

emotion
S Y S T E M S

Solution Sheet

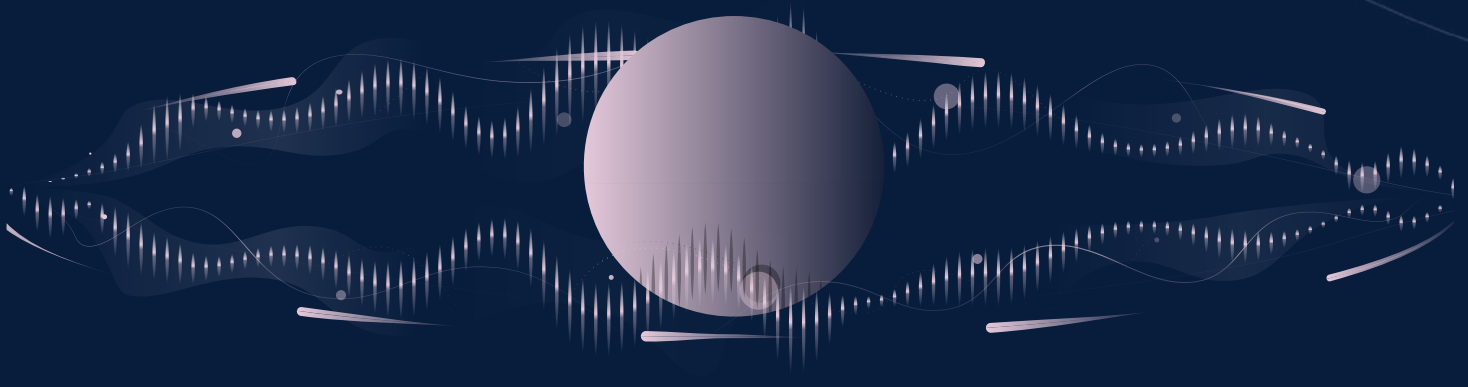
Emotion Systems Engine and the
Immersive Mix Module
bring operational efficiencies to
Audio Processing of File-Based
Video

engine



In the realm of audio production within the broadcast media landscape, achieving a seamless and captivating auditory experience is of paramount importance. Emotion Systems have recognised the increase and diversity of audio delivery standards and consequently have continued to add more sophisticated solutions, such as the Immersive Mix Module inside Engine. This module serves as a versatile tool for content creators, offering both upmixing and downmixing capabilities within a single framework.

Meeting specified surround sound requirements has become a key consideration for content delivery. The Immersive Mix Module addresses this need by providing an automated upmix solution, allowing stereo content to be elevated to surround formats like 5.1 or even more advanced configurations such as an immersive 9.1.6 mix. This not only caters to the growing demand for immersive audio experiences but also aligns seamlessly with delivery specifications that mandate surround sound capabilities.



Benefits

- **Efficiency:** Saves time and reduces manual labour.
- **Consistency:** Maintains uniform audio quality across projects.
- **Scalability:** Adapts to various audio formats and distribution platforms.
- **Customization:** Tailors audio mix to specific project requirements.
- **Cost-Effectiveness:** Reduces operational costs and enables faster turnaround times.
- **Enhanced Creativity:** Frees up resources for exploring creative possibilities.
- **Future-Proofing:** Adapts to evolving industry standards and emerging

