

Multipath RTP

Varun Singh, Teemu Karkkainen, Jörg Ott,
Saba Ahsan, Lars Eggert

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draft-singh-avtcore-mprtp-09

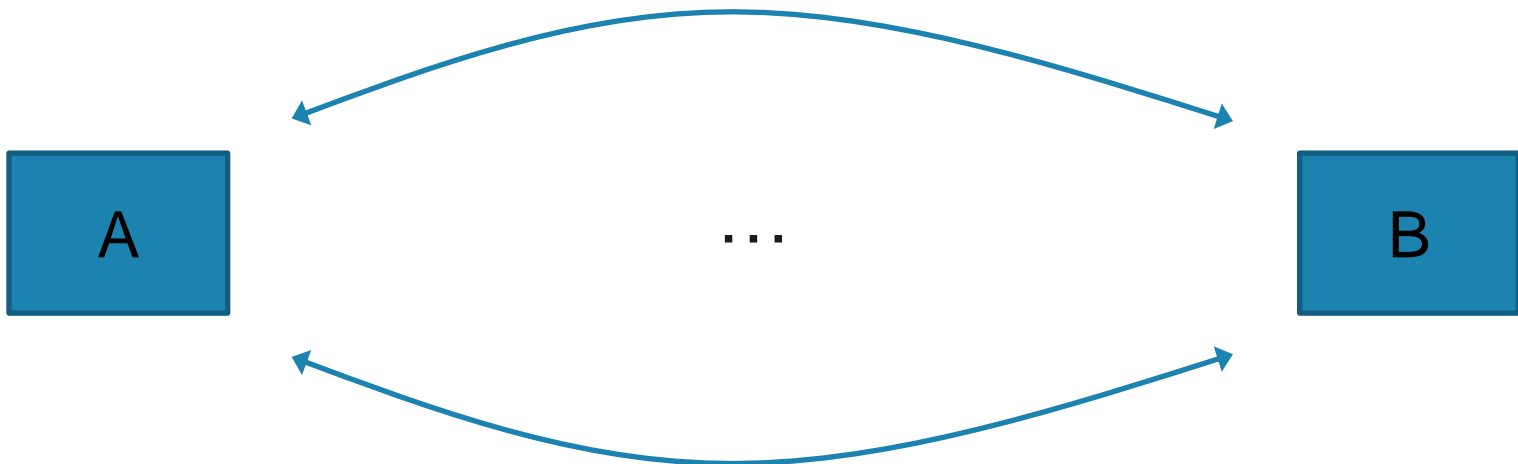
Since IETF 83 (Paris)

- Split document into RTP-related and SDP-related
 - `avtcore-mprtp`
 - `mmusic-mprtp-sdp-extension`
 - Requested by MMUSIC (IETF83)
- Updates based on feedback from implementers
 - Frederick Maze, Canon
 - Ralf Globisch, Fraunhofer HHI
 - Tiru Reddy, Cisco

Thank you!

Reminder (1/2)

