Token-Based Port Mapping

draft-begen-avt-token-for-portmapping-00

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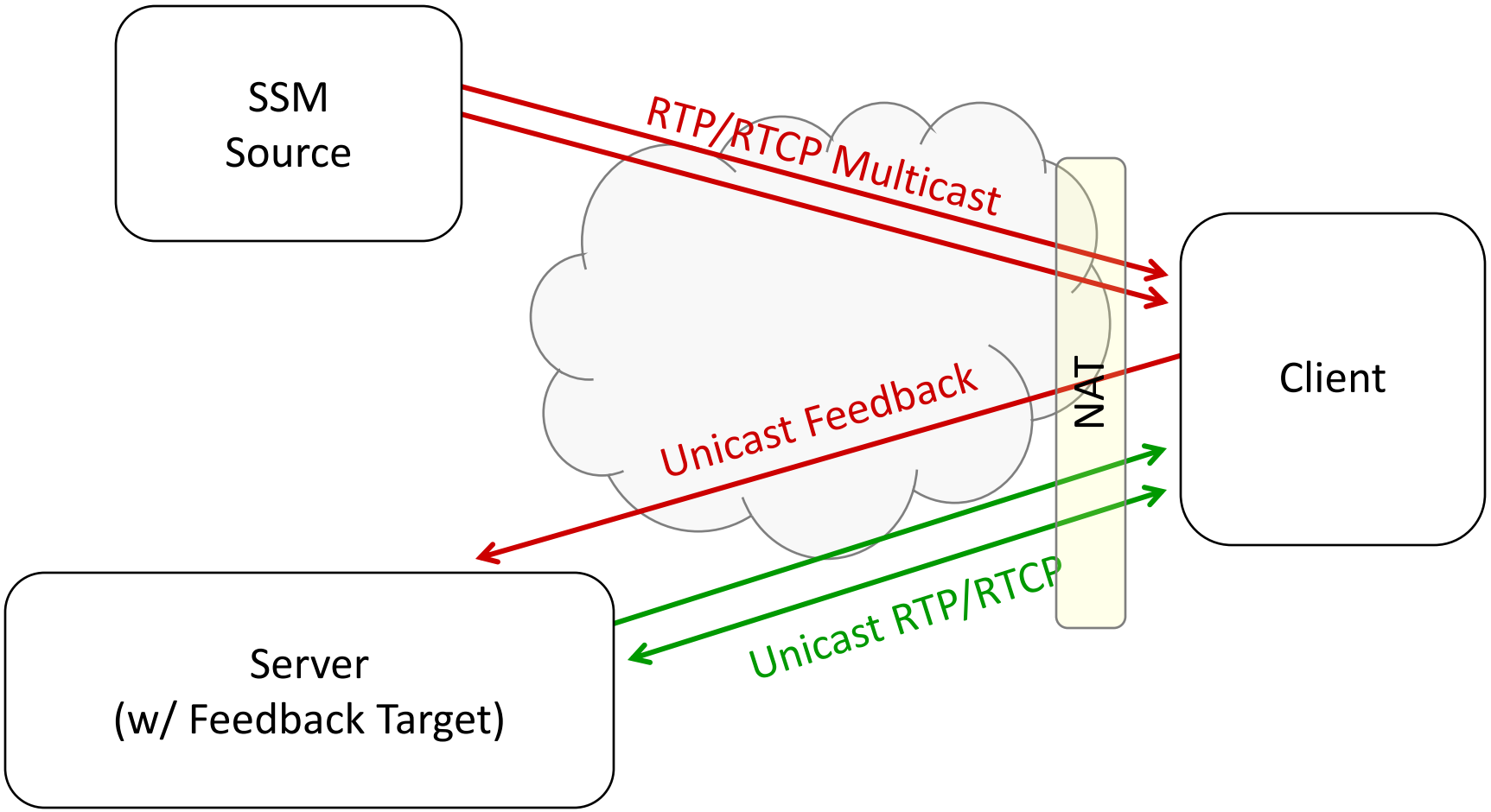
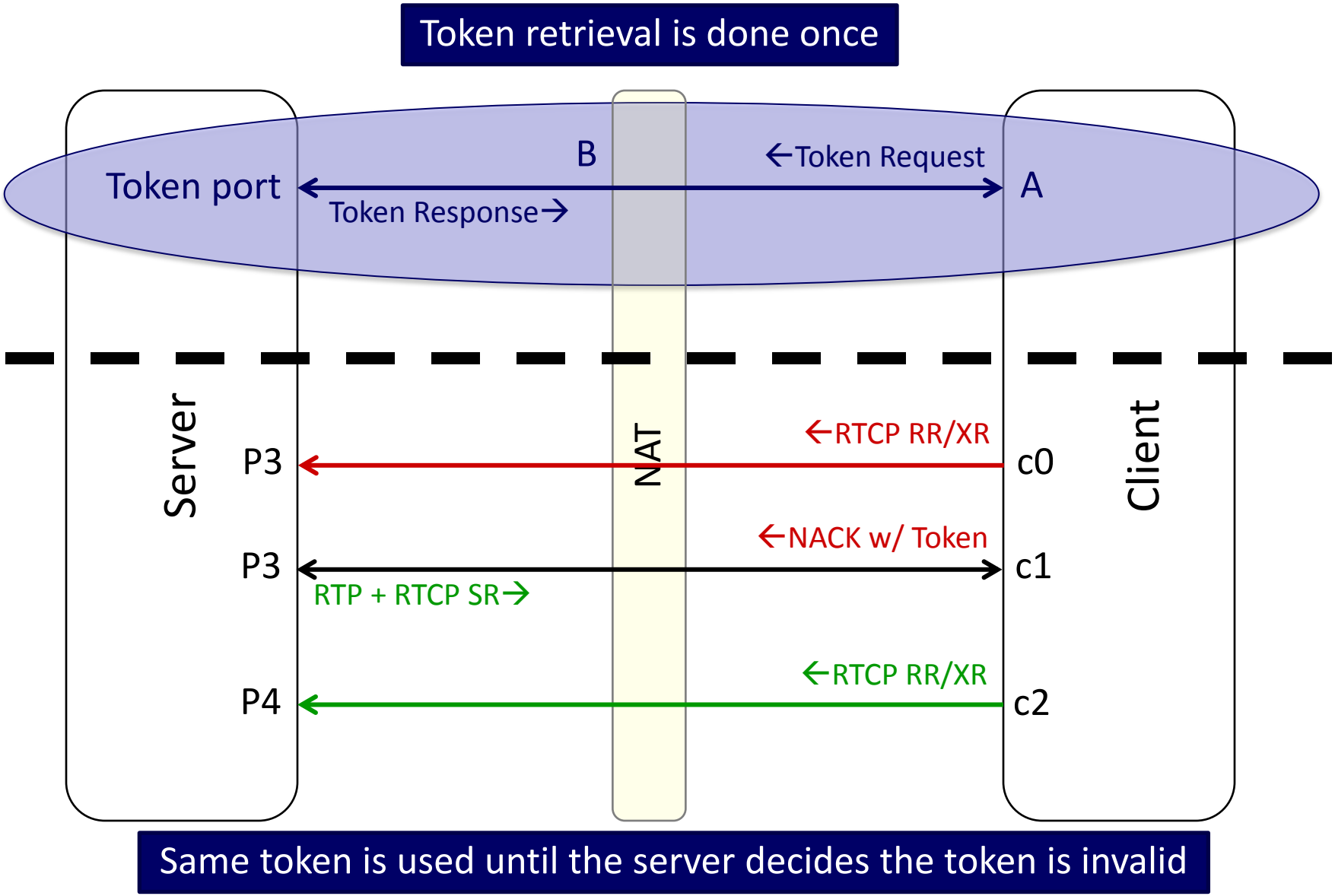
Example: SSM + Unicast Retransmissions



