



## **gst-rtsp-server**

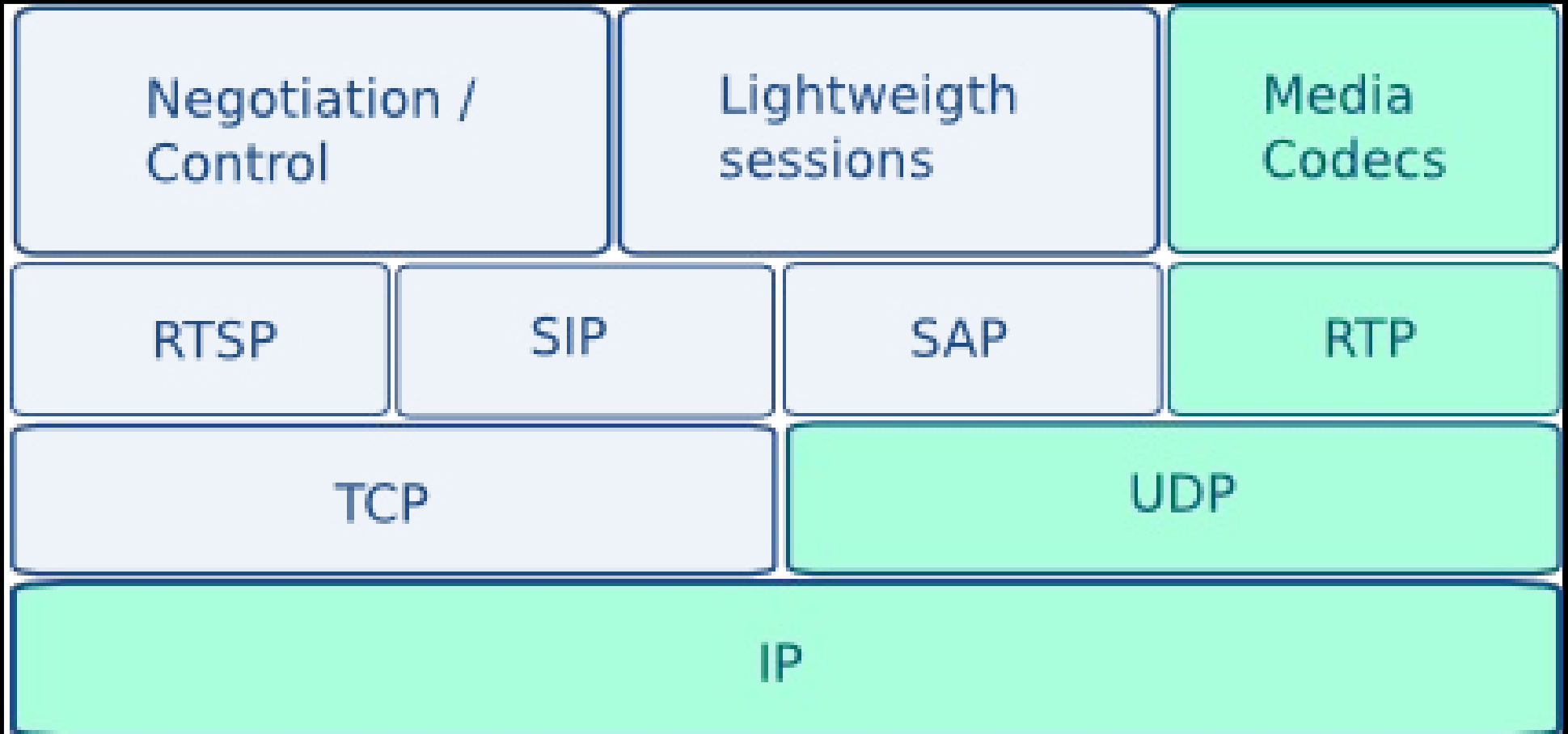
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Edinburgh, UK*





A Library to make it easy to develop RTSP servers





- Testing RTSP library
- Test rtspsrc
- Test RTP caps



- Live streams and on-demand streams
- Not so good on the internet
- Very good for low-latency streaming on local network



