

Closed captions

Additional Things GStreamer Can Do

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New things

- Rust elements: `cea708mux`, `tttocea708`, `cea708overlay`,
`speechmaticstranscriber`
- Rust crates: `cea608-types`, `cea708-types`

cea708mux

- Muxes multiple CTA-708 streams into a single output stream
- 708 companion to `cea608mux`
- Makes heavy use of `cea708-types`

transcriberbin enhancements

- `transcriberbin` now supports muxing CEA-708 captions with `cea708mux` and `tttocea708`
 - Configurable with a `mux-method` property
- Additional audio streams as input

cea708overlay

- Renders CTA-708 captions into a `GstVideoOverlayComposition`
- Can render fallback 608 data using the same implementation as `cea608overlay`
- Makes heavy use of `cea708-types` and `cea608-types`

cea608 - types

- Rust crate for parsing/writing CTA-608 byte pairs
- One big enum for the code space
- Documentation: https://docs.rs/cea608-types/latest/cea608_types/

cea608 - types : Parsing - Cea608State

- `Cea608State` parses an incoming stream into one or two `Code` values
- Swallows control code duplication
- Dual field input requires two `Cea608State` s
- Tracks the last received field for field reversal detection

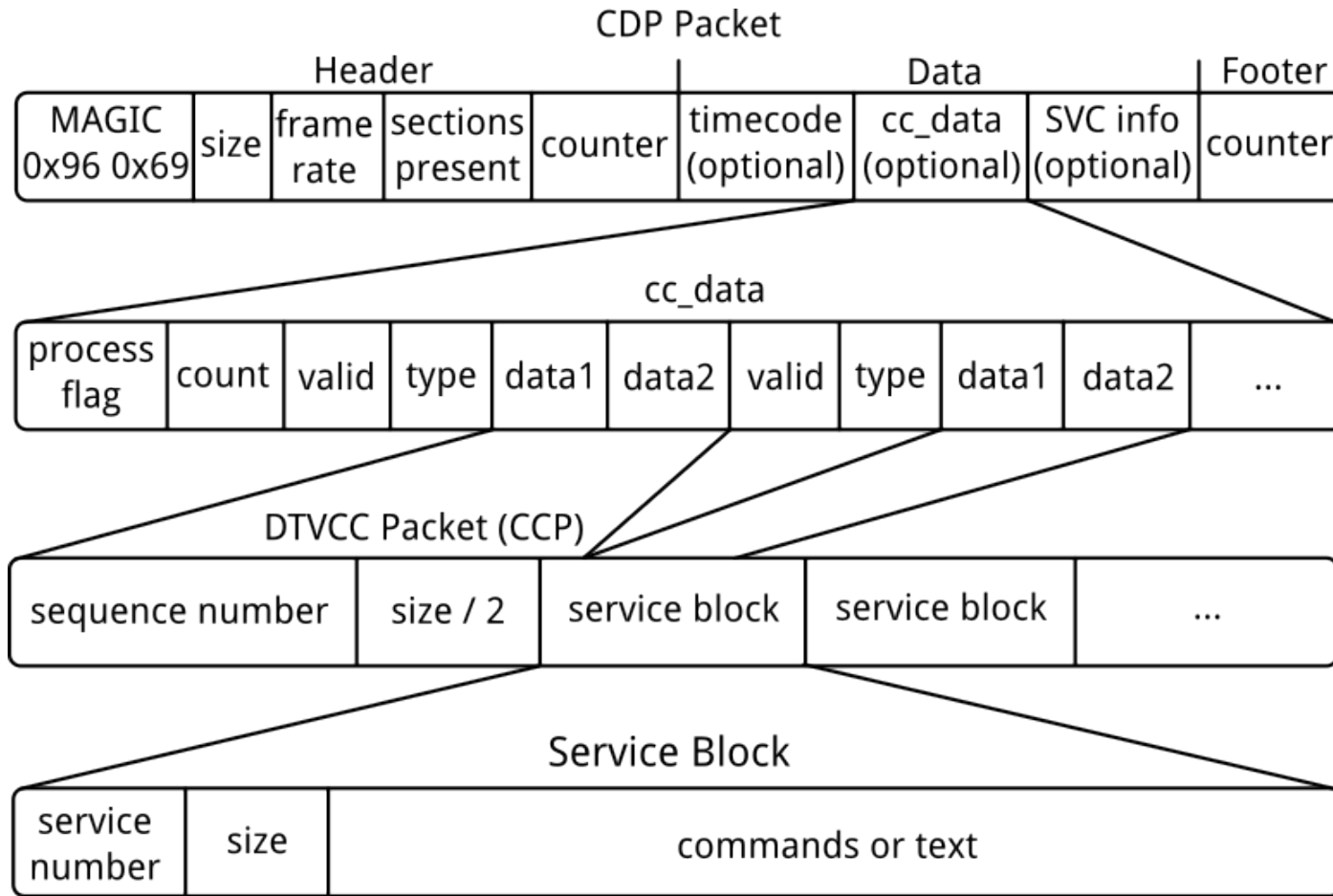
cea608 - types : Writing - Cea608Writer

- `Cea608Writer` writes a series of `Code`s into a stream of byte pairs
- Handles mixed one and two byte `Code`s

cea708 - types

- Rust crate for parsing/writing a CTA-708 stream
- One big enum for the code table
- Documentation: https://docs.rs/cea708-types/latest/cea708_types/

CEA-708 Reminder



cea708-types: Parsing - CCDataParser

- Parses complete `cc_data` packets
- Outputs complete `DTVCCPacket` s
 - `DTVCCPacket` s may contain multiple `Service` which contain the `Code` s

cea708 - types : Writing - CCDataWriter

- Push any number of `DTVCCPacket` s and some optional `Cea608`
- Write the `cc_data`
- Padding of CTA-608 byte pairs and the `cc_data` is configurable separately
 - Different subformats have different requirements for padding data
 - CDP generally requires padding, however `cc_data` does not

Other Rust closed caption plugin changes

- No C code based on a snapshot of libcaption
 - Replaced by a dependency on `cea608-types`
 - https://gitlab.freedesktop.org/gstreamer/gst-plugins-rs/-/merge_requests/1517

Thanks

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