编译安装

1. 编译过程

```
make && make master
```

2. 生成安装包（rpm包）

```
./rpm.sh 1.0.1 pms
```

rpm安装包在目录`rpmbuild/RPMS`，将rpm包copy到目标机器

3. 安装rpm包

```
rpm -ivh xxx.rpm --replacefiles
```

配置文件路径：`/usr/local/pms/conf/pms.conf`

4. 操作

4.1 开启服务

```
systemctl start pms
```

4.2 关闭服务

```
systemctl stop pms
```

5. 修改配置

```
{
    "log": {
        "file": "./logs/pms.log",
        "workerLevel": "debug",
        "fileLevel": "debug",
        "consolLevel": "debug",
        "workerTags": ["info", "ice", "dtls", "rtp", "srtp", "rtcp", "rtx",
"bwe", "score", "simulcast", "svc", "sctp", "message"]
```

```
    },

    "websocket": {
        "port": 8889,
        "ssl": true,
        "keyFile": "./certs/privkey.pem",
        "certFile": "./certs/full_chain.pem",
        "passPhrase": "",
        "location": "/"
    },

    "master": {
        "numOfWorkerProcess": 0,
        "execPath": "./",
        "workerName": "mediasoup-worker",
        "unixSocketPath": "./logs/pms"
    },

    "webrtc": {
        "listenIp": "172.17.0.17",
        "announcedIp": "122.51.177.240",
        "minPort": 20000,
        "maxPort": 30000,
        "dtlsCertificateFile": "./certs/full_chain.pem",
        "dtlsPrivateKeyFile": "./certs/privkey.pem"
    },

    "rtsp": {
        "port": 8554,
        "listenIp": "0.0.0.0"
    },

    "record": {
        "targetHost": "127.0.0.1",
        "targetPort": 8554,
        "recordPath": "./record/",
        "execRecordDone": "",
        "cmdPort": 8888
    },

    "pull":
        [
            {"ip": "xxx", "port": 8554},
            {"ip": "xxx", "port": 8554}
        ]
}
```

主要配置项：

- los
    - file：日志文件路径

    - workerLevel：子进程的日志等级，如"debug"/"warn"/"error"
    - fileLevel：输出到文件的日志等级，如"debug"/"info"/"warn"/"error"
    - consolLevel：输出到控制台的日志等级，如"debug"/"info"/"warn"/"error"
    - workerTags：子进程的日志标记，如果["info", "ice", "dtls", "rtp", "srtp", "rtcp", "rtx", "bwe", "score", "simulcast", "svc", "sctp", "message"]

- websocket

    - port：wss端口
    - ssl：是否使用ssl
    - keyFile：证书私钥文件
    - cerFile：证书文件
    - passPhrase：证书认证密码
    - location：wss的uri路径

- master

    - numOfWorkerProcess：子进程个数，如果为0则与CPU核数量一致
    - execPath：指定运行目录
    - workerName：子进程文件名
    - unixSocketPath：目前已经弃用该配置

- webrtc

    - listenIp：监听网卡的ip
    - announcedIp：对外服务的公网ip
    - minPort：udp端口范围的最小值
    - maxPort：udp端口范围的最大值
    - dtlsCertificateFile: 证书文件
    - dtlsPrivateKeyFile：证书私钥