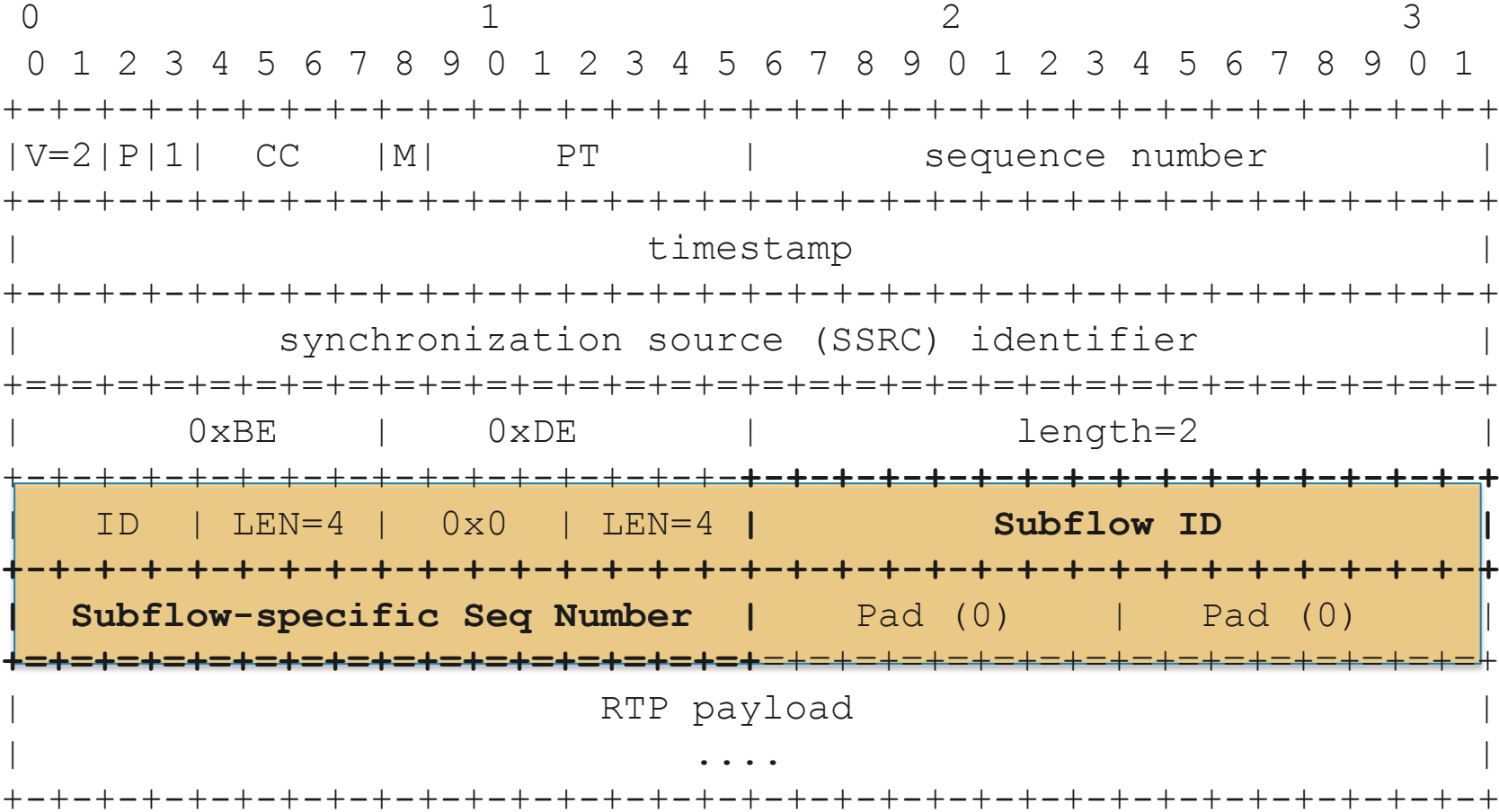
- Splitting an RTP session across multiple paths for load balancing and/or robustness
 - Seemed to be a ok idea. (IETF 78...83)



Reminder (2/2)

- RTP header extension
 - Subflow ID
 - Subflow sequence numbers
- Subflow RTCP for reporting path characteristics
- Advertise Multipath Candidates
 - in RTCP (currently in the draft), or
 - In SDP, or
 - [draft-wing-mmusic-ice-mobility \(mice\)](#)

