emotion
S Y S T E M S

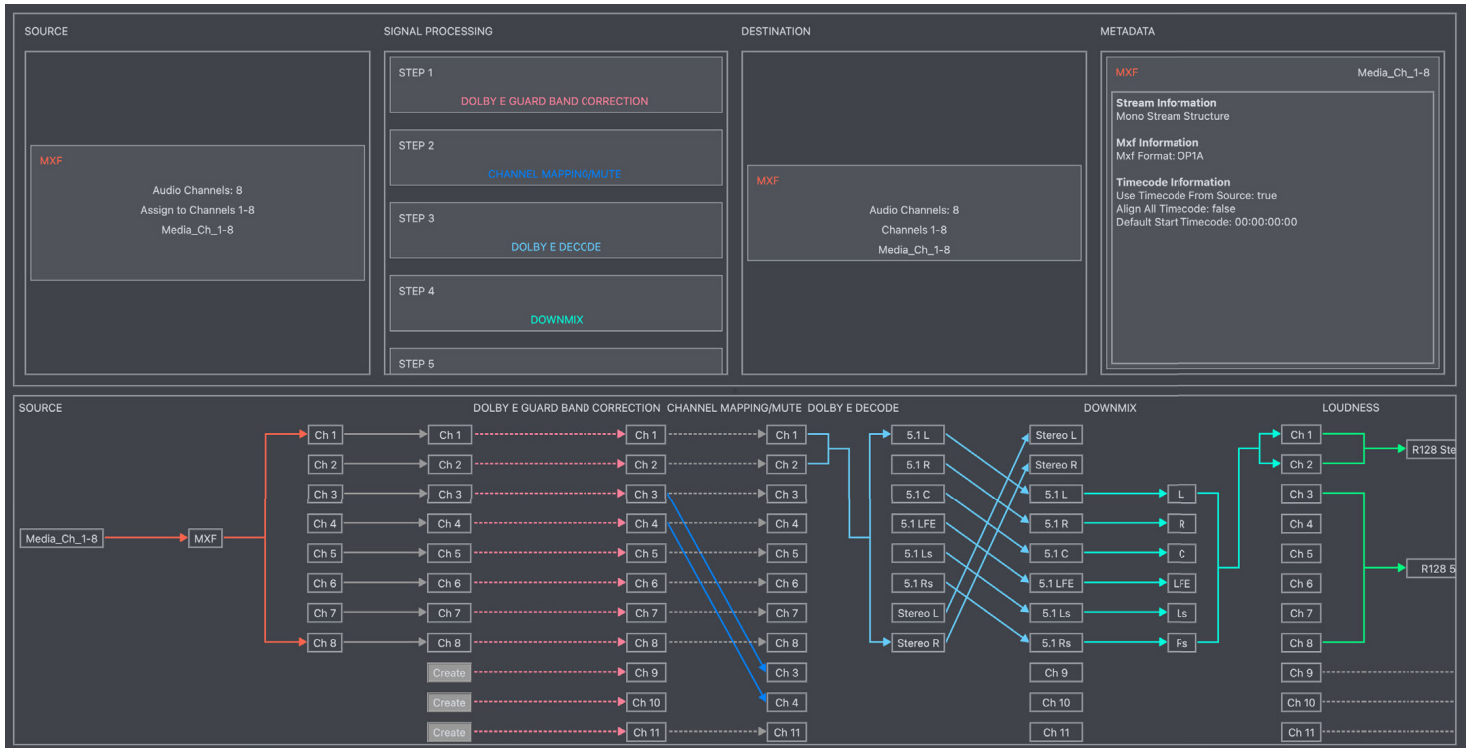**engine**

Automated File-Based
Audio Processing for Content Delivery

Engine manages repetitive, non-creative tasks typically performed in an edit suite, helping to save both time and operational costs. These tasks may include Loudness Processing, Dolby E transcoding, Stream Processing, File Wrapping, Adding or Removing Channels, Language Tagging, Pitch Correction, and various other audio processing functions. As businesses expand and their requirements evolve, the software scales to meet growing demands while ensuring reliable and consistent 24/7 operation.
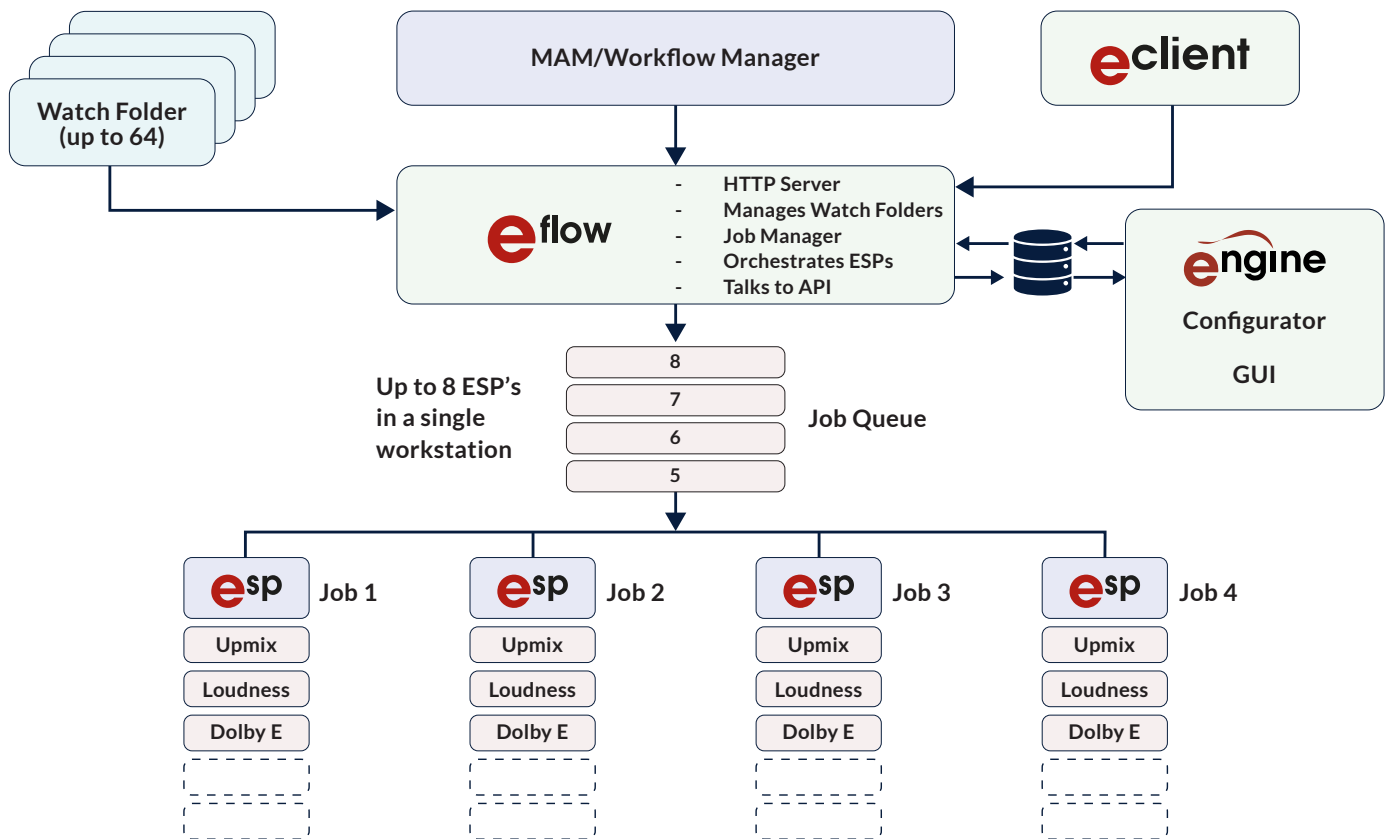

Engine Operation

- **Flexible Automation:** Engine can be integrated with various API-based tools, enabling task automation without the need for separate automation systems.

- **Workflow Management:** Engine features a user-friendly graphical tool for workflow creation, requiring minimal training to manage processes.

- **Real-Time Progress Monitoring:** Processing management tools provide real-time monitoring to track tasks and identify any errors or constraints.

- **Reports:** Built-in PDF, XML, and CSV reporting enables users to collect information and inform clients of any encountered issues.

- **Compatibility:** Engine works with Windows, OSX, and Linux, and supports virtual machine installations, offering flexibility across different environments.

- **Media File Support:** The software handles a wide range of media file types, from SD to UHD resolutions, including MXF and MOV, ensuring adaptability to various formats.

