

# 10-SRS流媒体服务器-edge集群

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edge原理

概念

edge配置

edge源码分析

核心类

edge

推流

`SrsConfig::get_vhost_is_edge`

`SrsConfig::get_vhost_edge_origin`

`SrsEdgeRtmpUpstream::SrsEdgeRtmpUpstream`

`SrsEdgeRtmpUpstream::connect`

`SrsEdgeIngester::SrsEdgeIngester`

`SrsEdgeForwarder::proxy`

`SrsPublishEdge::SrsPublishEdge`

`SrsEdgeForwarder::SrsEdgeForwarder`

`SrsPlayEdge::SrsPlayEdge`

`SrsSource::on_publish`

拉流

`SrsSource::on_publish`

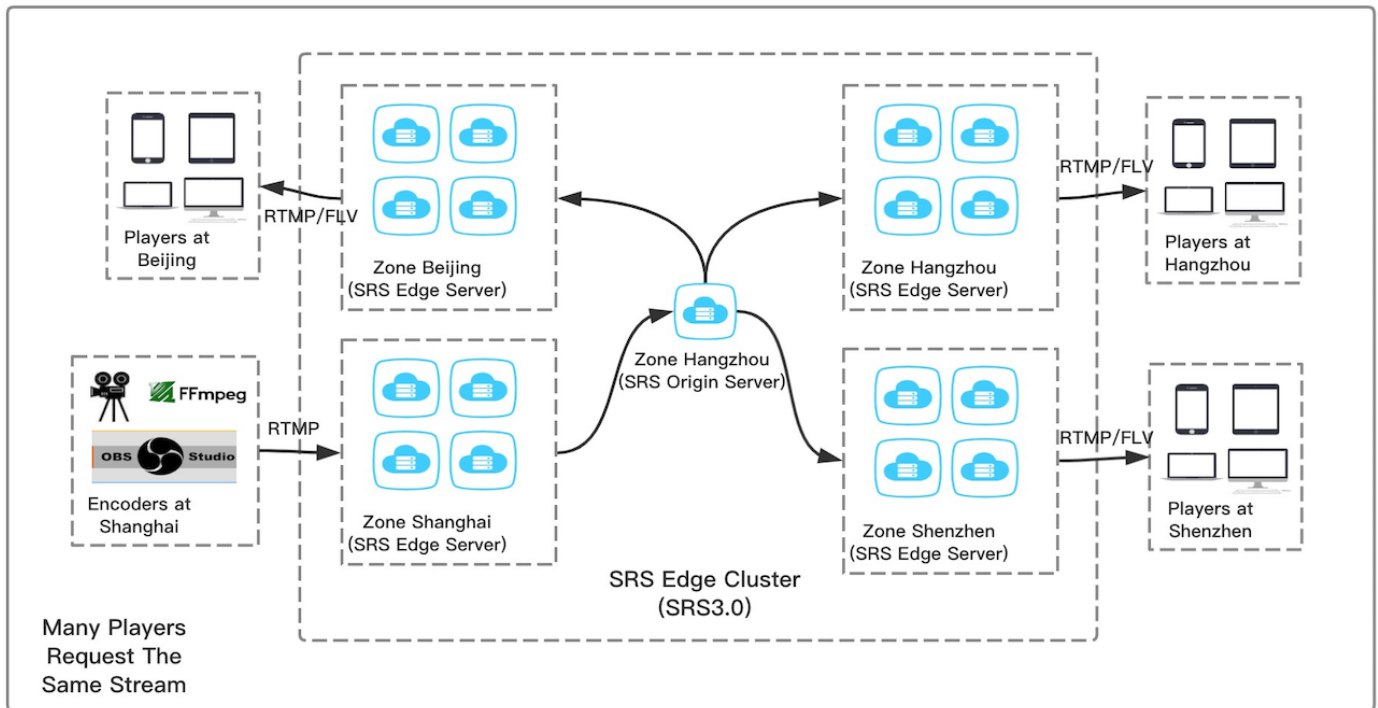
`SrsSource::on_audio`

问题

源站集群

## edge原理

SRS的Edge主要解决几条流有大量播放请求的场景，比如一个流有上万人观看。SRS的Edge能对接所有的标准RTMP源站服务器。



备注：Edge一般负载高，SRS支持的并发足够跑满千兆网带宽了。

Remark: SRS Edge does not support Transcoding, DVR and HLS, which is supported by SRS Origin Server.