## Example

`examples/test-ogg`

- RTP over UDP needs port setup and destination IP
- RTP just streams, need something to start/pause/stop/seek
- RTP receiver needs extra info to decode packets (clock-rate,...)



```
C->S DESCRIBE rtsp://127.0.0.1:8554/test RTSP/1.0
CSeq: 2
Accept: application/sdp
Date: Tue, 15 Oct 2013 17:22:57 GMT
```

```
S->C RTSP/1.0 200 OK
CSeq: 2
Content-Type: application/sdp
Content-Base: rtsp://127.0.0.1:8554/test/
Server: GStreamer RTSP server
Date: Tue, 15 Oct 2013 17:22:57 GMT
Content-Length: 407
```

```
v=0
o=- 1188340656180883 1 IN IP4 127.0.0.1
s=Session streamed with GStreamer
i=rtsp-server
t=0 0
a=tool:GStreamer
a=type:broadcast
a=control:*
a=range:npt=0-
m=video 0 RTP/AVP 96
c=IN IP4 0.0.0.0
a=rtpmap:96 H264/90000
a=control:stream=0
a=fmtp:96 sprop-parameter-sets=Z0LAFdkBYJbARAAAawAF3NZQADxYuSA=,aMuMsg==
m=audio 0 RTP/AVP 8
c=IN IP4 0.0.0.0
a=rtpmap:8 PCMA/8000
a=control:stream=1
```





```
C->S SETUP rtsp://127.0.0.1:8554/test/stream=0 RTSP/1.0
      CSeq: 3
      Transport: RTP/AVP;unicast;client_port=45168-45169
      Date: Tue, 15 Oct 2013 17:22:57 GMT
```

```
S->C RTSP/1.0 200 OK
      CSeq: 3
      Transport: RTP/AVP;unicast;client_port=45168-45169;
                 server_port=53730-53731;mode="PLAY"
      Server: GStreamer RTSP server
      Session: s_kKG6GL8WrEhrP7
      Date: Tue, 15 Oct 2013 17:22:57 GMT
```



```
C->S SETUP rtsp://127.0.0.1:8554/test/stream=1 RTSP/1.0
CSeq: 4
Transport: RTP/AVP;unicast;client_port=58026-58027
Session: s_kKG6GL8WrEhrP7
Date: Tue, 15 Oct 2013 17:22:57 GMT
```

```
S->C RTSP/1.0 200 OK
CSeq: 4
Transport: RTP/AVP;unicast;client_port=58026-58027;
          server_port=37952-37953;mode="PLAY"
Server: GStreamer RTSP server
Session: s_kKG6GL8WrEhrP7
Date: Tue, 15 Oct 2013 17:22:57 GMT
```



```
C->S PLAY rtsp://127.0.0.1:8554/test RTSP/1.0
CSeq: 5
Range: npt=0-
Session: s_kKG6GL8WrEhrP7
Date: Tue, 15 Oct 2013 17:22:57 GMT
```

```
S->C RTSP/1.0 200 OK
CSeq: 5
RTP-Info:url=rtsp://127.0.0.1:8554/test/stream=0;
          seq=15850;rtptime=946903593,
          url=rtsp://127.0.0.1:8554/test/stream=1;
          seq=15542;rtptime=150431586
Range: npt=0-
Server: GStreamer RTSP server
Session: s_kKG6GL8WrEhrP7
Date: Tue, 15 Oct 2013 17:22:57 GMT
```



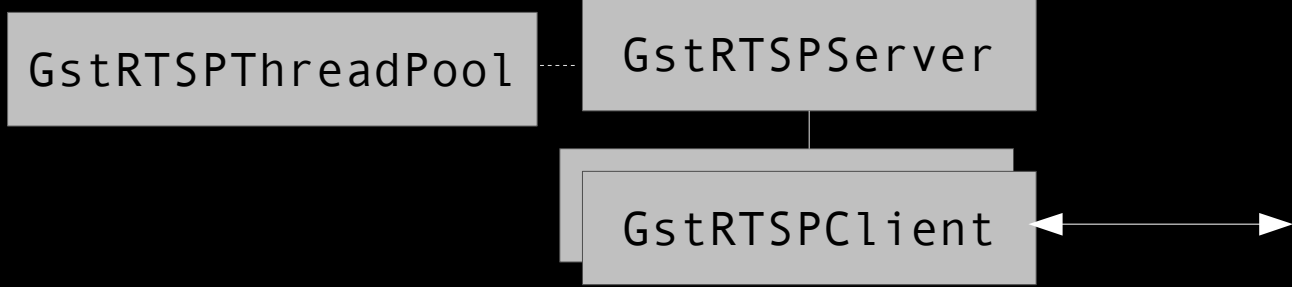
```
C->S PAUSE rtsp://127.0.0.1:8554/test RTSP/1.0  
CSeq: 6  
Session: s_kKG6GL8WrEhrP7  
Date: Tue, 15 Oct 2013 17:23:02 GMT
```

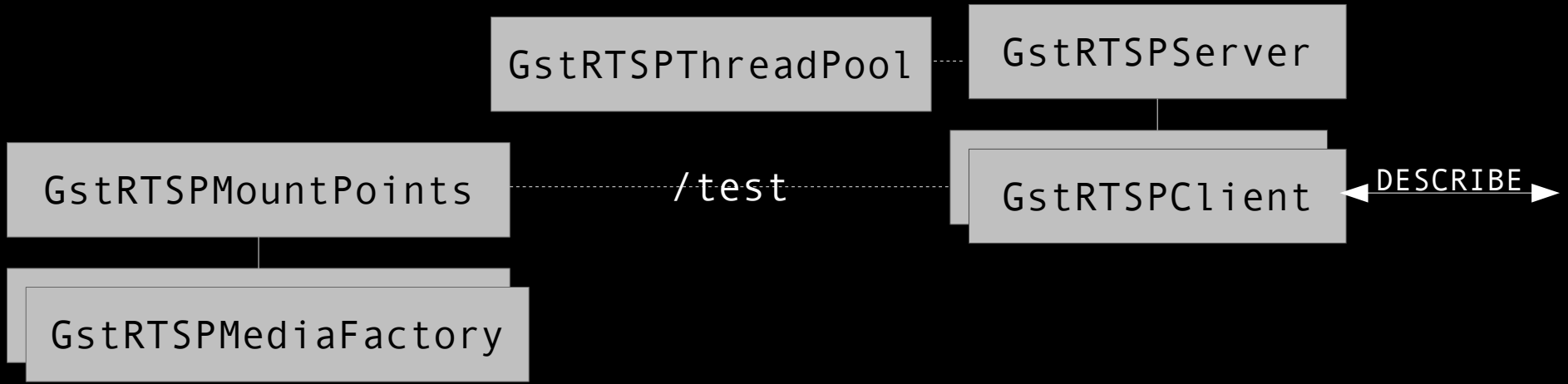
```
S->C RTSP/1.0 200 OK  
CSeq: 6  
Server: GStreamer RTSP server  
Session: s_kKG6GL8WrEhrP7  
Date: Tue, 15 Oct 2013 17:23:02 GMT
```