Engine Architecture

Eflow, Engine's job management system, queues jobs and assigns them to an available ESP. If an application or server fails, it can restart Engine and restore job data, running as a service on Windows and a Daemon on Mac and Linux.

ESP (Emotion Signal Processor) is a set of processing modules that execute workflows, process audio from media files, and rewrap it while preserving video and metadata. (*See separate Engine Audio Solutions for Media Files document).

Engine is scalable, allowing up to eight ESPs per Eflow for simultaneous file processing, improving overall throughput.

Watch Folder (up to 64)

MAM/Workflow Manager

eclient

eflow
- HTTP Server
- Manages Watch Folders
- Job Manager
- Orchestrates ESPs
- Talks to API

engine

Configurator

GUI

Up to 8 ESP's in a single workstation

Job Queue
- 8
- 7
- 6
- 5

esp Job 1
- Upmix
- Loudness
- Dolby E

esp Job 2
- Upmix
- Loudness
- Dolby E

esp Job 3
- Upmix
- Loudness
- Dolby E

esp Job 4
- Upmix
- Loudness
- Dolby E

Automation

‣ Integrations
‣ API
‣ Watch Folder
‣ Conditional Workflows

Audio Processing

‣ Loudness
‣ Channel Mapping
‣ Audio Description
‣ Upmix/Downmix
‣ Dolby Encoding
‣ Dolby Decoding
‣ Dolby Guard Band
‣ Pitch Correction
‣ Audio Alignment
‣ Mono to Stereo
‣ Binaural Mix

Delivery

‣ File Manipulation
‣ Channel Tagging
‣ Language Tagging
‣ Channel Wrapping
‣ Reporting

Identification

‣ Eliminates need to view audio in editor to identify audio structure.

‣ Can view and report structure of encoded audio files.

‣ Identifies where stereo and 5.1 channels are located.