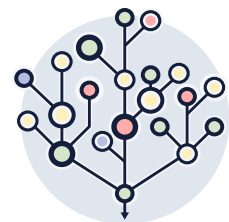# Solution Sheet

Emotion Systems Engine Conditional Worfklows bring operational efficiencies to Audio Processing of File-Based Video

With platforms and broadcasters onboarding more and more content each day, having the ability to intelligently analyse the audio make-up of the file has never been more important. In an ideal world delivery specifications are met and are universal - however the reality is not so pretty. With content being generated around the globe, it is unreasonable to think that all content recieved will be in the format necessary for play-out. Most likely the platform or broadcaster will have to undertake their own series of processes to ensure formats and delivery standards are met.

This in itself can be a cumbersome task; to facilitate processing having prior knowledge of the incoming files source structure is essential if we are to know what processing measures need to be put in place. Already this is a 2 step process which require specialist softwares to achieve. This is before we even embark on creating a workflow for each particular variety or file recieved.
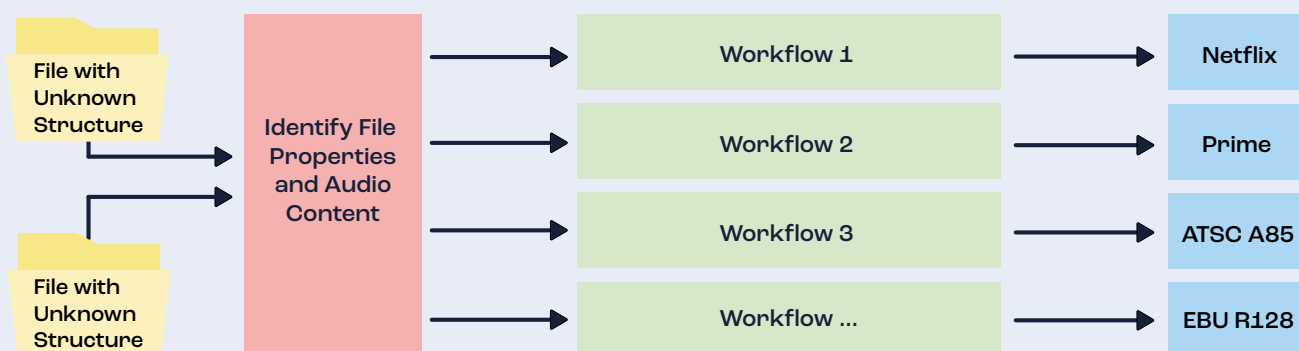
Being able to automate the process of identifying source properties, assigning the correct workflow and triggering this workflow is now not just a wishful thinking but in many cases an essential part of the media pipeline.

Emotion Systems Conditional Workflow module is now being deployed by more and more leading broadcasters and platforms

Benefits

- Efficiency: Saves time and effort by automating analysis and processing.
- Scalability: Handles large volumes of files without additional manpower.
- Consistency: Ensures uniformity in analysis and processing across files.
- Accuracy: Reduces errors and ensures adherence to standards.
- Adaptability: Workflows can be created/updated to accommodate new formats or requirements.
- Resource Optimisation: Frees up human resources for strategic tasks.
- Faster than Real-time Processing: Enables quick turnaround times for media

Engine is a highly specialist application that allows the widest range of audio processing that is required for content delivery. Furthermore Engine, at its core, is an extensive automation system that combines high fidelity audio processing with high speed workflow execution. This unique combination allows Engine to sit anywhere in the media pipeline; from content creation to content distribution. The conditional workflow module has mainly been adopted by broadcasters and platforms looking to deliver content.

Combining the ability to analyse files with workflow triggering allows customers to streamline their media processing operations seamlessly. By automating the identification of audio configurations, encoded audio, and metadata variances, the system ensures efficient handling of diverse media files. This enables customers to optimise resource allocation, maintain consistency in file processing, and meet demanding turnaround times with enhanced accuracy and scalability.

Examine
Channel Layout Detection
Used to identify audio groups present in the file i.e. Mono, Stereo, 5.1

