

draft-singh-avtcore-mprtp-03

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# Updates since -02

- Updates based on comments from MMUSIC
- MPRTTP interface advertisements in SDP
  - Without ICE
  - With ICE
- Clarified in-band vs out-of-band interface advertisements (Sec 7.1.3.)

# Re-cap

- Advertise Candidates
- RTP header extension for Subflow ID and Subflow sequence numbers
- Subflow RTCP for reporting path characteristics

# SDP vs RTCP Interface Advertisement

- Sec 7.1.3. In-band vs. Out-of-band Signaling
  - In-band: RTCP or suitable STUN extension
  - Out-band: in SDP
- Out-of-band signaling for session setup and initial interface negotiation
- In-band signaling to deal with frequent changes in interface state.
  
- The endpoint SHOULD always respond using the same mechanism
- If a mismatch in type of advertisements occurs then SDP MUST be used.

# Interface advertisement in SDP

```
mprtp-interface = "interface" ":" counter SP unicast-address  
                  ":" rtp_port "/" rtcp_port  
                  *(SP interface-description-extension)
```

## Example

```
v=0  
o=alice 2890844526 2890844527 IN IP4 192.0.2.1  
s=  
c=IN IP4 192.0.2.1  
t=0 0  
m=video 49170 RTP/AVP 98  
a=rtpmap:98 H264/90000  
a=fmtp:98 profile-level-id=42A01E;  
a=extmap:1 urn:ietf:params:rtp-hdext:mprtp  
a=mprtp interface:1 195.148.127.42:49170/49171  
a=mprtp interface:2 130.233.154.105:51372/51373
```

# MPRTP using ICE

1. Advertise ICE candidates (initial offer): the endpoints run connectivity checks.
  2. Advertise MPRTP candidates: When enough connectivity checks succeed.
- When adding an interface in mid-session, should the endpoints also send the ICE candidates for the connections in use?

# ICE SDP Example

## INITIAL OFFER:

```
m=video 49170 RTP/AVP 98
a=rtpmap:98 H264/90000
a=fmtp:98 profile-level-id=42A01E;
a=candidate:1 1 UDP 2130706431 195.148.127.42 49170 typ host
a=candidate:2 1 UDP 1694498815 130.233.154.105 51372 typ
```

host

## ANSWER:

```
m=video 4000 RTP/AVP 98
a=rtpmap:98 H264/90000
a=fmtp:98 profile-level-id=42A01E;
a=candidate:1 1 UDP 2130706431 195.148.127.36 4000 typ host
```

*(after enough connectivity checks succeed)*

## UPDATED OFFER (with MPRTP interfaces):

```
a=mprtp interface:1 195.148.127.42:49170/49171
a=mprtp interface:2 130.233.154.105:51372/51373
```

## ANSWER:

```
a=mprtp interface:1 195.148.127.36:4000/4001
```

# Open Issues

- Multiplex RTCP and RTP on one port
- Using STUN instead of RTCP for interface advertisement
- In-band vs Out-of-band
  - Both or do only one?
- Keep the basic SDP but move the complex cases to another document?

# Next Steps

- Turn this into WG item
- Finish IANA considerations
- Add security considerations
- Double-check with MMUSIC.