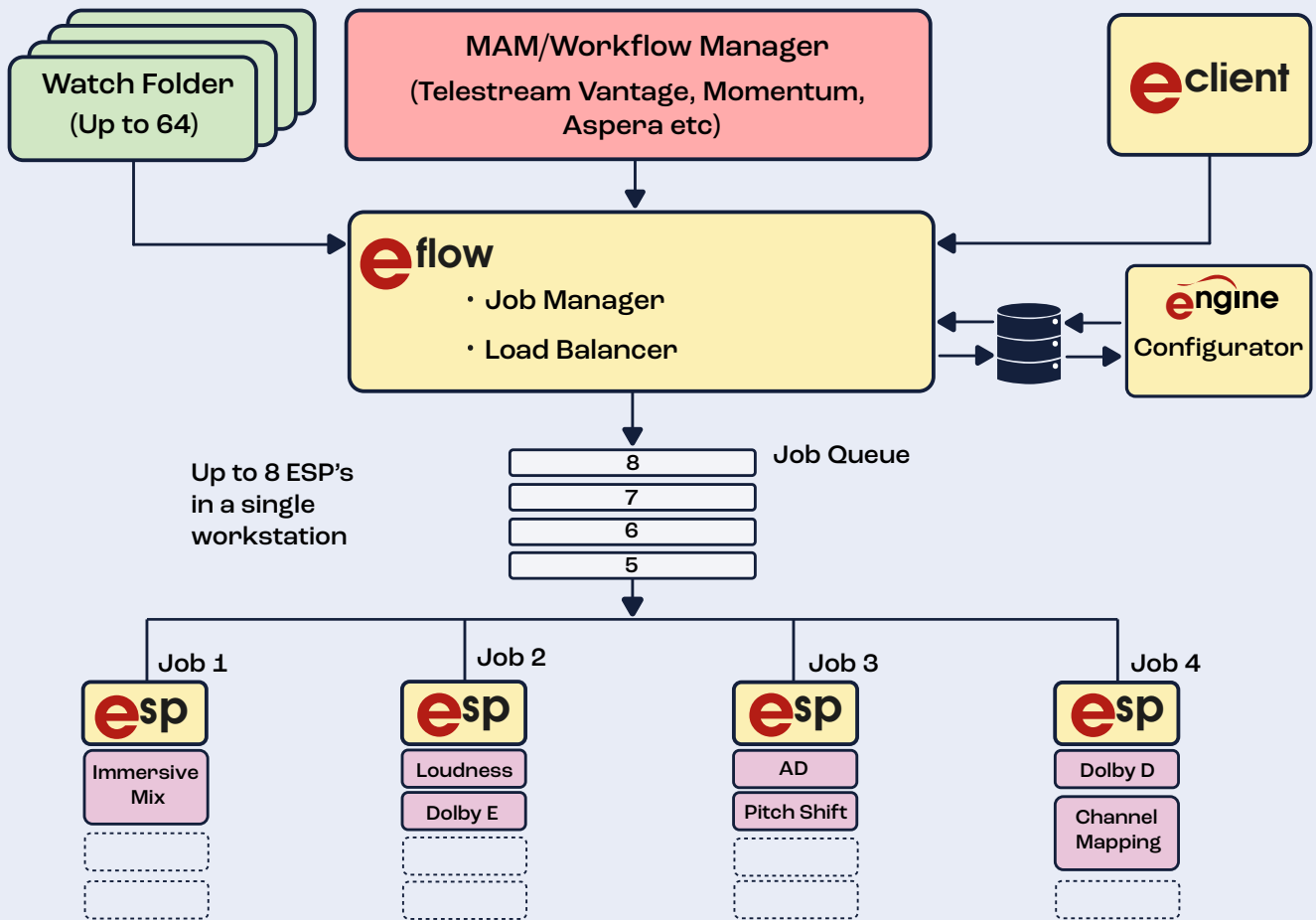
Engine is a highly specialist application that allows the widest range of audio processing that is required for content delivery. It enables best of class Loudness Correction, Upmixing/Downmixing, Audio Description, Dolby encoding/decoding solutions, and many more. With an increasing focus on utilising surround sound, modern media files may require not only a 5.1 surround mix, but beyond with the inclusion of height channels. Being able to upmix/downmix and transform the source media file into the necessary delivery configuration has never been more important.



Upmix: In this example workflow, we are utilising the upmix capabilities of the Immersive Mix module. With the ability to upmix to any format up to 9.1.6, Engine can seamlessly create both a 5.1 and a 7.1.4 mix in the same pass. With added tuning functionality, it is possible to create 2 different style surround mixes. One which utilises the surround channels for the 5.1 and separate mix for the 7.1.4 which could excentuate the height channels.



Downmix: In this example Engine is performing a downmix on both surround and immersive content. Just like the upmix, in the downmix stage we can perform all necessary downmixing in one pass. This streamlines both the workflow and the media pipeline as there is no need to downmix each element separately, in turn reducing bottlenecks. The downmix can also be customised with various parameters in order to create two separate tones to the downmixes.



Additional Benefits:

Engine possesses the capacity to manage and manipulate audio within broadcast-ready MXF and MOV files by executing unwrap and rewrap functions. Alternatively, it can manage audio in PCM/WAV format. This flexibility enables users to select the most appropriate method for their particular media processing needs.

An upmix/downmix workflow might constitute just one of various audio processing requirements. Other processing workflows for a distinct batch of files may need to be executed concurrently with the immersive mix workflow. Engine empowers operators to generate an unlimited number of workflows, and execute up to eight jobs concurrently.

Utilising an automated system such as Engine for generating immersive mixes presents several advantages that significantly enhance efficiency in the media processing pipeline. Firstly, these systems introduce accuracy and speed to the process, facilitating the swift creation of immersive mixes, particularly beneficial when managing an extensive library of content/assets. Their consistency in producing standardised mixes guarantees a uniform experience for users, eradicating variations in style and quality that may arise with manual methods. The cost-effectiveness of automated systems makes them a sustainable solution for organisations aiming to enhance the type of audio of which they can deliver, without incurring substantial labor expenses.

One of Engine's primary advantages lies in its scalability, enabling it to seamlessly handle a diverse array of content. With the capability to generate immersive mixes from a single stereo source, Engine empowers users to create inclusive content promptly. Moreover, Engine's integration with numerous leading media supply chains and transcoders enhances the overall production process's efficiency, simplifying the addition of immersive mixes during content delivery.

In contrast to processes reliant on human intervention, Engine seamlessly uplifts the original mix and uses content specific processing to ensure the resultant surround or immersive mix is acceptable with no erroneous clips. This method minimises the risk of errors that may occur when individuals manually upmix audio elements. By eliminating the necessity for direct human involvement, Engine ensures precise and error-free generation of immersive mixes. The automation provided by Engine not only reduces the potential for errors but also furnishes organisations with a dependable and consistent solution for incorporating immersive mixes in their content delivery.

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