Silent Channel Detection
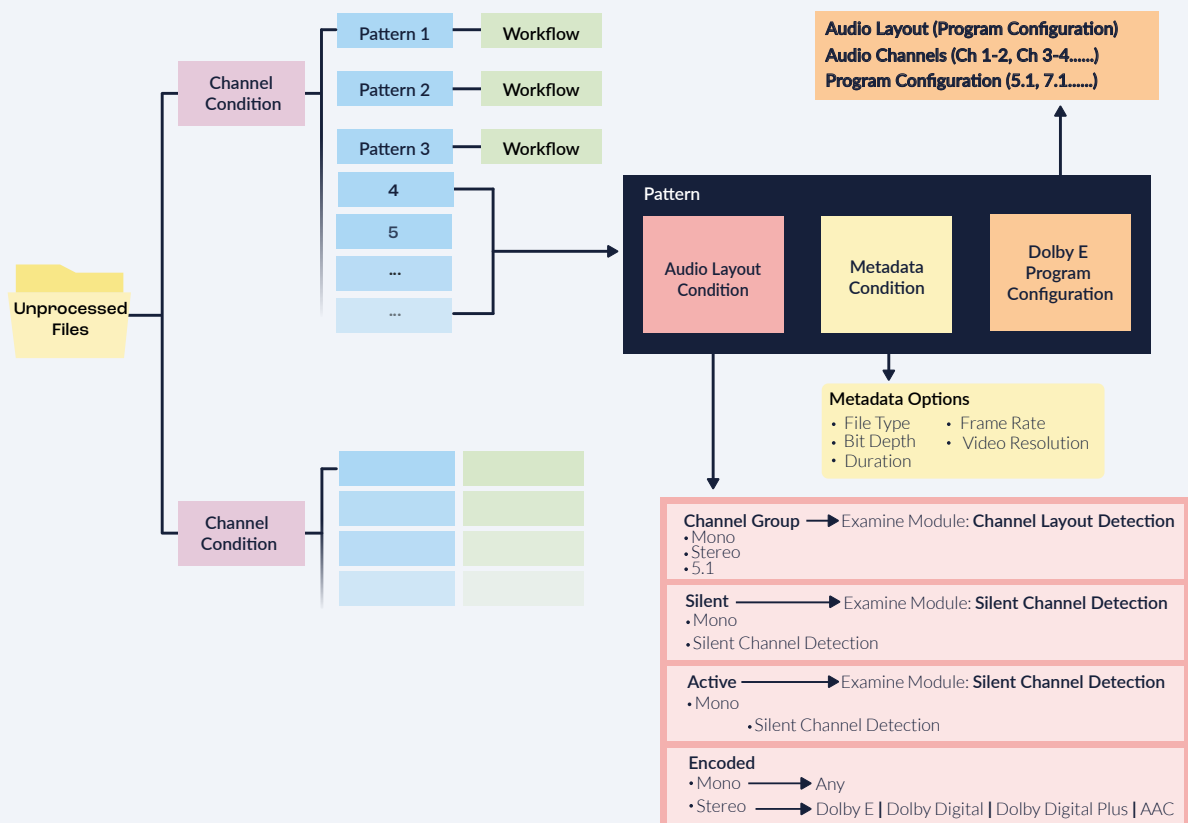Identifies where silent channels are located within the file.

Patterns
Metadata	Uses metadata proper-ties in the file to trigger a workflow
Audio Layout	Audio channel grouping information to trigger a workflow
Encoded Data	Uses data regarding the encoding format in the file to trigger a workflow

Engines Conditional Workflows function using the Examine module plus a series of user defined patterns. Once the pattern is set up, Engine decides whether a file meets the pattern paramters set before it exectures a workflow. Patterns can be set and defined by using either a single paramter or a combination of pattern parameters. The parameters that are able to be conigured are the Metadata condtion, Audio Layout condition and Encoded Data condtion.

A conditional workflow uses existing workflows (that have been created in Engine-Configurator) and a series of patterns in order to identify which workflow is appropriate for the incoming file.

Using a series of parameters, a workflow can be triggered using the audio layout (identified by Engines Examine module), metadata conditions, or the Dolby E program configuration.

Emotion Systems will work closely with the customer to understand the format/varieties of source material the client expects to recieve. Once the input variants and output format have been defined, the Emotion Systems team create the conditional workflow on behalf of the client.

Conditional workflows offer significant advantages for broadcasters, OTT platforms, and content recipients dealing with a multitude of source formats. Firstly, they streamline the handling of diverse content by automating the workflow selection process. Instead of manual intervention to identify and route files, conditional workflows utilise predefined patterns and parameters to make fast, accurate decisions. This automation saves invaluable time and resources, ensuring efficient content processing even amidst a high volume of incoming material.

Secondly, the flexibility of conditional workflows enhances adaptability to evolving content landscapes. As media formats evolve and new delivery standards emerge, broadcasters and OTT platforms must continually adjust their workflows. With conditional workflows, organizations can swiftly tailor their processing pipelines to accommodate new formats and specifications. Whether it's metadata conditions, audio layouts, or encoded data configurations, the ability to configure patterns enables seamless integration of varied content types without disrupting operations.

Moreover, conditional workflows empower content recipients to maintain consistency and quality across their distribution platforms. By collaborating closely with Emotion Systems or similar service providers, clients can define customised workflows that align with their specific requirements and expectations. This collaborative approach ensures that regardless of the source format diversity, content delivery remains reliable, standardised, and optimised for various broadcasting and streaming environments. In essence, conditional workflows represent a solution for content providers navigating the complexities of modern media delivery, enhancing operational efficiency while upholding content integrity and viewer experience.

About Emotion Systems

Emotion Systems provide audio professionals in the broadcast and television industry with the very best products to solve real-life problems. We do this by focusing relentlessly on audio processing, listening enthusiastically to our clients and industry colleagues, and collaborating to create products that innovate the broadcast industry. As a small team of specialists, Emotion Systems has designed products that have helped audio professionals all over the world transition from analogue to digital delivery, navigate the changes in the industry, and provide operational efficiencies in the process. More information available at www.emotion-systems.com