MPRTP Header Extensions



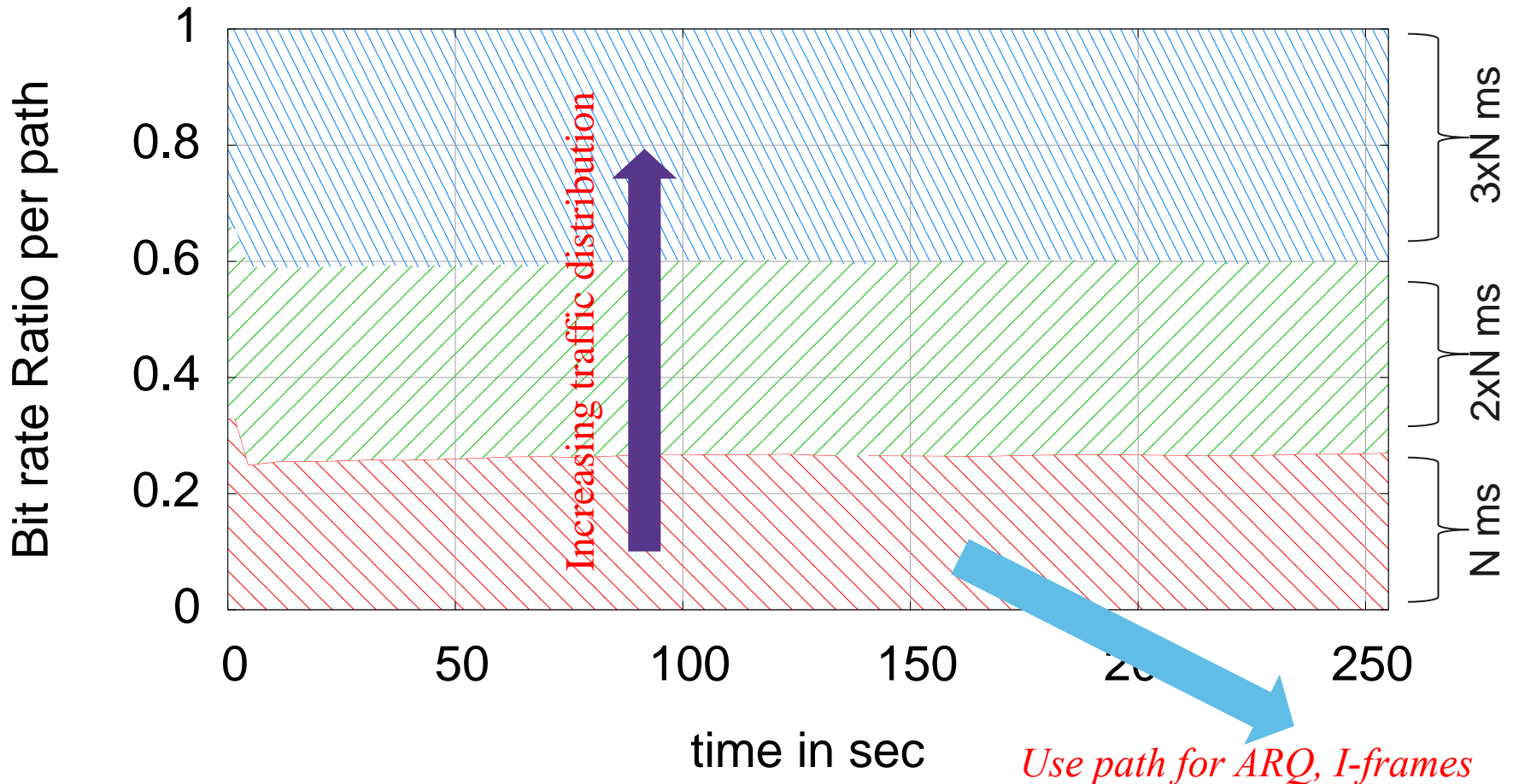
Multipath RTCP (MPRTCP)

- RTP and RTCP multiplexed
- Regular RTCP SR/RR sent as compound packets
- MPRTCP Subflow reports sent as non-compound (reduced size RTCP)

Does MPRTTP compare well to RTP?