Edge的主要应用场景：

- CDN/VDN大规模集群，客户众多流众多需要按需回源。
- 小规模集群，但是流比较多，需要按需回源。
- 骨干带宽低，边缘服务器强悍，可以使用多层edge，降低上层BGP带宽。

注意：edge可以从源站拉流，也可以将流转发给源站。也就是说，播放edge上的流时，edge会回源拉流；推流到edge上时，edge会直接将流转发给源站。

注意：若只需要中转流给源站，不必用forward，直接使用edge模式即可。可以直接支持推流和拉流的中转，简单快捷。Forward应用于目标服务器是多个，譬如将一路流主动送给多路服务器；edge虽然配置了多台服务器，但是只用了一台，有故障时才切换。

注意：优先使用edge，除非知道必须用forward，才使用forward。

## 概念

所谓边缘edge服务器，就是边缘直播缓存服务器，配置时指定为remote模式和origin（指定一个或多个源站IP），这个边缘edge服务器就是源站的缓存了。

当用户推流到边缘服务器时，边缘直接将流转发给源站。譬如源站在北京BGP机房，湖南有个电信ADSL用户要推流发布自己的直播流，要是直接推流到北京BGP可能效果不是很好，可以在湖南电信机房部署一个边缘，用户推流到湖南边缘，边缘转发给北京源站BGP。

当用户播放边缘服务器的流时，边缘服务器看有没有缓存，若缓存了就直接将流发给客户端。若没有缓存，则发起**一路回源链接**，从源站取数据源源不断放到自己的缓存队列。也就是说，多个客户端连接到边缘时，只有一路回源。这种结构在CDN是最典型的部署结构。譬如北京源站，在全国32个省每个省都部署了10台服务器，一共就有320台边缘，假设每个省1台边缘服务器都有2000用户观看，那么就有64万用户，每秒钟集群发送640Gbps数据；而回源链接只有320个，实现了大规模分发。

边缘edge服务器，实际上是解决大并发问题产生的分布式集群结构。**SRS的边缘可以指定多个源站，在源站出现故障时会自动切换到下一个源站，不影响用户观看，具有最佳的容错性，用户完全不会觉察。**

## edge配置

**第一步，编写SRS源站配置文件。**详细参考[RTMP分发](#)和[Edge](#)

将以下内容保存为文件，譬如 `conf/origin.conf`，服务器启动时指定该配置文件(srs的conf文件夹有该文件)。

```
# conf/origin.conf
listen          1935;
max_connections 1000;
pid             objs/origin.pid;
srs_log_file     ./objs/origin.log;
vhost __defaultVhost__ {
}
```

**第二步，编写SRS边缘配置文件。**详细参考[RTMP分发](#)和[Edge](#)

将以下内容保存为文件，譬如 `conf/edge.conf`，服务器启动时指定该配置文件(srs的conf文件夹有该文件)。

```
# conf/edge1.conf
listen          19350;
max_connections 1000;
pid             objs/edge1.pid;
srs_log_file     ./objs/edge1.log;
vhost __defaultVhost__ {
    cluster {
        mode      remote;
        origin     127.0.0.1:1935;
    }
}
```

```
# conf/edge2.conf
listen          19351;
max_connections 1000;
```

```

pid            objs/edge2.pid;
srs_log_file    ./objs/edge2.log;
vhost __defaultVhost__ {
    cluster {
        mode      remote;
        origin     127.0.0.1:1935;
    }
}

```

**第三步，启动SRS。**详细参考[RTMP分发](#)和[Edge](#)

```

./objs/srs -c conf/origin1.conf
./objs/srs -c conf/edge1.conf
./objs/srs -c conf/edge2.conf

```

**第四步，启动推流编码器。**详细参考[RTMP分发](#)和[Edge](#)

使用FFMPEG命令推流：

```

#!/bin/bash
for((;;)); do \
    ffmpeg -re -i ./doc/source.200kbps.768x320.flv \
        -vcodec copy -acodec copy \
        -f flv -y rtmp://111.229.231.225/live/livestream; \
    sleep 1; \
done

