home and abroad or in Hong Kong, Macao or Taiwan

We provide solutions in different scenarios.

Streamer is abroad or in Hong Kong, Macao or Taiwan, and audience is at home

Problems

The cross-border transmission is unstable, and the live video lagging rate is high.

Solution

ApsaraVideo Live provides premium streaming function, which uses stable leased line to transmits video streams to mainland China. You can use premium streaming function to solve the problems of unstable transmission and high video lagging rate. Perform the following steps to complete the procedure.

1. Add the domain name in **China (Shanghai)** region.

   > **Note:**
   >
   > Premium streaming service is provided only in **China (Shanghai)** region. Add your domain name in **China (Shanghai)** region.

2. In **Premium Streaming Acceleration Settings** , configure the premium streaming function. For more information, see Configure premium streaming .

Attentions

For videos played in mainland China, the domain name must perform ICP registration. For more information, see ICP Registration Support.

Streamer is abroad or in Hong Kong, Macao or Taiwan, and audience is abroad or in Hong Kong, Macao or Taiwan

Problems

- The audience are from a wide range, which the videos can not cover.

- The streamer is not in a specific location, and the network transmission is unstable, which leads to bad live video quality.

Solution

Currently, Alibaba Cloud has overseas centers in Germany, Singapore and Japan. We recommend that you select a live center near the streamer, and stream the video streams to the live center nearby.

1. Edge ingestion.

   Alibaba Cloud CDN nodes are distributed across main stream countries across the world. Edge ingestion service can push video streams to edge nodes closest to the streamer, and uses the network optimized by Alibaba Cloud to transmit the video streams to the live center. For more information, see Configure edge ingestion.

2. Real-time network monitoring.

   - To view the streaming status and the network condition of the streamer and ensure the stability of streams, you can log on to the ApsaraVideo Live console , and go to **Stream Management** > **Ingest Endpoints** > **Stream Monitoring** to ensure stability of streams. For more information, see View frame rate and bit rate.
   - You can also use API to get frame rate and bit rate. For more information, see DescribeLiveStreamsFrameRateAndBitRateData.

Attentions

Alibaba Cloud has rich CDN nodes at home and abroad, covering more than 70 countries and regions in 6 continents. All the main stream carriers support overseas watching. However, when adding a live domain name, you must select **Globe** or **Outside Mainland China**.

Streamer is at home, and audience is abroad or in Hong Kong, Macao or Taiwan

Problems

- How can I perform overseas acceleration for domestic videos?
- How can I ensure the important videos are transmitted to overseas quickly and stably?

Solution

1. When adding a domain name, select **Globe** or **Outside Mainland China**. For more information about adding a domain name, see Add a domain name.

2. To transmit video streams to the region where the video watching quality must be ensured, you can log on to the ApsaraVideo Live console.

3. Go to **Domains** > **Stream Settings** > **Premium Streaming** to enable the premium streaming function, and select Live Streaming in **Applies to**. For more information, see Configure premium streaming.

4 Live video security

4.1 Authentication code example

Overview

For more information about URL authentication rules, seeConfigure authentication.

Through this demo you can authenticate your URLs according to your needs. The following

Python demo contains A authentication.

Python

```python
import re
import time
import hashlib
import datetime
def md5sum(src):
    m = hashlib.md5()
    m.update(src)
    return m.hexdigest()
def a_auth(uri, key, exp):
    p = re.compile("^(rtmp://)?([^/?]+)(/[^?]*)?(\\?.*)?$")
    if not p:
        return None
    m = p.match(uri)
    scheme, host, path, args = m.groups()
    if not scheme: scheme = "rtmp://"
    if not path: path = "/"
    if not args: args = ""
    rand = "0"    # "0" by default, other value is ok
    uid = "0"     # "0" by default, other value is ok
    sstring = "%s-%s-%s-%s-%s" %(path, exp, rand, uid, key)
    hashvalue = md5sum(sstring)
    auth_key = "%s-%s-%s-%s" %(exp, rand, uid, hashvalue)
    if args:
        return "%s%s%s%s&auth_key=%s" %(scheme, host, path, args, auth_key)
    else:
        return "%s%s%s%s? auth_key=%s" %(scheme, host, path, args, auth_key)
def main():
    uri = "rtmp://video-center.alivecdn.com/test/test? vhost=xc.cdnpe.com"          #
original uri
    key = "<input private key>"                    # private key of    authorization
    exp = int(time.time()) + 1 * 3600           # expiration    time: 1 hour after current itme
    authuri = a_auth(uri, key, exp)              # auth type:
    print("URL : %s\nAUTH: %s" %(uri, authuri))
if __name__ == "__main__":
    main()
```