

AI Clip Search

Search across content libraries to retrieve relevant clips based on in-Fabric generative AI/ML tagging, speech-to-text transcription, and content metadata.

With the **AI Clip Search v2** and **Video Editor v2** apps, Content Fabric users can take advantage of the comprehensive AI Content Understanding features built into the fabric. The **Fabric AI Content Tagging service** provides one shot or continuous frame and segment level tagging of Fabric content, and now includes new generative AI models, as well as six other models - celebrity/face detection, automatic speech to text, logo recognition, OCR, activity detection and shot boundary detection. Tags are recorded in the metadata of Content Objects (in place), aggregated by shot, indexed by Fabric Search and are directly usable in the Fabric's dynamic streaming pipeline - to create clips, insert content/ads, create highlights etc.

Unlike other AI content tagging workflows, no content or metadata ever has to move avoiding egress charges and forklift content transfers, and the AI metadata is directly and dynamically actionable. The ground truth for the logo and celebrity models can be continuously extended for custom identification of players, actors, brands, etc. without retraining.

The latest **Fabric Search service** provides fast re-crawl across content object metadata, including frame and video level tags (both AI and 3rd party provided), and includes enhanced text-based and semantic search capabilities.

AI Tagging and Search together create a powerful pipeline that enables this second generation **AI Clip Search** app. Users can search across their Content libraries to retrieve relevant clips matching semantic, text, and category based queries. The Fabric returns relevant clips automatically that are built dynamically and just-in-time in playout. This pipeline avoids the time and cost of manually identifying, cutting, and storing clips or highlights. The new UX includes shareable links for copy-paste streaming or download of the clip, and side panels for viewing the relevant tags and semantic descriptions of each content and is fully embeddable in any applications via its APIs.

The screenshot displays the Eluvio AI Clip Search application. At the top, there's a navigation bar with the Eluvio logo and a search bar containing "Leinster Rugby scores". Below the search bar, there are several thumbnail previews of video clips, each with a title and timestamp. One prominent clip is titled "Astonishing Penalty Kick: A Rare Moment of Precision" with a timestamp of 1:27:35 - 1:28:09 (00:26). To the right of the thumbnails, a large video player shows a live rugby match between Leinster and Ulster. The video player includes controls like play, pause, and volume. Below the video player, there's a summary text box with a detailed description of the match. To the right of the summary, there are three tabs: "Tags", "Summary", and "Highlights", with "Tags" currently selected. The "Tags" tab shows a list of timestamps and corresponding tags, such as "Lorem ipsum dolor sit amet consectetur...". There are also sections for "STT" (Speech-to-Text) and "Object" with similar timestamp-tag pairs. At the bottom of the interface, there are fields for "Content ID", "Time Interval", and "Source URL".

Key Features

Fabric AI Content Tagging Service v2

- New Generative Image Transform (GIT) model for semantic tagging of individual frames
- New Large Multimodal model for semantic summarization by shot, clip, and whole video
- Fully integrated in Tagger service for one time and continuous tagging of video frames and segments and audio transcription
- Adds to celebrity/face recognition, automatic speech to text, logo recognition, OCR, activity detection and shot boundary detection
- Speech to Text now supports all major EU languages

AI/ML Tags in Content Objects

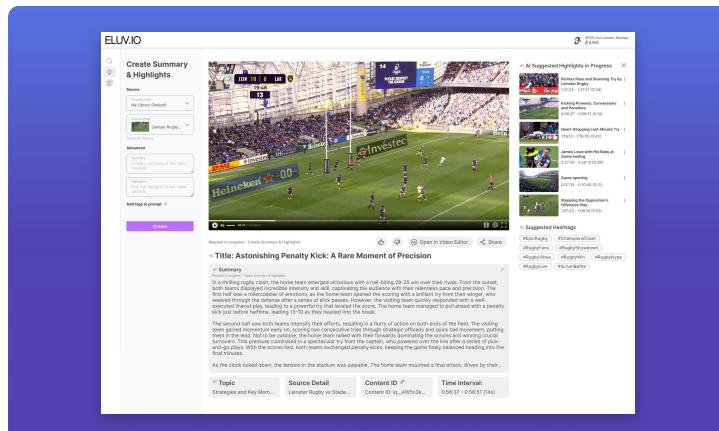
- All tags are frame accurate and time coded, and stored in the corresponding content object as JSON metadata
- Tags are metadata to drive any dynamic representation from the Fabric - clips, content/ad insertions, highlights
- Tags are viewable and downloadable on demand
- Tags are automatically aggregated by shot for further indexing
- All in place - no media or metadata has to move