- rtsp

    - port：rtsp服务器端口
    - listenIp：监听IP

- record

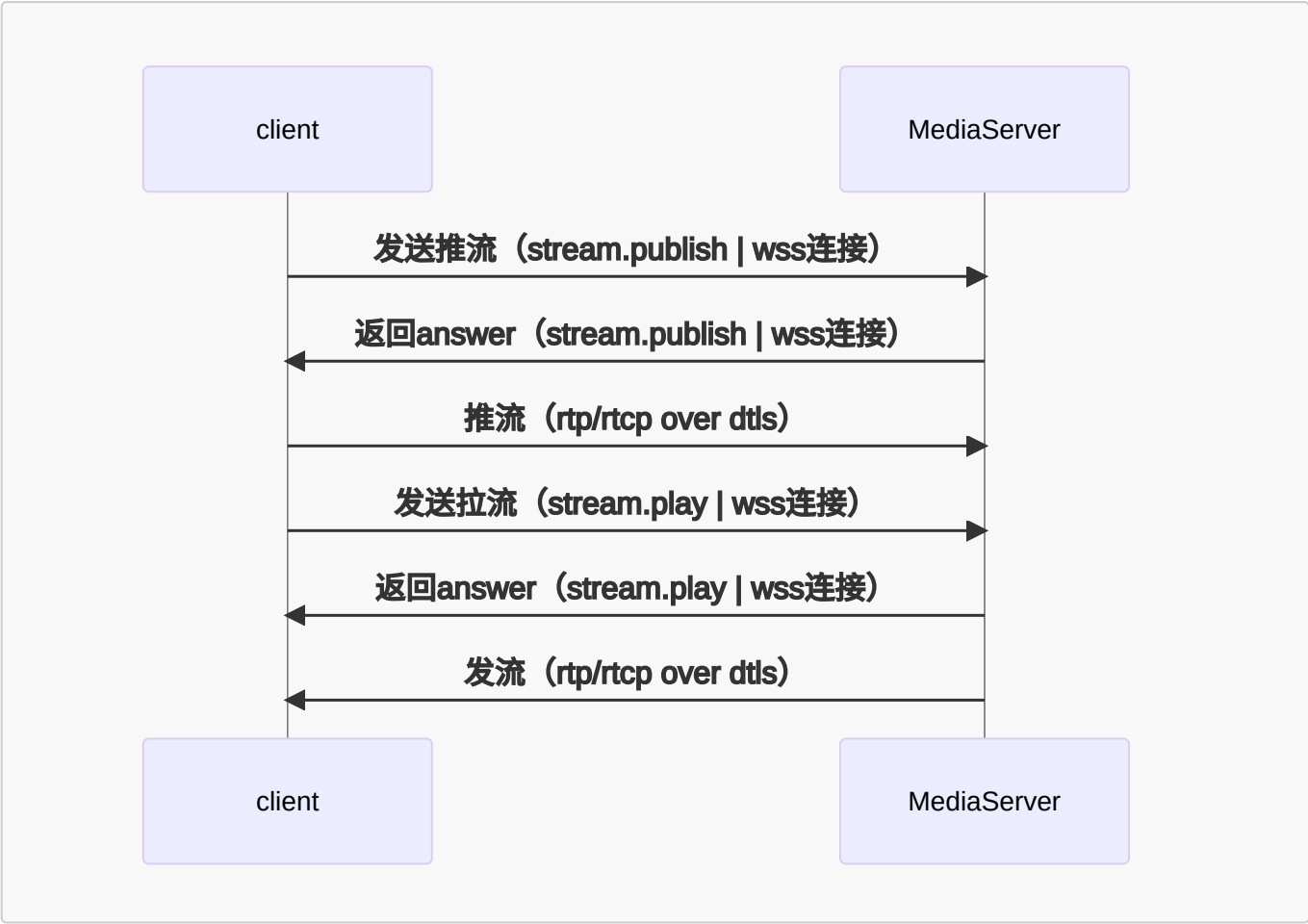
    - targetHost: 需要被录制的服务器ip，如果想对本服务器录制 则设置为：127.0.0.1
    - targetPort: 需要被录制的服务器rtsp端口
    - recordPath: 录制文件存储目录
    - execRecordDone: 录制文件生成后如果还需要做后续的处理则在此处填写shell命令
    - cmdPort: 录制控制端口

- pull

    - ip: 需要互联的sfu ip
    - port: 需要互联的sfu port

信令部分

1. 客户端与服务器交互流程



2. 客户端与媒体服务器的信令交互文档

2.1 说明

- 当前媒体服务器与客户端之间的信令为四个：stream.publish、stream.play、stream.mute、stream.close。

2.2 公共头部分

主动发起端信令的公共头部分

Key	ValType	Value	Explain
version	string	1.0	协议版本，1.0
method	string	stream.publish、stream.play、stream.mute、stream.close	信令类型，目前有4种
stream	string	流名	发布流的ID

