

Priority (and some other stuff)

ACTION-62

[http://www.w3.
org/2011/04/webRTC/track/actions/6](http://www.w3.org/2011/04/webRTC/track/actions/6)

Overview

- Task at hand: propose an API allow app to set what priority it would like to be used when a stream/track (/datachannel?) is transported to a peer
- How many priority levels?
 - Discussion at TPAC indicated that 5 levels is sufficient
- At what level?
 - MediaStreamTrack seems right (to allow prioritization between audio and video in the same stream)
- One time or changeable?
- Is there anything more than Prio we would like to be able to set/check on a Track being transmitted?

What would we like to set/know

- Prio: set, check
- Bitrate: set min, max; check current
- Video codec operation cbr/vbr
- Use DTX or not
- Know if media started (stopped) flowing
- Know if other end rejected/removed

Options

- Constraint at addStream-time
 - Current method
- Fortran style
 - `pc.setPrio(track, value);`
- Fortran style with constraints
 - `pc.applyConstraints(track, constraints);`
 - `pc.getConstraints(track);`

Options, continued

- Add methods to RTCSessionDescription
- Separate object for controlling prio
 - `var audioTrContr = pc.createControlSurface(track)`
 - Operate on `audioTrContr`

Proposal

- Use a control object created on PeerConnection with track as argument
- Use constraints, align with v6
- Reasons
 - Re-uses the DTMF design model as well as the "change settings on track" _and_ constraints
 - Enables changes after session start
 - Enables handling tracks added to a MS already in localStreams
 - Allows altering things that are signaled as well as things that are not
 - Can register listeners for when constraints can not be met
- Outlined in <http://lists.w3.org/Archives/Public/public-webrtc/2013Jan/att-0005/PrioAPI.pdf>
 - Start with only one or two constraints – add as we see need

Comparing the number of things the app can influence for a video track (excluding some photo stuff)

- Local use: (v6) width, height, frameRate, facingMode, zoom, focusMode, fillLightMode, whiteBalanceMode, brightness, contrast, saturation, sharpness, (+from Cullen) colorSpace, bitrate, aperture, pan/tilt/roll, gain/exposure, gama, white bal, black/white point, delay mode, compr. quality, bit depth, ...
- Over net (in this prop): priority, bitrate
 - (but it could be argued that delay mode and compr. Q belongs here)