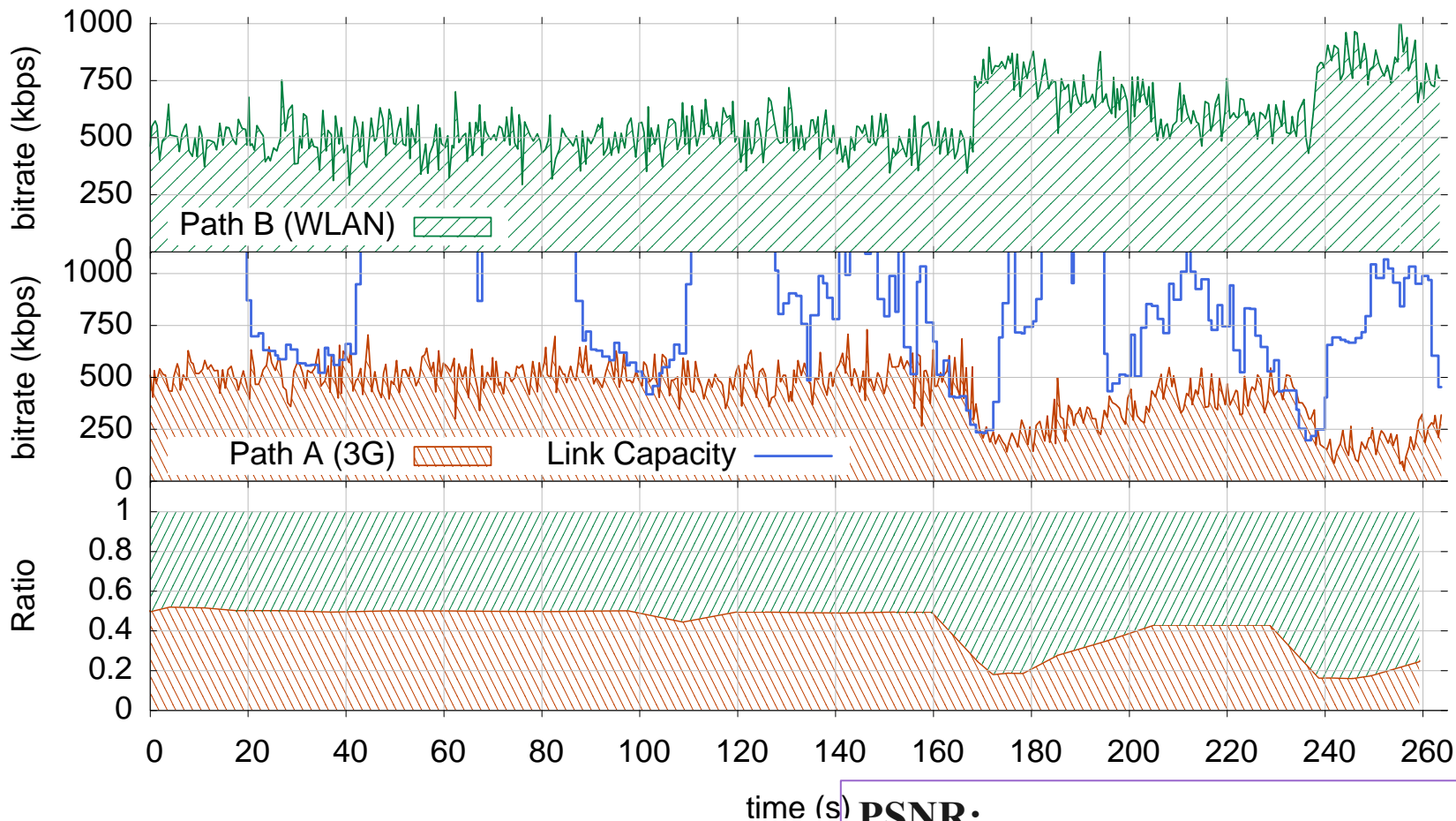
Path Characteristic		Avg. PSNR	σ_{PSNR}	PLR
No Losses on any path	1-Path	48.427	0.00	0.00
	2-Path	48.427	0.00	0.00
	3-Path	48.427	0.00	0.00
0.5% Loss on every paths	1-Path	40.887	0.506	0.49
	2-Path	40.314	0.576	0.505
	3-Path	40.406	0.849	0.494
1% Loss on every paths	1-Path	36.172	0.705	1.01
	2-Path	36.564	1.006	0.94
	3-Path	36.212	0.572	0.99
Dissimilar RTTs	2-Path	48.303	0.278	0.004

Paths with different RTT



optimum_end_to_end_delay = 150ms

WLAN + 3G



PSNR:

MPRTP (lossy): 46.72 ± 0.21 10

mmusic-mprtp-sdp-extension

- MPRTTP interface advertisements in SDP
 - Without ICE
 - With ICE
- MPRTTP for RTSP

Next Steps

- Is there interest in WG to pursue?
- There are new pieces that MP RTP could use:
 - Trickle ICE
 - ICE Mobility
 - Multiplexing ...