Screen Mirroring

airplay mirroring

QQ:28849949

airplay mirroring是将iphone，ipad上的屏幕内容及声音投到apple tv上观看，以实现小屏到大屏的应用形式，应用场景看电影，打游戏，听音乐... ...

由于在国内apple tv并不普及，所以只能想其它的办法来把iphone，ipad上的内容投到我们平常能接触到的设备上，比如windows、linux、android系统的机器上。当然了也可以投到相应的ios设备上，比如把iphone 4s的内容投到的ipad上......

早期的（ios9之前）有一些开源软件及一些文档能找到交互协议的蛛丝马迹，但到了ios9对协议部分做了很大的改动之后，就很难再发现相应的文档来表述相应的协议部分。

（http://nto.github.io/AirPlay.html#screenmirroring）

在经过艰难的分析并完整的实现了ios9相应的mirroring功能之后，写下这篇文档来对之前的工作做一个整理及小结，也方便有需要的同学可以借鉴和参考。

好的，废话就不多说了，直接上协议了：

1. pair-setup

POST /pair-setup RTSP/1.0

Content-Length: 32

Content-Type: application/octet-stream

CSeq: 0

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

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响应部分：

RTSP/1.0 200 OK

Content-Length:32

Server:AirTunes/230.33

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2. pair-verify

POST /pair-verify RTSP/1.0

X-Apple-PD: 1

X-Apple-AbsoluteTime: 475210510

Content-Length: 68

Content-Type: application/octet-stream

CSeq: 1

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

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响应部分：

RTSP/1.0 200 OK

Content-Length:96

Server:AirTunes/230.33

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3. pair-verify

POST /pair-verify RTSP/1.0

X-Apple-PD: 1

X-Apple-AbsoluteTime: 475210510

Content-Length: 68

Content-Type: application/octet-stream

CSeq: 2

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

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响应部分：

RTSP/1.0 200 OK

Content-Length:0

Server:AirTunes/230.33

4. fp-setup

POST /fp-setup RTSP/1.0

X-Apple-ET: 32

Content-Length: 16

Content-Type: application/octet-stream

CSeq: 3

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

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响应部分：

RTSP/1.0 200 OK

Content-Length:142

Server:AirTunes/230.33

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5. fp-setup

POST /fp-setup RTSP/1.0

X-Apple-ET: 32

Content-Length: 164

Content-Type: application/octet-stream

CSeq: 4

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

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响应部分：

RTSP/1.0 200 OK

Content-Length:32

Server:AirTunes/230.33

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6. GET

GET /info RTSP/1.0

X-Apple-ProtocolVersion: 0

CSeq: 6

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

响应部分：

RTSP/1.0 200 OK

Audio-Jack-Status:connected

CSeq:6

Content-Length:826

Server:AirTunes/230.33

Session:DEADBEEF

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7. GET\_PARAMETER

GET\_PARAMETER rtsp://192.168.95.1/3351574527475859804 RTSP/1.0

Content-Length: 8

Content-Type: text/parameters

CSeq: 7

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

volume

响应部分：

RTSP/1.0 200 OK

Audio-Jack-Status:connected; type=analog

CSeq:7

Content-Length:18

Server:AirTunes/230.33

volume:1.000000

8. RECORD

RECORD rtsp://192.168.95.1/3351574527475859804 RTSP/1.0

CSeq: 8

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

响应部分：

RTSP/1.0 200 OK

Audio-Jack-Status:connected; type=analog

AudioLatency:4410

CSeq:8

Content-Length:0

Server:AirTunes/230.33

9. SET\_PARAMETER

SET\_PARAMETER rtsp://192.168.95.1/3351574527475859804 RTSP/1.0

Content-Length: 20

Content-Type: text/parameters

CSeq: 9

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

volume: -21.000000

响应部分：

RTSP/1.0 200 OK

Content-Length:0

Server:AirTunes/230.33

10. TEARDOWN

TEARDOWN rtsp://192.168.95.1/3351574527475859804 RTSP/1.0

Content-Length: 69

Content-Type: application/x-apple-binary-plist

CSeq: 10

DACP-ID: 638AE25394216EDB

Active-Remote: 2113769265

User-Agent: AirPlay/267.3

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响应部分：

RTSP/1.0 200 OK

CSeq:10

Content-Length:0

Server:AirTunes/230.33