```

**第五步，观看RTMP流。**详细参考[RTMP分发](#)和[Edge](#)

源站RTMP流地址为： `rtmp://192.168.1.170:19350/live/livestream`，可以使用VLC观看。

或者使用在线SRS播放器播放： [srs-player-19350](#)

边缘RTMP流地址为： `rtmp://192.168.1.170/live/livestream`，可以使用VLC观看。或者使用

在线SRS播放器播放： [srs-player](#)

备注：请将所有实例的IP地址192.168.1.170都换成部署的服务器IP地址。

## edge源码分析

提出问题：

- 当像edge服务器推流时，edge向origin源站做了什么操作，怎么保证集群推流path的唯一性，特别是有2个origin时
- edge作为拉流端，需要从origin拉流时做了什么？

从配置文件入手

```
vhost __defaultVhost__ {
    cluster {
        mode          remote;
        origin         127.0.0.1:1935;
    }
}
```

## 核心类

SrsEdgeIngester 从源站拉流

SrsPublishEdge 推流到源站，实际是调用SrsEdgeForwarder来实现

SrsPlayEdge 从源站拉流

## edge

## 推流

### SrsConfig::get\_vhost\_is\_edge

```
#0 SrsConfig::get_vhost_is_edge (this=0xa0fcf0, vhost="__defaultVhost__")
    at src/app/srs_app_config.cpp:5063
#1 0x00000000004d4ac8 in SrsRtmpConn::stream_service_cycle (this=0xa2fc50)
    at src/app/srs_app_rtmp_conn.cpp:472
#2 0x00000000004d4141 in SrsRtmpConn::service_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:388
#3 0x00000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:209
#4 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at
src/app/srs_app_conn.cpp:171
#5 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at
src/app/srs_app_st.cpp:198
#6 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at
src/app/srs_app_st.cpp:213
#7 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#8 0x00000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
    joinable=1, stk_size=1) at sched.c:616
```

```
#0 SrsConfig::get_vhost_is_edge (this=0xa0fcf0, vhost=0xa10b50) at
src/app/srs_app_config.cpp:5069
#1 0x0000000000537edc in SrsConfig::get_vhost_is_edge (this=0xa0fcf0,
vhost="__defaultVhost__")
    at src/app/srs_app_config.cpp:5065
#2 0x00000000004d4ac8 in SrsRtmpConn::stream_service_cycle (this=0xa2fc50)
    at src/app/srs_app_rtmp_conn.cpp:472
#3 0x00000000004d4141 in SrsRtmpConn::service_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:388
#4 0x00000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:209
#5 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at
src/app/srs_app_conn.cpp:171
#6 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at
src/app/srs_app_st.cpp:198
#7 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at
src/app/srs_app_st.cpp:213
#8 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#9 0x00000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
    joinable=1, stk_size=1) at sched.c:616
```

## SrsConfig::get\_vhost\_edge\_origin

```
#0 SrsConfig::get_vhost_edge_origin (this=0xa0fcf0, vhost="__defaultVhost__")
    at src/app/srs_app_config.cpp:5091
#1 0x000000000057ab62 in SrsEdgeForwarder::start (this=0xa3b5d0) at
src/app/srs_app_edge.cpp:482
#2 0x000000000057c4b2 in SrsPublishEdge::on_client_publish (this=0xa3aa50) at
src/app/srs_app_edge.cpp:777
#3 0x00000000004e74a9 in SrsSource::on_edge_start_publish (this=0xa3af10)
    at src/app/srs_app_source.cpp:2592
#4 0x00000000004d8996 in SrsRtmpConn::acquire_publish (this=0xa2fc50, source=0xa3af10)
    at src/app/srs_app_rtmp_conn.cpp:936
#5 0x00000000004d7a74 in SrsRtmpConn::publishing (this=0xa2fc50, source=0xa3af10)
    at src/app/srs_app_rtmp_conn.cpp:822
#6 0x00000000004d5229 in SrsRtmpConn::stream_service_cycle (this=0xa2fc50)
    at src/app/srs_app_rtmp_conn.cpp:534
```