Fabric Search Service v2

- Provides fast re-crawl and instant update across content object metadata (<3 seconds for typical indices)
- New state-of-the-art vector embedding algorithm supports high accuracy semantic and keyword queries
- New enhanced ranking and retrieval yields best matches in top 5 results
- Indexes any content object metadata such as 3rd party provided data feeds and AI tags published to the object
- API for searching across all or subset of tags by model
- Fabric fine-grained permissions restricts search results to authorized entities

Clip Search v2

- New UX for internal curators, partners and end users to search across content libraries and retrieve relevant clips and images matching semantic, text, and category based queries
- Now generates Summaries, Topics, Key Frames using Large Multi-Modal AI models in Fabric
- New multi modal search by Keyword, Prompt, or Image
- Playable/downloadable links are built dynamically and just-in-time from the full length source for extreme savings \$\$.
- Eliminates manually identifying, cutting and storing clips or highlights
- New shareable links for copy-paste streaming or download
- New side panels display relevant tags, semantic descriptions
- Fully integrates with Video Editor to open and edit clip start/end points on demand (if permissioned) - Q4 2024
- Embeddable APIs for integration in any app





Video Editor

View and scrub frame-by-frame through playable content objects and their AI/ML metadata tags. Create and download clips dynamically generated from the source object.

The **Video Editor** app provides frame-accurate timeline viewing/scrubbing for any playable content in the Fabric and its metadata, in the browser. The **Video Editor v2** also acts as a lightweight clip generator, supporting saving of key frames, and mark-in/mark-out selection, and dynamic generation and download of subsections or clips. Any timecode metadata in the object is displayed on timecode synchronized tracks. Users can view the AI tags applied by the ML Tagging service, one track per model. 3rd party metadata such as play-by-play data feeds, AI metadata, and human curated descriptions can also be posted to content objects and will automatically present in the Video Editor for easy review and clipping.

The Fabric's unique and efficient content native model (component based media & object metadata with just-in-time processing) all come together, making possible new, radically efficient and simpler pipelines. Examples include recording live streams during playout, converting to VoD within seconds, ML tagging and generating clips, and searching content, without ever moving files or metadata or duplicating content – all operations occur directly upon the source content object in the Fabric.



Fabric Browser and Video Editor Views

This screenshot shows the Eluvio Fabric interface. On the left, there's a video preview of a man eating a sandwich. On the right, a larger video player shows the same scene. Between them is a detailed timeline with various tracks and metadata panels.



External tags, Data feeds (EPCR example) - Video Editor

This screenshot shows the Video Editor interface with a soccer match video. It includes a sidebar for 'External tags, Data feeds (EPCR example)' which lists 'Ingest Time Coded External Tags and Data Feeds.' and 'Derive content specific fields - players, teams actions etc.'



Video Editor: New Generative Image-to-Text Transform

This screenshot shows the Video Editor interface with a soccer match video. A text overlay on the right says 'More descriptive texts: Ex - a soccer player is shown a yellow card'.

Key Features

Timeline

Scrubbing for Content and Time Coded Metadata Tags

- Per frame scrubbing and playout for any content object in browser
- Displays timecoded tags such as Fabric-generated AI/ML tags on separate timeline tracks synchronized with playout track
- Displays timecoded 3rd party tags added to the content object
- Step through tags with instant seek and play
- Edit tag values and save back to Content Fabric

Clip and Key Frame Generation

Generation

- Set mark-in, mark-out points
- Download dynamically generated playable clips
- Select the video and audio resolution of the downloadable clip
- Save key frames

Images

- Support viewing AI/ML tags per image