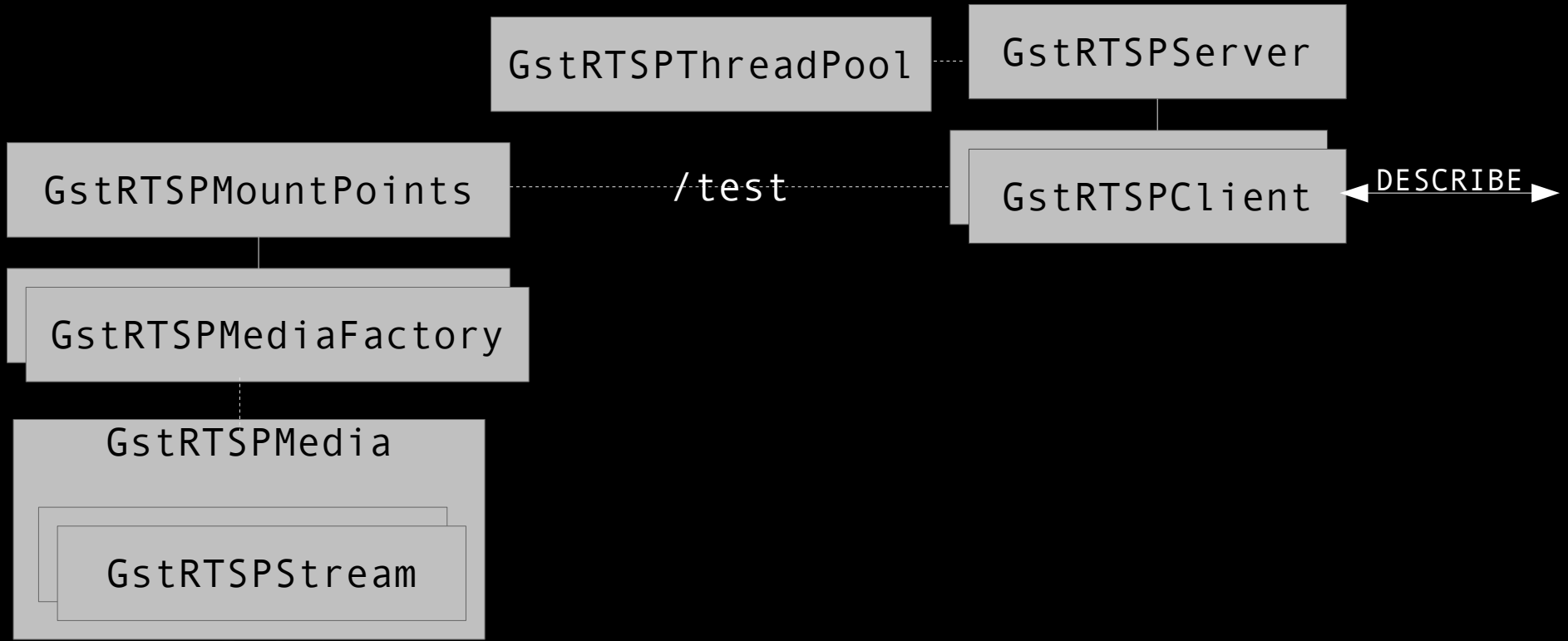


GstRTSPServer

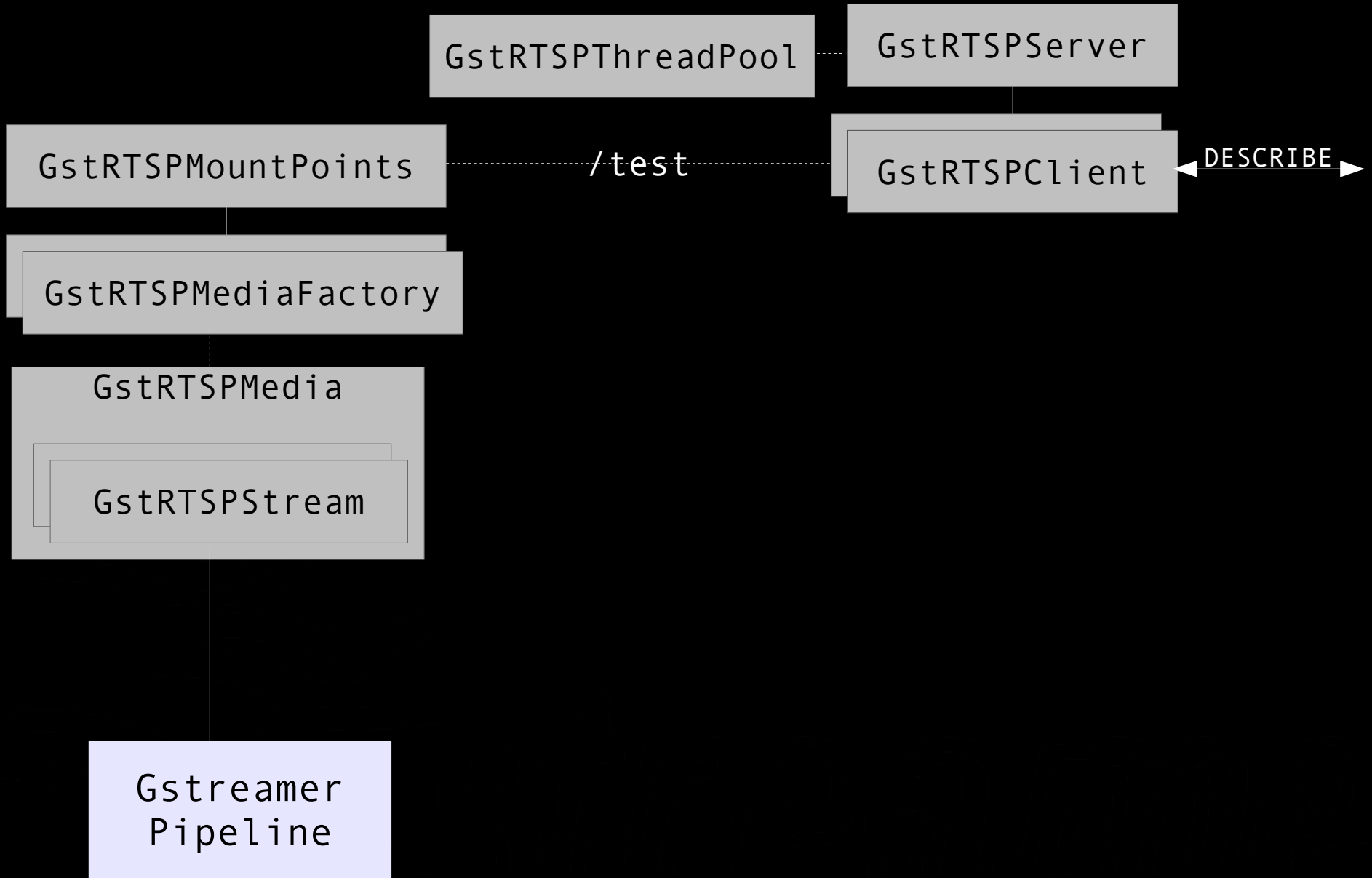


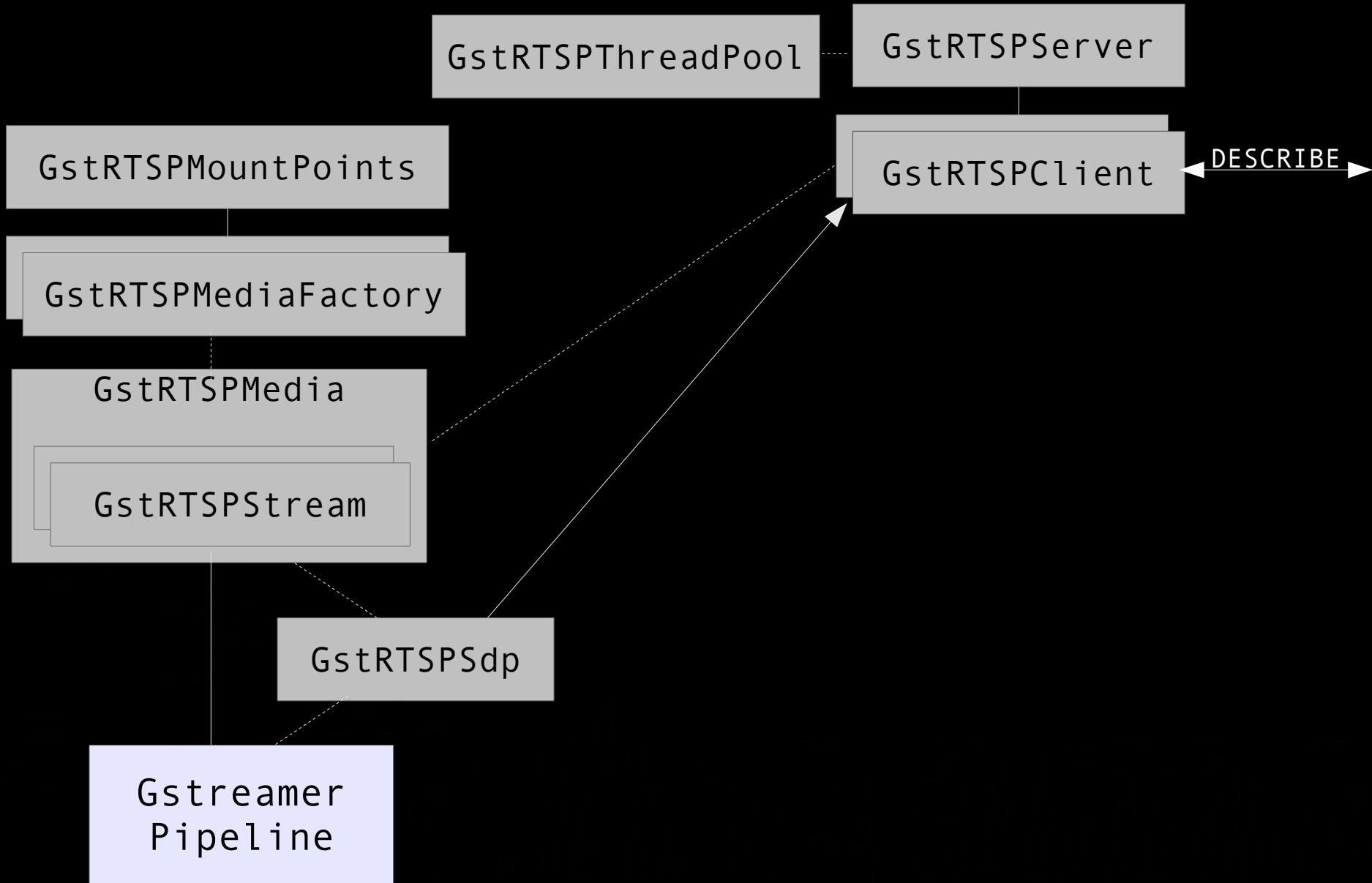


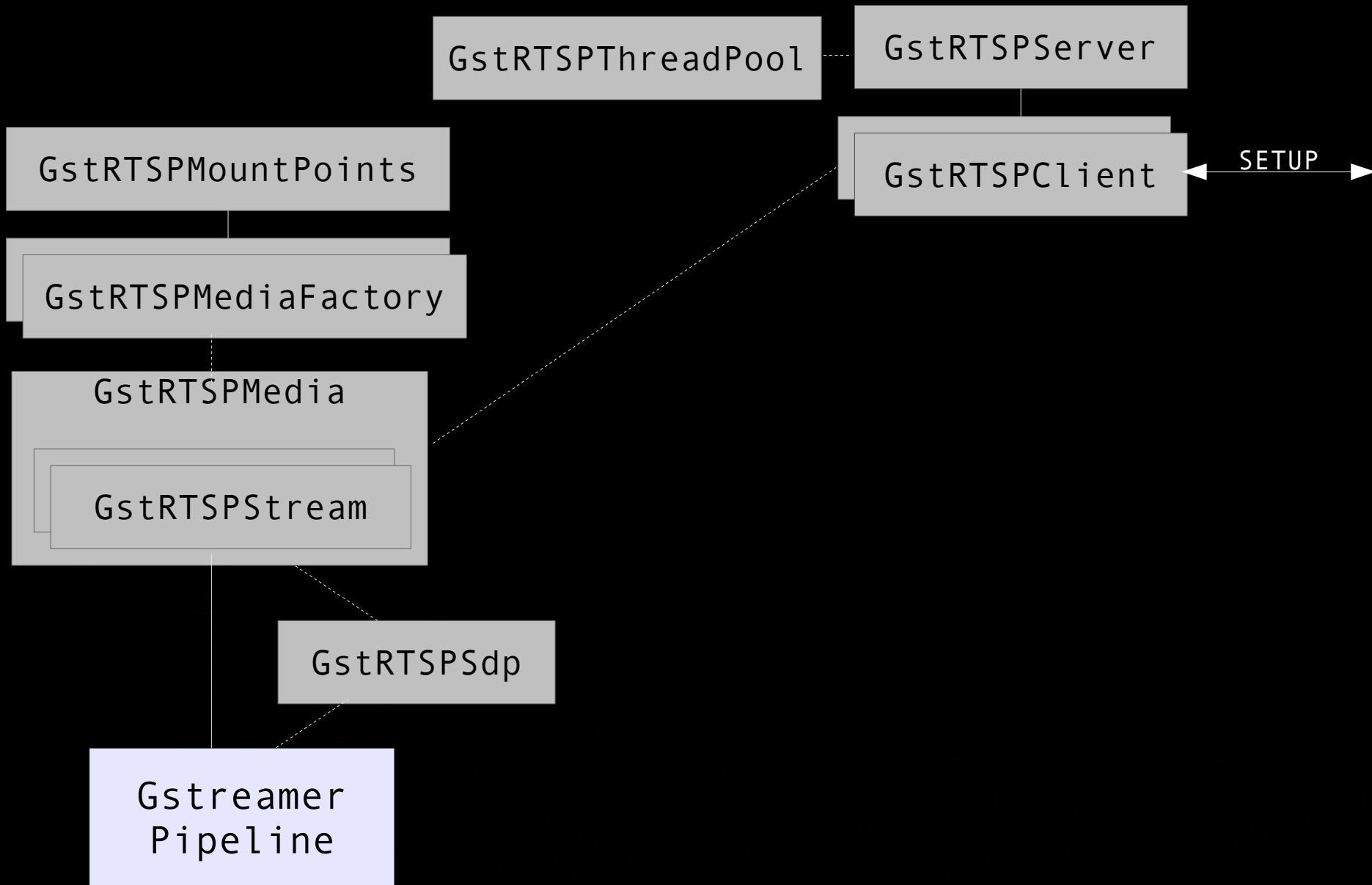


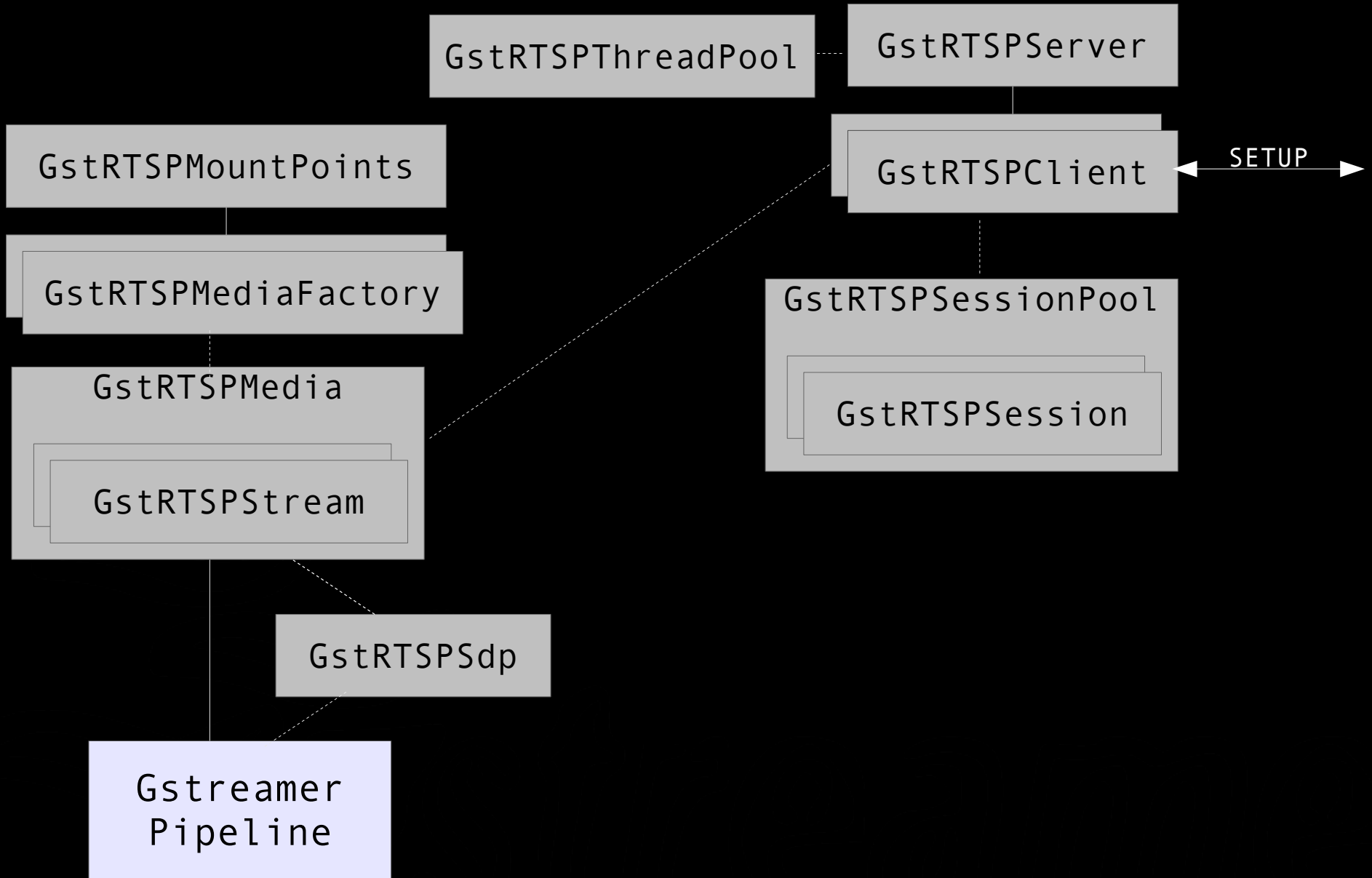