#7 0x00000000004d4141 in SrsRtmpConn::service\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:388  
#8 0x00000000004d2f09 in SrsRtmpConn::do\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:209  
#9 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at  
src/app/srs\_app\_conn.cpp:171  
#10 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at  
src/app/srs\_app\_st.cpp:198  
#11 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at  
src/app/srs\_app\_st.cpp:213  
#12 0x00000000005bdd9d in \_st\_thread\_main () at sched.c:337  
#13 0x00000000005be515 in st\_thread\_create (start=0x5bd719 <\_st\_vp\_schedule+170>,  
arg=0x700000001,  
joinable=1, stk\_size=1) at sched.c:616  
edge-fwr publish url rtmp://127.0.0.1:1935/live/livestream

## SrsEdgeRtmpUpstream::SrsEdgeRtmpUpstream

#0 SrsEdgeRtmpUpstream::SrsEdgeRtmpUpstream (this=0xa3b670,  
r="\220g\366\367\377\177", '\000' <repeats 11 times>,  
"\254\243\000\000\000\000\000\000\324\301\376\366\377\177\000\000\030\000\000\000\0  
00\000\000\000\000C\037\370龢  
U\240\260\243\000\000\000\000\000T~S\000\000\000\000\000\360g\366\367\377\177\0  
00\000E\276W\000\000\000\000\000\360g\366\367\377\177\000\000\360\256\243\000\  
000\000\000\000\360\256\243\000\000\000\000\000T~S\000\000\000\000\000  
h\366\367\377\177\000\000\275:N\000\000\000\000\000  
h\366\367\377\177\000\000\020\257\243\000\000\000\000\000\020\257\243\000\000\0  
00\000\000T~S\000\000\000\000\000\020i\366\367\377\177\000\000\353\063N\000\000  
\000\000\000hi\366\367\377\177\000\000\230\023\241\000\000\000\000\000@\230\243  
\000\000\000\000\000"...") at src/app/srs\_app\_edge.cpp:64  
#1 0x0000000000578d1b in SrsEdgeIngester::SrsEdgeIngester (this=0xa3b0a0) at  
src/app/srs\_app\_edge.cpp:172  
#2 0x000000000057be45 in SrsPlayEdge::SrsPlayEdge (this=0xa3aef0) at  
src/app/srs\_app\_edge.cpp:656  
#3 0x00000000004e3abd in SrsSource::SrsSource (this=0xa3af10) at  
src/app/srs\_app\_source.cpp:1830  
#4 0x00000000004e33eb in SrsSourceManager::fetch\_or\_create (this=0xa0ec20, r=0xa39840,  
h=0xa11398,  
pps=0x7ffff7f66968) at src/app/srs\_app\_source.cpp:1718  
#5 0x00000000004d4d5a in SrsRtmpConn::stream\_service\_cycle (this=0xa2fc50)  
at src/app/srs\_app\_rtmp\_conn.cpp:498

#6 0x00000000004d4141 in SrsRtmpConn::service\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:388  
#7 0x00000000004d2f09 in SrsRtmpConn::do\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:209  
#8 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at  
src/app/srs\_app\_conn.cpp:171  
#9 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at  
src/app/srs\_app\_st.cpp:198  
#10 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at  
src/app/srs\_app\_st.cpp:213  
#11 0x00000000005bdd9d in \_st\_thread\_main () at sched.c:337  
#12 0x00000000005be515 in st\_thread\_create (start=0x5bd719 <\_st\_vp\_schedule+170>,  
arg=0x700000001,  
joinable=1, stk\_size=1) at sched.c:616

## **SrsEdgeRtmpUpstream::connect**

### **SrsEdgeIngester::SrsEdgeIngester**

#0 SrsEdgeIngester::SrsEdgeIngester (this=0xa3b0a0) at src/app/srs\_app\_edge.cpp:166  
#1 0x000000000057be45 in SrsPlayEdge::SrsPlayEdge (this=0xa3aef0) at  
src/app/srs\_app\_edge.cpp:656  
#2 0x00000000004e3abd in SrsSource::SrsSource (this=0xa3af10) at  
src/app/srs\_app\_source.cpp:1830  
#3 0x00000000004e33eb in SrsSourceManager::fetch\_or\_create (this=0xa0ec20, r=0xa39840,  
h=0xa11398,  
pps=0x7ffff7f66968) at src/app/srs\_app\_source.cpp:1718  
#4 0x00000000004d4d5a in SrsRtmpConn::stream\_service\_cycle (this=0xa2fc50)  
at src/app/srs\_app\_rtmp\_conn.cpp:498  
#5 0x00000000004d4141 in SrsRtmpConn::service\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:388  
#6 0x00000000004d2f09 in SrsRtmpConn::do\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:209  
#7 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at  
src/app/srs\_app\_conn.cpp:171  
#8 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at  
src/app/srs\_app\_st.cpp:198  
#9 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at  
src/app/srs\_app\_st.cpp:213



```
#10 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#11 0x00000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
joinable=1, stk_size=1) at sched.c:616
```

