

# Simulcast at TPAC 2015

Plan X

## Plan X Example

```
var sender = pc.addTransceiver({sendEncodings: [
  {rid: "F"},
  {rid: "H", scaleResolutionDownBy: 2},
  {rid: "Q", scaleResolutionDownBy: 4}
]).sender;
// SDP has simulcast in it (Assuming all goes well in MMUSIC)
pc.createOffer();
// ... setLocalDescription, get answer, setRemoteDescription
// Sender parameters has negotiated a subset of encodings
sender.getParameters();
```

# If all goes well in MMUSIC....

```
// In the client's description
```

```
a=rid:F send
```

```
a=rid:H send
```

```
a=rid:Q send
```

```
a=simulcast rid:F,H,Q
```

```
// In the server's description
```

```
a=rid:F recv
```

```
a=rid:H recv
```

```
a=simulcast rid:F,H
```

# And all doesn't go well in MMUSIC

Just send it without negotiating. And leave a big warning. Maybe like this:

“If multiple encodings are set in sendEncodings, more than one simultaneous encoding may be sent even though the remote endpoint has not negotiated it and is perhaps not expecting it. Make sure you only do so when you are sure the receiving endpoint can handle receiving multiple encodings”.

## Either way

- An API for sending multiple encodings identified by the RID header extension.
- No API for PT-based simulcast
- No API mapping for max-width, max-height, max-fs, etc
- Browsers *may* support those more advanced forms of simulcast SDP, but it's optional. The RID portion, including the header extension, is mandatory.

Ship it?

# Some Minor Questions

- Should the JS be allowed to set the RID?
  - If they pick a value too big, it creates big RTP packets
  - But it gives the app flexibility to put some meaning in each simulcast layer's RID
  - Recommendation: Let JS pick the RID (it can already via SDP munging :)
- Should we just use `RtpSender.setParameters()` instead of `sendEncodings`?
  - Problem #1: Parameters is more than just encodings. Do you have to set all the things?
  - Problem #2: Can the JS add more encodings later?
  - Recommendation: Stick with putting it in `addTransceiver`.
- Can a browser *receive* simulcast?
  - Recommendation: Out of scope for 1.0