示例：主动发起端公共头部分

```
{
    "version": "1.0",
    "method": "xxx",
    "stream": "xxx"
}
```

对端回复信令的公共头部分

Key	ValType	Value	Explain
version	string	1.0	协议版本，1.0
err	int	0 或者 非0	0 成功，非0失败
err_msg	string	任意字符串	对err的文字描述内容
method	string	ack	回复信令 必须是 ack

示例：对端回复信令的公共头部分

```
{
    "version": "1.0",
    "err": 0,
    "err_msg": "success",
    "method": "xxx",
}
```

2.3 stream.publish （客户端发送SDP）

2.3.1 客户端请求

stream.publish 关键参数

Key	ValType	Explain
sdp	string	sdp内容

stream.publish 示例

```
{
    "version": "1.0",
    "method": "stream.publish",
    "stream": "xxx",
    "data": {
        "sdp": "xxx"
    }
}
```

2.3.2 服务器响应（服务器发送SDP）

answer 关键参数

Key	ValType	Explain
sdp	string	sdp内容

answer 示例

```
{
    "version": "1.0",
    "err": 0,
    "err_msg": "success",
    "method": "stream.publish",
    "data": {
        "sdp": "xxx"
    }
}
```

2.4 stream.play （客户端发送SDP）

2.4.1 客户端请求

stream.play 关键参数

Key	ValType	Explain
sdp	string	sdp内容

stream.play 示例

```
{
    "version": "1.0",
    "method": "stream.play",
    "stream": "xxx",
    "data": {
        "sdp": "xxx"
    }
}
```

2.4.2 服务器响应（服务器发送SDP）

answer 关键参数

Key	ValType	Explain

Key	ValType	Explain
sdp	string	sdp内容

answer 示例

```
{
    "version": "1.0",
    "err": 0,
    "err_msg": "success",
    "method": "stream.play",
    "data": {
        "sdp": "xxx"
    }
}
```

2.5 stream.mute （屏蔽视频或音频）

2.5.1 客户端请求

mute 关键参数

Key	ValType	Explain	Required
video	bool	false: 不屏蔽，true: 屏蔽	可选
audio	bool	false: 不屏蔽，true: 屏蔽	可选

mute 示例

```
{
    "version": "1.0",
    "method": "stream.mute",
    "stream": "xxx",
    "data": {
        "video": false,
        "audio": false
    }
}
```

2.5.3 服务器响应

mute 关键参数

Key	ValType	Explain	Required
video	bool	false: 当前不屏蔽，true: 当前已屏蔽	必选

Key	ValType	Explain	Required
audio	bool	false: 当前不屏蔽，true: 当前已屏蔽	必选

mute 回复示例

```
{
    "version": "1.0",
    "err": 0,
    "err_msg": "succeed",
    "method": "stream.mute",
    "data": {
        "video": false,
        "audio": false
    }
}
```

2.6 stream.close（关闭流请求）

2.6.1 客户端请求

关键参数：客户端发起 close

无私有参数

Key	ValType	Explain

示例：发起 close

```
{
    "version": "1.0",
    "method": "stream.close",
    "stream": "xxxxx",
    "data": { }
}
```

2.6.2 服务器响应

示例：回复 close

```
{
    "version": "1.0",
    "err": 0,
    "err_msg": "succeed",
```

```
    "method": "stream.close",
    "data":{ }
}
```

2.7 stream.heartbeat 心跳

2.7.1 请求

```
{
    "version": "1.0",
    "method": "stream.heartbeat",
    "stream": "xxx",
    "data": { }
}
```

2.7.1 返回

```
{
    "version": "1.0",
    "err": 0,
    "err_msg": "succeed",
    "method": "stream.heartbeat",
    "data":{ }
}
```

3. 录制

开始录制

```
{
    "stream": "123456",
    "method":"record.start",
    "data": {
        "fileName": "123456-20201123-231523.webm"
    }
}
```

停止录制

```
{
    "stream": "123456",
```

```
    "method":"record.stop",
    "data": {}
}
```