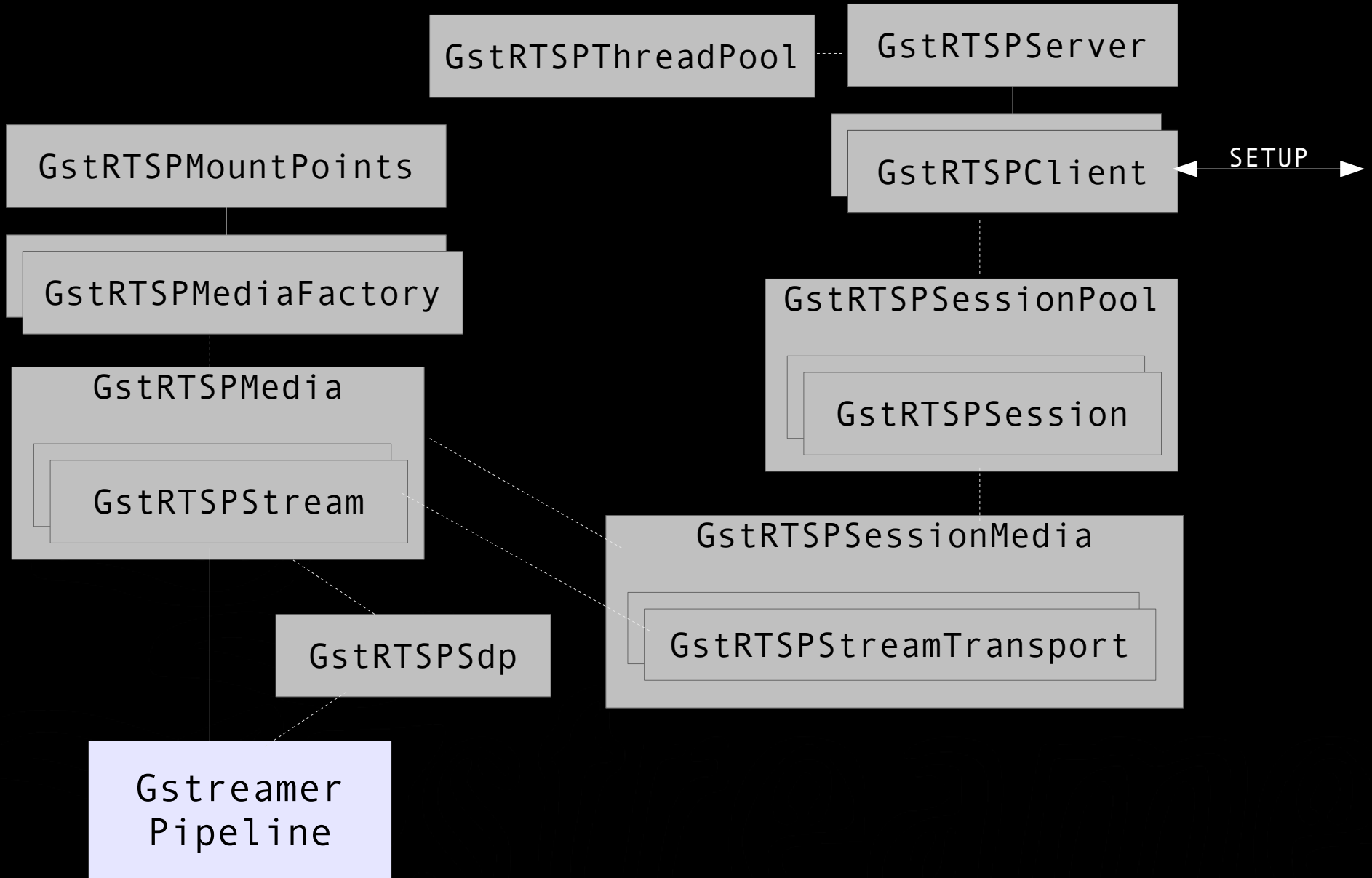


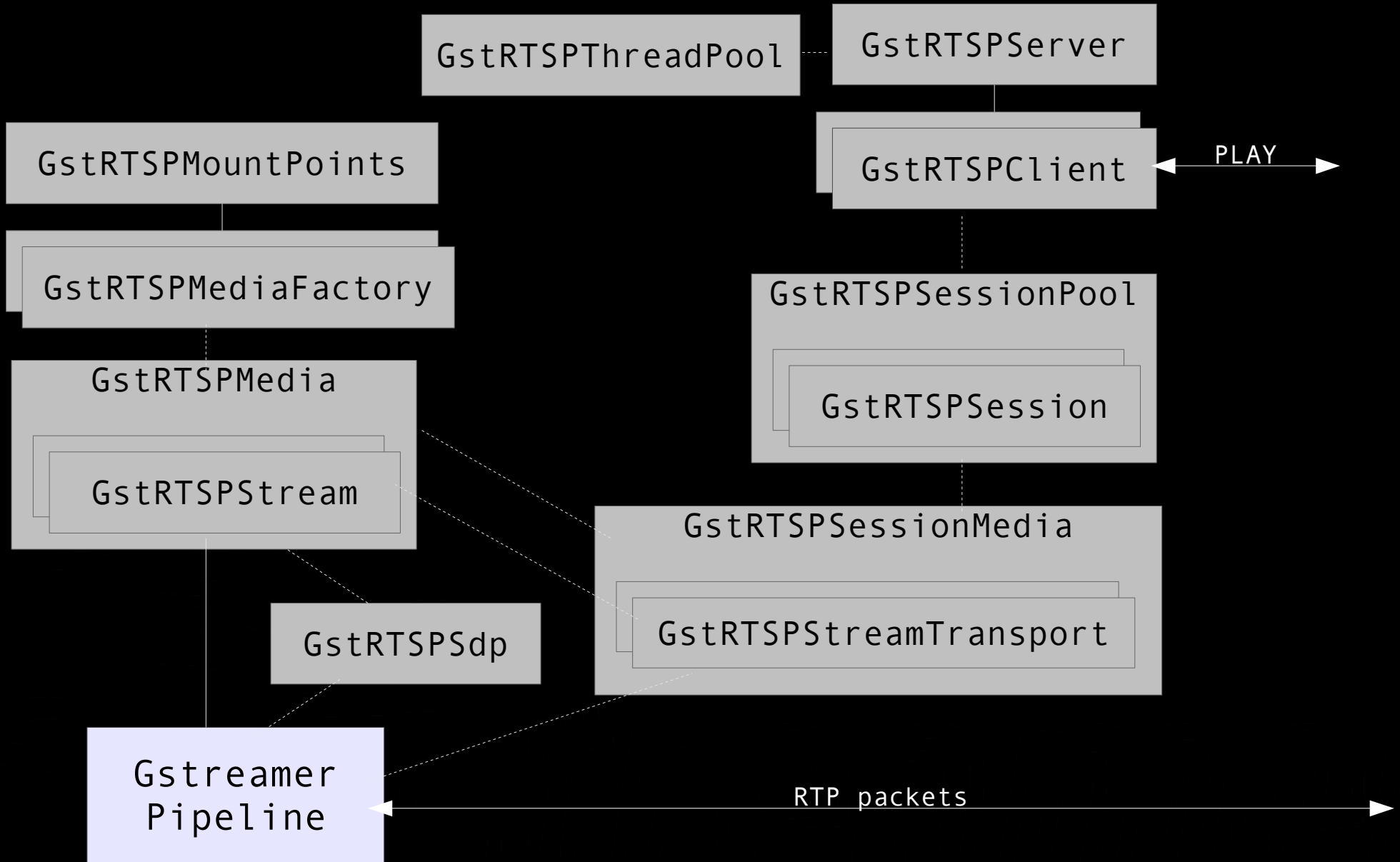


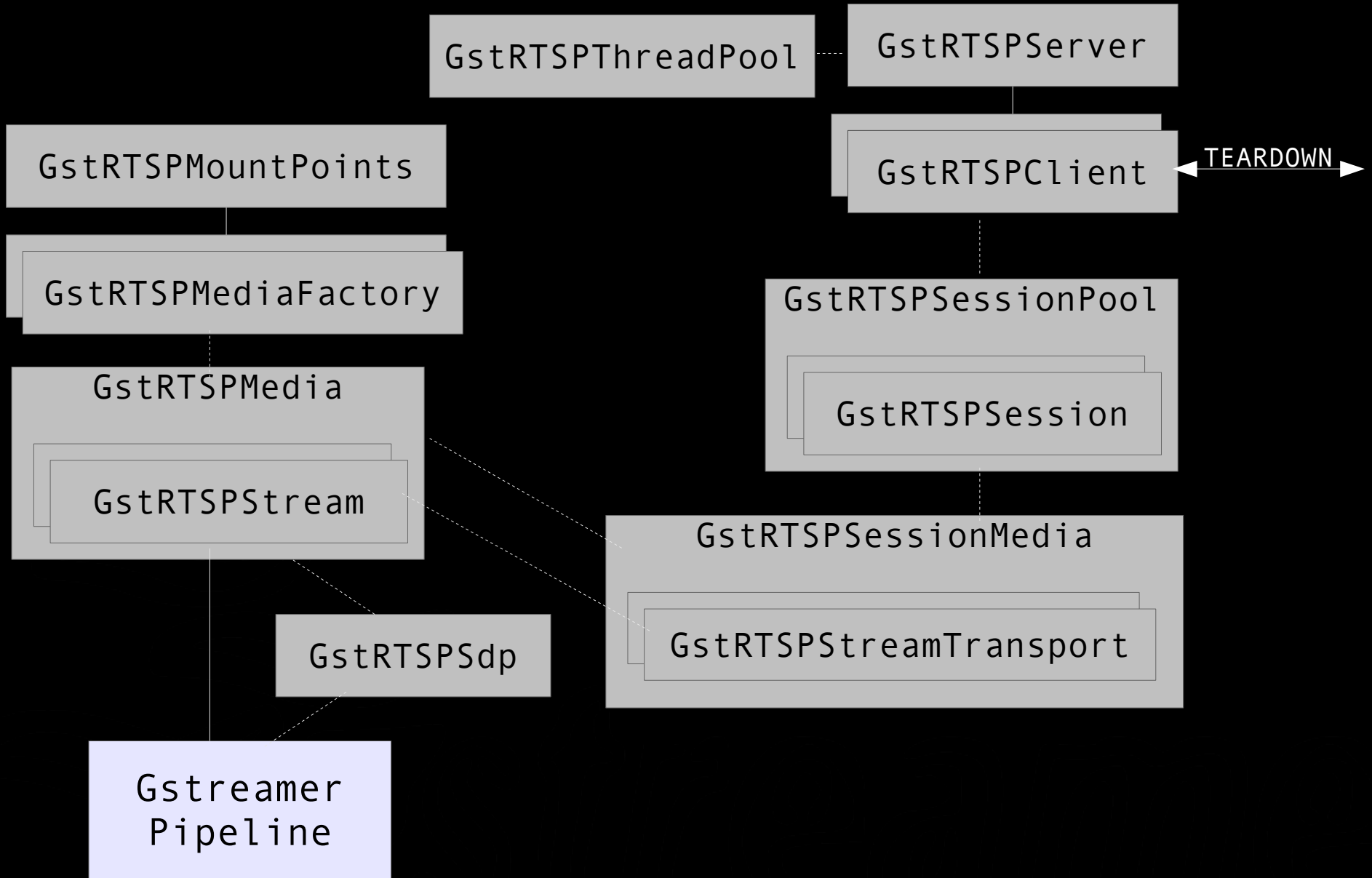


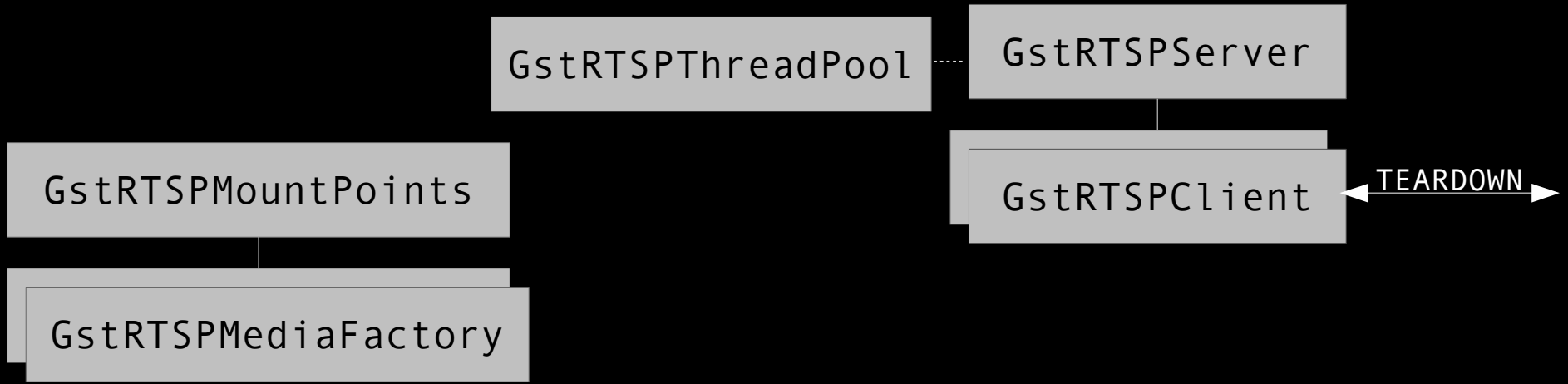
















GstRTSPThreadPool

GstRTSPServer

GstRTSPMountPoints

GstRTSPMediaFactory



## Code Example

`examples/test-ogg.c`

- UDP unicast
- UDP multicast (GstRTSPAddressPool)
- TCP
- RTSP over HTTP
- RTSP over TLS

- Factory for gst-launch like pipelines
- Sharing of pipeline between receivers
- Single/multithreaded via threadpool
- Security



## Security

Hooks call into GstRTSPAuth object

Authentication of user results in  
GstRTSPToken

- TLS
- Basic auth

Objects have GstRTSPPermissions

- Factory
- Media

GstRTSPPermissions has role + properties

GstRTSPAuth checks if the user token has required permissions to access objects



Token can also contain other user specific things

- cgroup to use for pipeline
- ...



## Security

Examples/test-video.c



**Future**

Stabilize



**Future**

Do a new release !



**Future**

<http://cgit.freedesktop.org/gstreamer/gst-rtsp-server/>



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