Install Turnserver In Ubuntu

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准备

- **OS**: Ubuntu 18.04.2 LTS
- **Coturn**: turnserver-3.2.3.95

安装

1. 安装环境依赖`OpenSSL`, `Libevent`

```
$ sudo apt install openssl openssl-devel openssl-libs libevent libevent-devel
    ...
```

2. 编译 & 安装

```
$ cd turnserver-3.2.3.95/
$ ./configure
    ...
$ sudo make && sudo make install
    ...
```

配置

1. 查看可用网卡信息

- **Wireless interface**: `wlp0s20f3`
- **Ethernet interface**: `enp0s20f0u3c4i2`

```
$ sudo lshw -C network
  *-network
       description: Wireless interface
       ...
       physical id: 14.3
       bus info: pci@0000:00:14.3
       logical name: wlp0s20f3
       version: 30
       serial: 98:2c:bc:9e:09:0d
       ...
       resources: irq:16 memory:a4118000-a411bfff
  *-network
       description: Ethernet interface
       physical id: 3
       bus info: usb@1:3
       logical name: enp0s20f0u3c4i2
       serial: c6:61:8b:1c:e7:28
       ...
```

2. 查看ip地址(局域网)

- **ipv4**: `192.168.22.72`

```
$ ifconfig -a
    ...
wlp0s20f3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.22.72  netmask 255.255.248.0  broadcast 192.168.23.255
        inet6 fe80::c95f:a5b3:440b:3329  prefixlen 64  scopeid 0x20<link>
        ether 98:2c:bc:9e:09:0d  txqueuelen 1000  (Ethernet)
        RX packets 359726  bytes 51802683 (51.8 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 39533  bytes 14171580 (14.1 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

3. 新建目录 & 拷贝默认配置文件

```
$ sudo mkdir /etc/turnserver/
$ cd turnserver-3.2.3.95/examples/etc/
$ ls
turn_client_cert.pem  turn_client_pkey.pem  turn_server_cert.pem  turnserver.conf  turn_server_pkey.pem  turnuserdb.conf
$ sudo cp turnserver.conf /etc/turnserver/
$ sudo cp turn_server_*.pem  /etc/turnserver/
```

4. 生成coturn用户

```
$ sudo turnadmin -a -u 用户名 -p 密码 -r 域名
```

5. 查看用户名 & 域名

```
$ turnadmin -l
    ...
```

6. 编辑配置文件

```
$ cd /etc/turnserver/
$ mv turnserver.conf turnserver.conf.bak                # 备份
$ vim turnserver.conf
```

```
# 本地监听的网卡设备，根据实际情况填写
listening-device=wlp0s20f3
listening-port=3478
# 本地用于转发的网卡设备，根据实际情况填写
relay-device=wlp0s20f3
# 指定的转发端口的分配范围，测试时，可以将防火墙全部关闭，防止 UDP 端口被屏蔽
min-port=3480
max-port=3500
# 日志输出级别，turnserver 启动时加上 -v,可以得到更清晰的日志输出
Verbose
# 消息验证，WebRTC 的消息里会用到
fingerprint
# webrtc 通过 turn 中继，必须使用长验证方式
lt-cred-mech
# ICE REST API 认证需要
use-auth-secret
# REST API 加密所需的 KEY
# 使用“静态”的 KEY
static-auth-secret=4080218913
# 用户登录域，下面的写法可以不改变它，因为再启动 turnserver 时，可以通过指定参数覆盖它
realm=dry.com
# 可为 TURN 服务提供更安全的访问
stale-nonce
# SSL 需要用到的，生成命令:
# sudo openssl req -x509 -newkey rsa:2048 -keyout /etc/turn_server_pkey.pem -out /etc/turn_server_cert.pem -days 99999 -nodes
# 秘钥文件
cert=/etc/turnserver/turn_server_cert.pem
pkey=/etc/turnserver/turn_server_pkey.pem
# 屏蔽 loopback, multicast IP地址的 relay
no-loopback-peers
no-multicast-peers
# 启用 Mobility ICE 支持
mobility
# 禁用本地 telnet cli 管理接口
no-cli
```

运行

命令

```
$ service coturn start          # 后台运行
$ turnserver                    # 前台运行（测试阶段推荐）
```

参数

- **-v** 指定日志级别输出
- **-L** 指定网卡ip地址
- **-a** 指定使用长期凭证机制
- **-f** 指定**turn**消息使用**fingerprint**
- **-r** 指定使用的域名
- **-c** 指定配置文件路径

1. 运行

```
$ sudo turnserver -v -L 192.168.22.72  -a -f -r 192.168.22.72 -c /etc/turnserver/turnserver.conf
    ...
0: turn server id=7 created
0: IPv4. TCP/TLS listener opened on : 192.168.22.72:3478
0: IPv4. UDP/DTLS listener opened on: 192.168.22.72:3478
0: IPv4. TCP/TLS listener opened on : 192.168.22.72:5349
0: IPv4. UDP/DTLS listener opened on: 192.168.22.72:5349
0: IO method (auth thread): epoll (with changelist)
0: IO method (cli thread): epoll (with changelist)
0: IPv4. CLI listener opened on : 127.0.0.1:5766
12: IPv4. tcp or tls connected to: 192.168.22.72:34042
```

2. 验证监听

```
$ sudo lsof -n -i4TCP:3478 | grep LISTEN
turnserve 21286 root   12u  IPv4 449991      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   18u  IPv4 447220      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   24u  IPv4 446209      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   30u  IPv4 452737      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   36u  IPv4 450882      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   42u  IPv4 450885      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   48u  IPv4 450888      0t0  TCP 192.168.22.72:3478 (LISTEN)
turnserve 21286 root   55u  IPv4 451987      0t0  TCP 192.168.22.72:3478 (LISTEN)

$ sudo lsof -n -i4TCP:5349 | grep LISTEN
turnserve 21286 root   13u  IPv4 449992      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   19u  IPv4 447221      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   25u  IPv4 446210      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   31u  IPv4 452738      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   37u  IPv4 450883      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   43u  IPv4 450886      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   49u  IPv4 450889      0t0  TCP 192.168.22.72:5349 (LISTEN)
turnserve 21286 root   56u  IPv4 451988      0t0  TCP 192.168.22.72:5349 (LISTEN)
```

3. 验证服务

```
$ curl 192.168.22.72:3478
<!DOCTYPE html>
<html>
  <head>
    <title>TURN Server</title>
  </head>
  <body>
    TURN Server
  </body>
</html>
```

参考

- Turnserver服务器搭建
- Coturn配置实现TURN中继传输媒体数据