

DataChannel SDP W3 flavor

Let's make some decisions!
Pretty please!
At least one this Interim?

W3 Interim 2/2013

DataChannel JS API

- Patterned on WebSockets; API is documented in section 5 of the Editor's Draft
 - Feedback from Mozilla devs who did SocialAPI was positive
 - Feedback from developers working on a 3D FPS WebGL shooter was positive
- Primary issue not resolved is interaction with createOffer/Answer and SDP generation

Changes to API

- Coming out of IETF 85, there was consensus to add a 'protocol' field to allow for interop between apps:

```
channel = pc.createDataChannel("name", "protocol", options);
```

- Mirrors 'protocol' in WebSockets

- Need to add

```
readonly attribute DOMString protocol;
```

Proposal

- Option 2a/2b (or 2c...) from my email to the W3 list:
<http://www.w3.org/mid/5048AE91.5090301@jesup.org>
- No DataChannel connection unless you call `pc.createDataChannel()`
 - You can call it any number of times before `createOffer/createAnswer`
 - If called after initial `createOffer`, triggers a `negotiationneeded` event
 - Note: `createDataChannel` after already connected may not cause renegotiation depending on choices in the IETF

Problems

- For `createAnswer()`, if the offer didn't include `m=application`, we can't add an `m=` line on the answer (and sniffing the offer is a pain)
 - Suggestion: `createDataChannel` before `createAnswer` causes an immediate `negotiationneeded` event when both offer & answer are installed.

Example

```
pc = new RTCPeerConnection();  
pc.onDataChannel(new_channel);  
chan = pc.createDataChannel("talk channel", "chat", {});  
chan.onopen(talk_ready);  
offer = pc.createOffer(offer_ready, ...);
```

```
pc = new RTCPeerConnection();  
pc.onDataChannel(new_channel);  
pc.createAnswer(answer_ready);  
...
```

Decisions! (Please!)

Trust me, it doesn't hurt (much)

- Use `createDataChannel()` before `createOffer/Answer` to create connections
 - If not in offer, calling `createDataChannel()` before `createAnswer()` causes `negotiationneeded` once offer and answer are installed.
 - After `DataChannel` connection created, negotiation will depend on the details chosen in the IETF
 - Causes `negotiationneeded` if no `DataChannel` connection established (and a call is running)