

python实现RTP和RTSP

GUPAO TECH

我们的愿景

推动每一次人才升级

我们的使命

让每个人的职业生涯不留遗憾

请在此处
输入文字

请在此处
插入二维码

避坑指南

Unable to create XXX插件

当 gstreamer 不能创建Element元素时，注意删除缓存

```
rm -rf ~/.cache/gstreamer-1.0/
```

摄像头RTP客户端Windows

```
gst-launch-1.0 udpsrc port=5004 name=pay0 buffer-size=524288  
caps="application/x-rtp, media=video, clock-rate=90000,  
encoding-name=(string)H264, payload=96 " ! rtph264depay !  
h264parse ! nvh264dec ! videoconvert ! autovideosink -e
```

摄像头RTP服务端 Jetson nano Linux

```
gst-launch-1.0 -v nvarguscamerasrc bufapi-version=1 ! 'video/x-raw(memory:NVMM),width=(int)1280,height=(int)720,format=(string)NV12,framerate=(fraction)30/1' ! nvv4l2h264enc preset-level=1 insert-sps-pps=1 bufapi-version=1 ! h264parse ! rtpH264pay pt=96 ! udpsink host=192.168.2.7 port=5004 async=False sync=1
```

对应python代码实现讲解

```
camera_gstreamer_code_rtp.py
3
4
5  Gst.init(None)
6  pipeline = Gst.Pipeline()
7  camerasrc = Gst.ElementFactory.make("nvarguscamerasrc", "nv-arguscamerasrc")
8  caps = Gst.ElementFactory.make("capsfilter", "filter")
9  caps.set_property("caps", Gst.Caps.from_string("video/x-raw(memory:NVMM),width=(int
0  encoder = Gst.ElementFactory.make("nvv4l2h264enc", "encoder")
1  h264parse = Gst.ElementFactory.make("h264parse", "h264parse")
2  rtppay = Gst.ElementFactory.make("rtph264pay", "rtppay")
3  sink = Gst.ElementFactory.make("udpsink", "udpsink")
4  camerasrc.set_property('bufapi-version', 1)
5  encoder.set_property('preset-level', 1)
6  encoder.set_property('insert-sps-pps', 1)
7  encoder.set_property('bufapi-version', 1)
8  rtppay.set_property("pt", 96)
9  sink.set_property('host', '192.168.2.7')
0  sink.set_property('port', 5004)
1  sink.set_property('async', False)
2  sink.set_property('sync', 1)
3
4  pipeline.add(camerasrc_)
5  pipeline.add(caps)
6  pipeline.add(encoder)
```

docker启动命令

在宿主机上执行，避免无法获取到图形界面的一些问题，
715a93f1d755是ImageId 改为你自己的，注意GStreamer目录映射

```
docker run -it --rm --net=host --runtime nvidia -e  
DISPLAY=$DISPLAY -v /tmp/argus_socket:/tmp/argus_socket --  
device /dev/video0 -v  
~/GStreamer:/opt/nvidia/deepstream/deepstream-  
6.0/sources/deepstream_python_apps/apps/GStreamer
```

715a93f1d755

python 实现 RTSP

```
40 h264parse.link(rtppay)
41 rtppay.link(sink)
42
43 server = GstRtspServer.RTSPServer.new()
44 server.props.service = "%d" % 8554
45 server.attach(None)
46 factory = GstRtspServer.RTSPMediaFactory.new()
47 factory.set_launch(
48     "( udpsrc name=pay0 port=%d buffer-size=524288 caps=\"application/x-rtp, media=vi
49     5004))")
50 factory.set_shared(True)
51 server.get_mount_points().add_factory("/live", factory)
52
53 loop = GObject.MainLoop()
54 bus = pipeline.get_bus()
55 bus.add_signal_watch()
56 bus.connect("message", bus_call, loop)
57 pipeline.set_state(Gst.State.PLAYING)
58 print("rtsp://192.168.2.9:8554/live")
59 try:
60     loop.run()
61 except:
62     pass
63 pipeline.set_state(Gst.State.NULL)
```

谢谢观赏

GUPAO TECH



我们的愿景

推动每一次人才升级

我们的使命

让每个人的职业生涯不留遗憾

请在此处
输入文字

请在此处
插入二维码