Port Mapping Between Ucast/Mcast RTP Sessions

draft-ietf-avt-ports-for-ucast-mcast-rtp-00

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Example: SSM + Unicast Retransmissions

SSM Source

RTP/RTCP Multicast

Server (w/ Feedback Target)

NAT

Unicast Feedback

Unicast RTP/RTCP

Client
If Server and Client Support RTP/RTCP Muxing

Cookie Request and Response
NAT Binding is Setup
Keep Alive

NACK w/ Cookie

Retransmissions

C_1 and C_2 are chosen by the client and could be the same port
SDP Example

```
a=group:FID 1 2
m=video 41000 RTP/AVPF 98
i=Primary Multicast Stream
c=IN IP4 233.252.0.2/255
a=source-filter: incl IN IP4 233.252.0.2 192.0.2.2
a=rtpmap:98 MP2T/90000
a=rtcp:42000 IN IP4 192.0.2.1
a=rtcp-fb:98 nack
a=mid:1
m=video 51000 RTP/AVPF 99
i=Unicast Retransmission Stream
c=IN IP4 192.0.2.1
a=rtpmap:99 rtx/90000
a=rtcp-mux
a=fmtp:99 apt=98; rtx-time=5000
a=mid:2
```
Open Issues

- Decide on the port mapping method
- Decide on the keep-alive method
- Develop a section explaining cookie generation
- Show examples (with SDPs) how the method works for
  Unicast retransmissions
  RAMS