

User manual

(RTMP Server)

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Chapter 1 Introduction

Happytime rtmp server is a simple, lightweight, high-performance, and stable stream server.

It can be used to stream local media files, screenlive, camera, microphone, live video/audio content to adobe flash player clients over RTMP protocol.

It developed based on C/C++, the code is stable and reliable, cross-platform porting is simple and convenient, and the code is clear and concise. The server is written to be lightweight and easy to understand, while having good performance, very low latency, video opened immediately.

Happytime rtmp server supports linux, windows, macos, ios, android, embeded linux platforms, supports cross-compiler, can be easily ported to other platforms.

Chapter 2 Key features

RTMP live streaming

Support a variety of audio and video files

Support push video from camera and living screen

Support push audio from audio device

Support RTMP pusher

Support H264/AAC

Support transcoding with FFmpeg

Support RTSP stream to RTMP stream

Support RTSP/RTMP relay

Support for configuring audio and video output parameters

Small size, suitable for embedded development

Code structure clear, easy to use

Chapter 3 Configuration

3.1 Configuration Templates

```
<?xml version="1.0" encoding="utf-8"?>
<config>
  <serverip></serverip>
  <serverport>1935</serverport>
  <loop_nums>-1</loop_nums>
  <log_enable>1</log_enable>
  <log_level>1</log_level>

  <application>
    <name>myapp</name>

    <output>
      <url>screenlive</url>
      <video>
        <width></width>
        <height></height>
        <framerate></framerate>
        <bitrate></bitrate>
      </video>
      <audio>
        <samplerate>8000</samplerate>
        <channels>1</channels>
        <bitrate></bitrate>
      </audio>
    </output>

    <output>
      <url></url>
      <video>
        <width></width>
        <height></height>
        <framerate></framerate>
      </video>
      <audio>
```

```
        <amplerate></amplerate>
        <channels></channels>
    </audio>
</output>

<proxy>
    <suffix>proxy</suffix>
    <url></url>
    <user></user>
    <pass></pass>
    <output>
        <video>
            <width></width>
            <height></height>
            <framerate></framerate>
            <bitrate></bitrate>
        </video>
        <audio>
            <amplerate></amplerate>
            <channels></channels>
            <bitrate></bitrate>
        </audio>
    </output>
</proxy>

</application>
</config>
```

3.2 Configuring Node Description

3.2.1 System parameters

<serverip>

Specify the IP address RTMP server bindings, if not specified, the RTMP server will bind to the default routing interface IP address.

<serverport>

Specify the port RTMP server binding, the default is 1935.

<loop_nums>

When streaming video files, specify the number of loop playback,-1 means infinite loop.

<log_enable>

Whether enable the log function,0-disable,1-enable

<log_level>

The log level:

TRACE	0
DEBUG	1
INFO	2
WARN	3
ERROR	4
FATAL	5

3.2.2 *application node*

<application> : it can configure multiple nodes

<name>: Application Name

The rtmp stream address is rtmp://yourip:port/[application-name]/FILENAME

The [application-name] is name tag value.

3.2.2.1 *Output node*

<output> : Specify the audio and video output parameters, it can configure multiple nodes

<url>

Match URL address, it can be filename, or file extension name. Such as:

screenlive : match live screen stream

videodevice : match camera video stream

*.mp4 : match all mp4 media file

sample.flv : match sample.flv file

If not config this node, it will match all url as the audio/video default output parameters.

The match order from top to bottom, therefore the default output configuration should be placed in the last.

<video> : Specify the video output parameters

<width>

Specify the output video width, If 0 use the original video width (live screen

stream use the screen width, camera stream use the default width)

<height>

Specify the output video height, If 0 use the original video height (live screen stream use the screen height, camera stream use the default height)

<framerate>

Specify the output video framerate, If 0 use the original video framerate (live screen use the default value 15, camera stream use the default value 25)

<bitrate>

Specify the output video bit rate, if 0, automatically calculate the output bit rate, the unit is kb/s.

Note: This parameter is valid only if encoding is required (eg screenlive, videodevice) or if transcoding is required.

<audio> : Specify the audio output parameters

<samplerate>

Specify the audio sample rate, it can specify the following values:

8000, 11025, 12000, 16000, 22050, 24000, 32000, 44100, 48000

If 0 use the original audio sample rate (audio device stream use the default value 8000)

<channels>

Specify the audio channel number, 1 is mono, 2 is stereo

If 0 use the original audio channel number (audio device stream use the default value 2)

<bitrate>

Specify the output video bit rate, if 0, automatically calculate the output bit rate, the unit is kb/s.

Note: This parameter is valid only if encoding is required (eg screenlive, videodevice) or if transcoding is required.

3.2.2.2 Proxy node

<proxy> : Specify the rtmp proxy parameters, it can configure multiple nodes

<suffix>

Specify the rtmp stream suffix, you can play the proxy stream from:

rtmp://youip/[application-name]/suffix

<url>

The original rtsp/rtmp/http mjpeg stream address.

<user> <pass>

Specify the original rtsp/rtmp stream or http mjpeg stream address login user and

password information

<output>

Specify the stream output parameter. If the parameter does not appear, use the parameters of the original RTSP/RTMP/http mjpeg stream. If it appears and the configured parameters are inconsistent with the parameters of the original RTSP/RTMP/http mjpeg stream, then the transcode output is performed.

The child nodes under this node are consistent with the meaning of the <output> node.

Chapter 4 Run RTMP Server

The rtmp server is a console application.

Windows: to run the server, simply type "rtmpserver".

Linux: to run the rtmp server, type "./start.sh", on linux platform, rtmp server run as daemon by default.

Note : The demo version has the following limitations

Maximum support two simultaneous rtmp stream.

Only one rtsp/rtmp relay stream is supported.

Chapter 5 Multiple capture devices support

1. If your system have multiple audio capture device, you can use

`rtmp://yourip:port/[application-name]/audiodeviceN`, the *N* to specify the audio capture device index, start from 0, such as:

`rtmp://192.168.0.100/audiodevice` ; stream audio from the first audio device

`rtmp://192.168.0.100/audiodevice1` ; stream audio from the second audio device

2. If your system have multiple video capture device, you can use

`rtmp://yourip:port/[application-name]/videodeviceN`, the *N* to specify the video capture device index, start from 0, such as:

`rtmp://192.168.0.100/[application-name]/videodevice` ; stream video from the first video device

`rtmp://192.168.0.100/[application-name]/videodevice1` ; stream video from the second video device

3. If your system have multiple monitors, you can use

`rtmp://yourip:port/[application-name]/screenliveN`, the *N* to specify the monitor index, start from 0, such as:

`rtmp://192.168.0.100/[application-name]/screenlive` ; stream living screen from the first monitor

`rtmp://192.168.0.100/[application-name]/screenlive1` ; stream living screen the second monitor

Chapter 6 RTMP Pusher

The rtmp server supports RTMP pusher.

The format of the push stream as the following:

rtmp://ip:port/[app]/[stream]

[app] and [stream] can be any string, such as:

rtmp://192.168.1.100/myapp/mystream

rtmp://192.168.1.100/live/test