Token Protects from Bandwidth Attacks



Ports on the Server and Client

- On the server

  P3 must be different from P4 to prevent ambiguous RTCP reports

- On the client

  c0, c1 and c2 can be the same port or different ports

  We recommend that c0=c1

  1. A NAT may only keep bindings active when a packet goes from inside to outside. If c0=c1, the occasional RTCP RRs ensure the binding does not time out
  2. Having c0=c1 conserves NAT bindings

SDP Signaling

- A new attribute is defined:

```
portmapping-req-attribute = "a=portmapping-req:" port CRLF
```

- This attribute

  Indicates that a Token MUST be included in the feedback messages

  Indicates the port for obtaining the Token

  MAY be used at media level but MUST NOT be used at session level

SDP Example

SSM Session

Unicast Session

```
1   a=group:FID 1 2
2   m=video 41000 RTP/AVPF 98
3   i=Primary Multicast Stream
4   c=IN IP4 233.252.0.2/255
5   a=source-filter:incl IN IP4 233.252.0.2 198.51.100.1
6   a=rtpmap:98 MP2T/90000
7   a=multicast-rtcp:41500
8   a=rtcp:42000 IN IP4 192.0.2.1
9   a=rtcp-fb:98 nack
10  a=mid:1
11  m=video 42000 RTP/AVPF 99
12  i=Unicast Retransmission Stream
13  c=IN IP4 192.0.2.1
14  a=rtpmap:99 rtx/90000
15  a=rtcp:42500
16  a=fmtp:99 apt=98; rtx-time=5000
17  a=portmapping-req:30000
18  a=mid:2
```

Multicast RTP port

Multicast group address

Multicast RTCP port

Source address

Server (Feedback target)

RTCP port for SSM on the server (P3)

This port does not mean anything

RTCP port for unicast session on the server (P4)

Next Steps

- Should we consider this approach instead of the Cookie proposal?