

Error handling status

13 Dec 2012 (updated 10 Jan 2013)

**Don't shoot the
messenger**

Topics

- Guidelines for exceptions vs. callbacks
 - Anant's original
 - Current text
- Methods potentially needing callbacks
- Aligning error handling across specs
 - Travis' "de-facto error handling" proposal
 - Jim's gUM proposals

Anant's original

- <http://lists.w3.org/Archives/Public/public-webrtc/2012Oct/0030.html>
- Guidelines from Firefox
 - 2 ways to signal errors:
 - Exceptions: anything detectable in a synchronous manner (<50 ms)
 - Failure callbacks: everything else

Current text

- Section 4.6.1, “An exception must be thrown in the following cases:
 - The type of any argument passed to a function did not match what was expected. An appropriate string from the `RTCExceptionName` enum must be used as the error name.
 - A function call was made when the `RTCPeerConnection` is in an invalid state, or a state in which that particular function is not allowed to be executed. In this case, the string `INVALID_STATE` must be used as the error name.
- In all other cases, an error object must be provided to the failure callback.”

Are we happy with current text?

- Anant's original suggestion was a synchronous exception for anything detectable in < 50 ms
- Current text says exception only for function argument type mismatch or function call in an invalid state

Methods w/out callbacks (synchronous)

- RTCPeerConnection
 - updateIce q
 - addIceCandidate q
 - createDataChannel q
 - addStream
 - removeStream
 - setIdentityProvider
 - getIdentityAssertion
 - close
 - createDTMFSender q
- RTCDataChannel
 - close
 - send
- RTCStatsReport
 - getValue
- RTCDTMFSender
 - insertDTMF
 - canInsertDTMF

Legend: Needs callback, q = should queue along with createOffer(), createAnswer(), etc.

Aligning error handling across our specs

- Travis' proposal
 - <http://lists.w3.org/Archives/Public/public-webrtc/2012Dec/0115.html>
- Jim's gUM proposals
 - <http://lists.w3.org/Archives/Public/public-media-capture/2012Dec/0062.html>
 - <http://lists.w3.org/Archives/Public/public->

Travis' proposal

- Current error model based on Geolocation paradigm
 - have a callback/event which is provided with an Error object which has a field which reports the name of the error (the error name and the exception names are usually the same).
- Move error model to that used by DOM4/FileAPI/IndexedDB and HTML5 Media elements
 - use a DOMError-based "error" attribute on the target object and use a normal vanilla "error" event to raise awareness that this state-attribute has been set.
- Discussion?

Jim's gUM proposals

- Align Media Capture & Streams spec with WebRTC using section 4.6 text
- Attempts to list gUM errors
 - Questions about whether device errors, constraint satisfaction errors, permission errors are the same or different
- Need similar review again for WebRTC