## SrsEdgeForwarder::proxy

推流的时候，对于边缘节点在收到数据的时候是从SrsPublishRecvThread 发给了SrsEdgeForwarder 的 queue，然后SrsEdgeForwarder在do\_cycle里将数据读取出来并推送给源站。

```
#0 SrsEdgeForwarder::proxy (this=0xa3b5b0, msg=0xb10ab0) at
src/app/srs_app_edge.cpp:624
#1 0x000000000057c5ee in SrsPublishEdge::on_proxy_publish (this=0xa3aa30,
msg=0xb10ab0)
at src/app/srs_app_edge.cpp:792
#2 0x00000000004e74e2 in SrsSource::on_edge_proxy_publish (this=0xa3aef0,
msg=0xb10ab0)
at src/app/srs_app_source.cpp:2598
#3 0x00000000004d8ea9 in SrsRtmpConn::process_publish_message (this=0xa3ba50,
source=0xa3aef0,
msg=0xb10ab0) at src/app/srs_app_rtmp_conn.cpp:1006
#4 0x00000000004d8dce in SrsRtmpConn::handle_publish_message (this=0xa3ba50,
source=0xa3aef0, msg=0xb10ab0)
at src/app/srs_app_rtmp_conn.cpp:993
#5 0x00000000005810b6 in SrsPublishRecvThread::consume (this=0x7ffff7f66800,
msg=0xb10ab0)
at src/app/srs_app_recv_thread.cpp:389
#6 0x000000000057fbd4 in SrsRecvThread::do_cycle (this=0x7ffff7f66808)
at src/app/srs_app_recv_thread.cpp:146
#7 0x000000000057fa25 in SrsRecvThread::cycle (this=0x7ffff7f66808) at
src/app/srs_app_recv_thread.cpp:115
#8 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa46540) at
src/app/srs_app_st.cpp:198
#9 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa46540) at
src/app/srs_app_st.cpp:213
#10 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#11 0x00000000005be515 in st_thread_create (start=0xa47720, arg=0x7ffff7f66530,
joinable=32767,
stk_size=-134847200) at sched.c:616
```

## SrsPublishEdge::SrsPublishEdge

```
#0 SrsPublishEdge::SrsPublishEdge (this=0xa3aa50) at src/app/srs_app_edge.cpp:726
#1 0x00000000004e3ada in SrsSource::SrsSource (this=0xa3af10) at
src/app/srs_app_source.cpp:1831
#2 0x00000000004e33eb in SrsSourceManager::fetch_or_create (this=0xa0ec20, r=0xa39840,
h=0xa11398,
    pps=0x7ffff7f66968) at src/app/srs_app_source.cpp:1718
#3 0x00000000004d4d5a in SrsRtmpConn::stream_service_cycle (this=0xa2fc50)
    at src/app/srs_app_rtmp_conn.cpp:498
#4 0x00000000004d4141 in SrsRtmpConn::service_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:388
#5 0x00000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:209
#6 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at
src/app/srs_app_conn.cpp:171
#7 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at
src/app/srs_app_st.cpp:198
#8 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at
src/app/srs_app_st.cpp:213
#9 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#10 0x00000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
    joinable=1, stk_size=1) at sched.c:616
```

## SrsEdgeForwarder::SrsEdgeForwarder

```
#0 SrsEdgeForwarder::SrsEdgeForwarder (this=0xa3b5d0) at src/app/srs_app_edge.cpp:438
#1 0x000000000057c223 in SrsPublishEdge::SrsPublishEdge (this=0xa3aa50) at
src/app/srs_app_edge.cpp:729
#2 0x00000000004e3ada in SrsSource::SrsSource (this=0xa3af10) at
src/app/srs_app_source.cpp:1831
#3 0x00000000004e33eb in SrsSourceManager::fetch_or_create (this=0xa0ec20, r=0xa39840,
h=0xa11398,
    pps=0x7ffff7f66968) at src/app/srs_app_source.cpp:1718
#4 0x00000000004d4d5a in SrsRtmpConn::stream_service_cycle (this=0xa2fc50)
    at src/app/srs_app_rtmp_conn.cpp:498
#5 0x00000000004d4141 in SrsRtmpConn::service_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:388
#6 0x00000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa2fc50) at
src/app/srs_app_rtmp_conn.cpp:209
```

