



Closed Captioning in the Cloud

Automated Closed Caption Processing for Broadcast and VOD Output

Robust, broadcast-quality closed caption support is critical in today's video workflows. With regulations for the compliance of ever- greater amounts of linear and on-demand content, producers and distributors face growing demands for industry-standard embedded mezzanine and intermediate broadcast container captioning. The translation of those captions into packaged and segmented assets for global distribution as VOD assets is an essential part of the equation.

Meeting industry requirements for closed captioning complicates the workflow, yet automation tools that can simplify the process are scarce. Proprietary tools exist, allowing video engineers to create, test, modify and apply caption data in a desktop environment, but are not commercially available. A handful of high-end video workflow systems strive to preserve caption data that's already in place, but don't support caption data insertion or modification.

That's not all. Producers can no longer license the industry-standard libraries used for years to create CableLabs-compliant content for linear playout. Instead, they are forced to spend engineering cycles creating bespoke tools and licensing libraries, with only partial support for a wide range of playout systems and standards.

Encoding.com, the industry's most trusted cloud media processing platform, offers a comprehensive – and growing – set of tools for addressing caption extraction, modification and insertion as part of the B2B workflow. Targeting a broad portfolio of standards and origin and playout solutions, our solution allows broadcasters and streaming media companies to fully automate the processing of captions in the cloud, greatly simplifying your ability to distribute captioned video to millions of users.



Automated closed caption extraction, modification and insertion in the cloud



Complete set of broadcast- and VOD- focused processing microservices



Simplifies your ability to distribute content to millions of viewers around the world



Lowers the complexity and cost of maintaining on-prem infrastructure

We've led the industry for years with captioning support for packaged and segmented assets. Our newest feature sets are designed specifically for broadcast intermediate and mezzanine assets, further extending our leadership in cloud-based broadcast automation.

In addition to rich support for sidecar and fragmented/packaged caption data for common formats such as fMP4 and HLS, we now offer the ability to extract and insert a variety of ancillary and frame-based caption formats, including SCTE 128, SCTE 20, DVB and SMPTE 334-2. Whether inside CableLabs-compliant transport streams, MPEG-2 program and transport streams, MXF containers, or H.264 and H.265 video streams, your video processing workflow can now support caption requirements for content distribution to all broadcast and OTT devices.

The Encoding.com API lets you automate the manipulation and conversion of the most-used caption formats, including extracting and modifying multiple caption services and languages. You can re-time captions, modify caption frame rates to match your content, up-convert from EIA-608 to 708, and convert captions to a broad range of formats, enabling your engineers to break away from what have been mundane manual tasks in desktop applications.

Captioning support on our platform is matched with a range of microservices focused on the output of broadcast- and VOD-ready content. With just a few lines of JSON or XML code, you can request a transport stream from nearly any source material with the confidence that it will pass the most stringent of conformance checks and be free of errors during playout on any device.

A cloud-based Encoding.com workflow also lets you scale outside of your data center. With over 100 million assets a month processed on our platform, you can be assured that a highly available, resilient solution with no upper limits on scalability is backing your workflow. Because we run in 15 data centers around the world, we provide a level of efficiency that helps you minimize costs, latency and bandwidth.

Additional features of a closed caption processing workflow on Encoding.com include:

- Support for CableLabs-compliant broadcast content
- Support for complex audio workflows, enabling the processing of multitrack audio assets
- Cloud-based conformance and assembly

Simple Integration

Integration to the Encoding.com cloud service can be through our API, Watch Folders or GUI. Our API is the most mature, well-documented and feature-rich cloud encoding API on the market, simplifying the ability to move your ABR processing to the cloud. We can integrate with your CMS, MAM or post-production application, and offer XML templates for all popular devices. To further simplify the integration process, our API Builder helps generate properly formatted XML files to test your JSON or XML requests before writing a single line of code.

Contact Encoding.com today at +1 800-513-1740 to see how we can help optimize the revenue-generating potential of your library.

Encoding.com Closed Caption Support

Broadcast

- Embedded DVB subtitles in MPEG-TS
- SCTE 128 (A/53)

MXF

- SMPTE 334-2 CDP

H.264 TS

- CableLabs compliance
- EIA-608 SCTE 128

MPEG-2 TS

- CableLabs compliance
- EIA-608 SCTE 128 w/ 708
- EIA-608 SCTE 20 w/ 708

Multiple Service

- EIA-608 CC 1-4, 708 Service 1-6
- Multiple languages
- International characters

Packaging

- Timed-text
- CEA-608 video track mux (with optional 708 up-conversion)
- WebVTT sidecar
- Burn-in
- ISMT track

VANC Caption Extraction

- A/53 708 DTVCC CDP extraction
- H.264 embedded caption extraction
- H.265 embedded caption extraction

Frame Caption Extraction

- MPEG-2 transport streams containing MPEG-2 video
- MPEG-2 program streams containing MPEG-2 video
- A/53 and SCTE 20

Adjustments

- EIA-708 up-conversion
- Service reassignment
- Re-timing

