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What's new in Upipe ?

—

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What's Upipe ?

- C-object multimedia framework
- Fast, modern, reliable
- From the guy who created VLC
- Manages a series of tubes
- Tubes included!



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Fast

- Event based
- Blocks by default
- No threads !
- Atomics



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Dynamic

- On the fly format negotiation
- Zero copy
- Defers logic to application



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Reliable

- Fuzzed individual pipes
- Test suite
- 24/7 broadcast



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Since last FOSDEM

- 10 contributors
- 312 non-merge commits
- 464 files changed, 39981 insertions(+), 9312 deletions(-)
- Not much changes in libupipe
- Many new modules !



DeckLink sink

- SDI output
 - Teletext in VANC
 - Closed Captions in VANC
 - SMPTE 337, Dolby E
- Works around DeckLink bugs



DVEO ASI sink

- 27MHz timestamped schedule



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DVBCSA

- Encryption & Decryption
- github.com/glenvt18/libdvbcsa
- Fast!



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FEC source

- SMPTE 2022-1
- Can be used with any RTP
 - Not limited to SMPTE 2002-6



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ARQ

- RFC 4585
- NACK mode
- TODO : merge with FEC



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SMPTE 337

- Framer (unmodified frames)
- 2 competing implementations
 - The other one is a parser



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Freetype

- TODO
 - Positioning, styling
 - Test non latin
- Subtitles rendering
- Used in conjunction with blit



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Blank source

- Video - empty frame
- Audio - silence
- Void - no buffer, dict only



A/V sync

- “Raw” muxer for SDI
- Clock rebasing



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V210 decoder

- 8 or 10 bits output
- Assembly



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More pipes

- Zoneplate source (gststreamer)
- x265
- Grid (seamless switchover)
- dtsdi source (DekTec files)
- Block to sound (PCM file)



Coming soon

- DVB source (DVBS CBR)
- SDI over IP
 - SMPTE 2022-6/HBRMT (2012)
 - SMPTE 2110 (2017)
- Sub-frame encoding / decoding



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Coming soon

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- Sub-frame encoding / decoding
- Your contribution



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Questions ?



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