#7 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at  
src/app/srs\_app\_conn.cpp:171  
#8 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at  
src/app/srs\_app\_st.cpp:198  
#9 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at  
src/app/srs\_app\_st.cpp:213

## SrsPlayEdge::SrsPlayEdge

#0 SrsPlayEdge::SrsPlayEdge (this=0xa3aef0) at src/app/srs\_app\_edge.cpp:653  
#1 0x00000000004e3abd in SrsSource::SrsSource (this=0xa3af10) at  
src/app/srs\_app\_source.cpp:1830  
#2 0x00000000004e33eb in SrsSourceManager::fetch\_or\_create (this=0xa0ec20, r=0xa39840,  
h=0xa11398,  
pps=0x7ffff7f66968) at src/app/srs\_app\_source.cpp:1718  
#3 0x00000000004d4d5a in SrsRtmpConn::stream\_service\_cycle (this=0xa2fc50)  
at src/app/srs\_app\_rtmp\_conn.cpp:498  
#4 0x00000000004d4141 in SrsRtmpConn::service\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:388  
#5 0x00000000004d2f09 in SrsRtmpConn::do\_cycle (this=0xa2fc50) at  
src/app/srs\_app\_rtmp\_conn.cpp:209  
#6 0x00000000004d10fb in SrsConnection::cycle (this=0xa2fcc8) at  
src/app/srs\_app\_conn.cpp:171  
#7 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa2ff00) at  
src/app/srs\_app\_st.cpp:198  
#8 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa2ff00) at  
src/app/srs\_app\_st.cpp:213  
#9 0x00000000005bdd9d in \_st\_thread\_main () at sched.c:337  
#10 0x00000000005be515 in st\_thread\_create (start=0x5bd719 <\_st\_vp\_schedule+170>,  
arg=0x700000001,  
joinable=1, stk\_size=1) at sched.c:616

## SrsSource::on\_publish

推流的时候并没有响应，要来拉流了才响应

#0 SrsSource::on\_publish (this=0xa3af10) at src/app/srs\_app\_source.cpp:2435  
#1 0x0000000000578fec in SrsEdgeIngester::start (this=0xa3b0a0) at  
src/app/srs\_app\_edge.cpp:199  
#2 0x000000000057bfda in SrsPlayEdge::on\_client\_play (this=0xa3aef0) at  
src/app/srs\_app\_edge.cpp:682  
#3 0x00000000004e727b in **SrsSource::create\_consumer** (this=0xa3af10, conn=0xa44a18,

```

    consumer=@0x7ffff7f87528: 0xadfb90, ds=true, dm=true, dg=true) at
src/app/srs_app_source.cpp:2558
#4 0x00000000004d6551 in SrsRtmpConn::playing (this=0xa449a0, source=0xa3af10)
    at src/app/srs_app_rtmp_conn.cpp:649
#5 0x00000000004d515c in SrsRtmpConn::stream_service_cycle (this=0xa449a0)
    at src/app/srs_app_rtmp_conn.cpp:524
#6 0x00000000004d4141 in SrsRtmpConn::service_cycle (this=0xa449a0) at
src/app/srs_app_rtmp_conn.cpp:388
#7 0x00000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa449a0) at
src/app/srs_app_rtmp_conn.cpp:209
#8 0x00000000004d10fb in SrsConnection::cycle (this=0xa44a18) at
src/app/srs_app_conn.cpp:171
#9 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa44a90) at
src/app/srs_app_st.cpp:198
#10 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa44a90) at
src/app/srs_app_st.cpp:213
#11 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#12 0x00000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
    joinable=1, stk_size=1) at sched.c:616

#0 SrsConfig::get_vhost_edge_origin (this=0xa0fcf0, vhost="__defaultVhost__")
    at src/app/srs_app_config.cpp:5091
#1 0x00000000005780ca in SrsEdgeRtmpUpstream::connect (this=0xa3b670, r=0xa39e20,
lb=0xa3b060)
    at src/app/srs_app_edge.cpp:83
#2 0x0000000000579636 in SrsEdgeIngester::do_cycle (this=0xa3b0a0) at
src/app/srs_app_edge.cpp:271
#3 0x000000000057931d in SrsEdgeIngester::cycle (this=0xa3b0a0) at
src/app/srs_app_edge.cpp:243
#4 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xae16d0) at
src/app/srs_app_st.cpp:198
#5 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xae16d0) at
src/app/srs_app_st.cpp:213
#6 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#7 0x00000000005be515 in st_thread_create (start=0x4dd509 <SrsConsumer::wait(int,
long)+195>,
arg=0x7ffff7f87370, joinable=0, stk_size=11400208) at sched.c:616
#8 0x0000000000000000 in ?? ()

