

GStreamer WebRTC

The Quadrennium update

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New elements

- `webrtcsink`
- `whipclientsink`
- `awskvswebrtcsink`
- `livekitwebrtcsink`
- `webrtcsrc`
- `whepsrc`
- `whipsink` (deprecated by `whipclientsink`)

New `webrtcbin` Features

- Send/receive-only simulcast support
- DSCP (packet priority)
- msid support
- ICE candidates in SDP
- Advertise end-of-candidates

New RTP Features

- Support for Transport Wide Congestion Control (TWCC)
- Header extensions (RFC5285)
 - Media Identification (MID)
 - RepairedStreamID (RID)/StreamId (SID)
 - audio level
 - TWCC

New ICE Features

- Consent Freshness
- ICE restart (pending MR)

ICE Implementation Abstraction

- Theoretically allows for different ICE implementations
- Currently used by wpe to have libnice/sockets in a different process to webrtcbin itself for the purpose of sandboxing

Known breaks

- rtcp-mux is required
- unspecified sink pad name (`sink_%u`) may not match m-line anymore (`sink_0` still matches)
- src pad names do not match m-line: get mline from transceiver from the pad

Notable fixes

- Renegotiation adding/removing FEC or RTX
- Stats improvements (codec, kind, data-channels, twcc, etc)
- Throw errors in more invalid cases
- Many, many other small fixes

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Thanks

- ystreet00 on #gstreamer on OFTC
- <https://discourse.gstreamer.org/u/ystreet00>
- <https://gitlab.freedesktop.org/ystreet>
- ystreet00@floss.social on mastodon