Two recent releases

- **1.20**
  - February 2022
  - 2309 merge requests

- **1.22**
  - January 2023
  - 1586 merge requests + 648
  - 2531 commits + 1541
One git to rule them all

- A single git repository
- Release in separate tarballs
  - No change for distributors
- Except Rust
  - Synced with gtk-rs
Smaller builds: Just enough GStreamer

- GStreamer & dependencies in one library
- Bundle only specific elements
WebRTC

- Congestion Control
  - Google Congestion Control (GCC)
- webrtcSink: An easy sink with encoding
  - Includes congestion control
- WHIP / WHEP elements
  - Single HTTP request WebRTC connection, replacing RTMP
• SMPTE 2022-1 2D Forward Error Correction
• Header extension plugin system
  – Client-to-Mixer Audio Level Indication (RFC6464)
  – Color space / HDR for VP9
  – Many more...
• AV1 payloader / depayloader
• H.264 and H.265 timestamp correction elements
• RFC 6051 Rapid synchronization using RTP extensions
• Decoder base class:
  - Packet loss
  - Corruption
  - Key-frame request
Adaptive Streaming Client v2

New elements

- Fewer threads
- Better download control
- Internal buffering and parsing
Decoding

- Sub-frame decoding
  - ffmpeg H.264
  - OMX for Xilinx

- WebM Alpha

- Direct3D 11 library

- D3D11 now preferred on Windows
CUDA

- Now with a library!
- A Converter!
- A Scaler!
- Direct3D 11 integration
- Zero-copy encoding!
VA-API: va plugin

- Modern GStreamer framework use
- Decode: AV1, H.264, H.265, MPEG 2, VP8, VP9
- Encode: H.264, H.265
- Compositor
- Deinterlacer
- Post processor
Everywhere!

- Legacy VA-API
- New va
- AMD Advanced Media Framework (AMF)
- Direct3D11
- NVIDIA nvcodec
- Intel QuickSync & MediaSDK
An element for object detection
UI development

- GTK+ 4 paintable
- Qt 6 QML item
- GTK+ 3 direct to Wayland sink
- Touch event navigation
Tracers

- Buffer lateness
  - Which buffers are late?

- Queue levels
  - How full are my queues?

- Pipeline snapshot
  - Draw my pipelines... on cue!

- Factories
  - Which elements are really used?
Thank you!

We are hiring - col.la/careers