```

# 拉流

```
#0 SrsConfig::get_vhost_is_edge (this=0xa0fcf0, vhost=0xa10b50) at
src/app/srs_app_config.cpp:5069
#1 0x0000000000537edc in SrsConfig::get_vhost_is_edge (this=0xa0fcf0,
vhost="__defaultVhost__")
    at src/app/srs_app_config.cpp:5065
#2 0x00000000004e724a in SrsSource::create_consumer (this=0xa3af10, conn=0xa46758,
    consumer=@0x7ffff7eee528: 0xa55d30, ds=true, dm=true, dg=true) at
src/app/srs_app_source.cpp:2556
#3 0x00000000004d6551 in SrsRtmpConn::playing (this=0xa466e0, source=0xa3af10)
    at src/app/srs_app_rtmp_conn.cpp:649
#4 0x00000000004d515c in SrsRtmpConn::stream_service_cycle (this=0xa466e0)
    at src/app/srs_app_rtmp_conn.cpp:524
#5 0x00000000004d4141 in SrsRtmpConn::service_cycle (this=0xa466e0) at
src/app/srs_app_rtmp_conn.cpp:388
#6 0x00000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa466e0) at
src/app/srs_app_rtmp_conn.cpp:209
#7 0x00000000004d10fb in SrsConnection::cycle (this=0xa46758) at
src/app/srs_app_conn.cpp:171
#8 0x0000000000509c88 in SrsSTCoroutine::cycle (this=0xa48660) at
src/app/srs_app_st.cpp:198
#9 0x0000000000509cfd in SrsSTCoroutine::pfn (arg=0xa48660) at
src/app/srs_app_st.cpp:213
#10 0x00000000005bdd9d in _st_thread_main () at sched.c:337
#11 0x00000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
    joinable=1, stk_size=1) at sched.c:616
```

## SrsSource::on\_publish

```
#0 SrsSource::on_publish (this=0xa3af10) at src/app/srs_app_source.cpp:2435
#1 0x0000000000578fec in SrsEdgeIngestor::start (this=0xa3b0a0) at
src/app/srs_app_edge.cpp:199
#2 0x000000000057bfda in SrsPlayEdge::on_client_play (this=0xa3aef0) at
src/app/srs_app_edge.cpp:682
#3 0x00000000004e727b in SrsSource::create_consumer (this=0xa3af10, conn=0xa46758,
    consumer=@0x7ffff7eee528: 0xa55d30, ds=true, dm=true, dg=true) at
src/app/srs_app_source.cpp:2558
#4 0x00000000004d6551 in SrsRtmpConn::playing (this=0xa466e0, source=0xa3af10)
```

```
at src/app/srs_app_rtmp_conn.cpp:649
#5 0x000000000004d515c in SrsRtmpConn::stream_service_cycle (this=0xa466e0)
    at src/app/srs_app_rtmp_conn.cpp:524
#6 0x000000000004d4141 in SrsRtmpConn::service_cycle (this=0xa466e0) at
src/app/srs_app_rtmp_conn.cpp:388
#7 0x000000000004d2f09 in SrsRtmpConn::do_cycle (this=0xa466e0) at
src/app/srs_app_rtmp_conn.cpp:209
#8 0x000000000004d10fb in SrsConnection::cycle (this=0xa46758) at
src/app/srs_app_conn.cpp:171
#9 0x00000000000509c88 in SrsSTCoroutine::cycle (this=0xa48660) at
src/app/srs_app_st.cpp:198
#10 0x00000000000509cfd in SrsSTCoroutine::pfn (arg=0xa48660) at
src/app/srs_app_st.cpp:213
#11 0x000000000005bdd9d in _st_thread_main () at sched.c:337
#12 0x000000000005be515 in st_thread_create (start=0x5bd719 <_st_vp_schedule+170>,
arg=0x700000001,
    joinable=1, stk_size=1) at sched.c:616
```

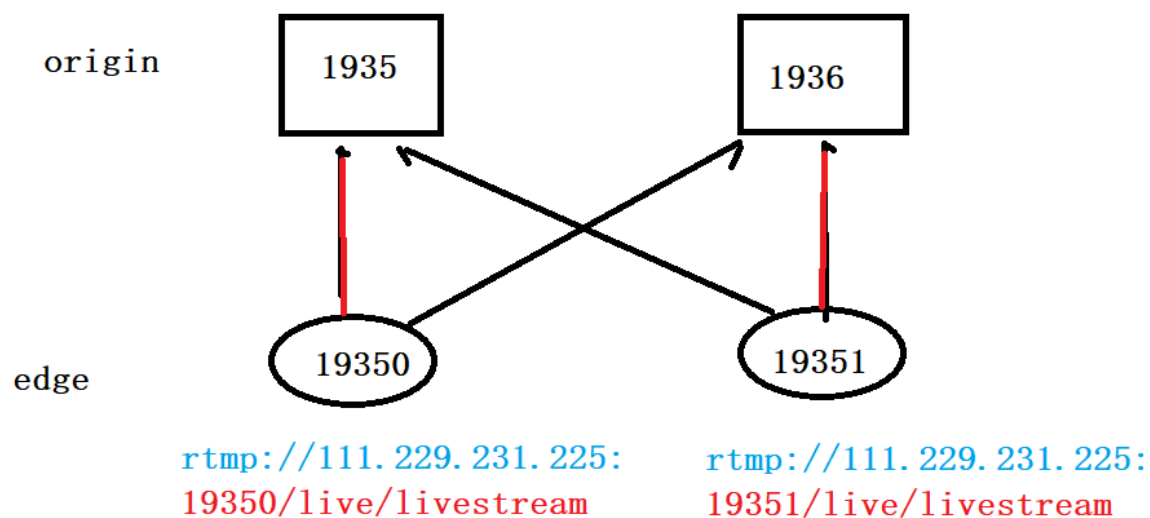
## SrsSource::on\_audio

```
#0 SrsSource::on_audio (this=0xa3aef0, shared_audio=0xa39930) at
src/app/srs_app_source.cpp:2120
#1 0x00000000000579d90 in SrsEdgeIngester::process_publish_message (this=0xa3b080,
msg=0xa39930,
    redirect="") at src/app/srs_app_edge.cpp:353
#2 0x00000000000579c4c in SrsEdgeIngester::ingest (this=0xa3b080, redirect="")
    at src/app/srs_app_edge.cpp:339
#3 0x00000000000579742 in SrsEdgeIngester::do_cycle (this=0xa3b080) at
src/app/srs_app_edge.cpp:282
#4 0x0000000000057931d in SrsEdgeIngester::cycle (this=0xa3b080) at
src/app/srs_app_edge.cpp:243
#5 0x00000000000509c88 in SrsSTCoroutine::cycle (this=0xab72f0) at
src/app/srs_app_st.cpp:198
#6 0x00000000000509cfd in SrsSTCoroutine::pfn (arg=0xab72f0) at
src/app/srs_app_st.cpp:213
#7 0x000000000005bdd9d in _st_thread_main () at sched.c:337
```

## 问题

如何保证源的唯一性，比如有2个origin，2个edge的时候。

对于SRS而言，有2个origin源站时，如果同一个url但是由不同的edge接入，进入不同的origin，此时并不能保证源的唯一性。



此时1935和1936都有同样的/live/livestream

## 源站集群

[https://github.com/ossrs/srs/wiki/v3\\_CN-OriginCluster](https://github.com/ossrs/srs/wiki/v3_CN-OriginCluster)

<https://github.com/ossrs/srs/issues/464>