

eFactor Transmux SDK

ON-THE-FLY REPACKAGING OF HTTP ADAPTIVE BITRATE CONTENT FOR CONNECTED DEVICE DELIVERY

Solution Overview

At Concurrent® we've developed content workflow solutions that separate content repackaging (aka Transmux) from transcoding. The eFactor™ Transmux SDK is a highly efficient and scalable software based, on-the-fly repackaging engine supporting thousands of repackaging requests per second. The efficiency of the engine provides our customers with the ultimate flexibility to deploy transmux functionality at any point in the video delivery network from the origin to mid-tier distribution (e.g., parent cache) and all the way to the edge, without impacting the performance of the delivery infrastructure. This flexibility creates new business opportunities that are enabled by the integration of business policy and content protection with the repackaging process. These additive capabilities are enabled by additional eFactor software modules and integration with 3rd party systems.

Simply put, eFactor reduces the content workflow complexity of multi-format, multi-device video delivery and enables new revenue generation opportunities for these types of services.

Many service providers have invested heavily in sophisticated HTTP delivery infrastructures. Providing the eFactor Transmux engine as a software development kit allows service providers to evolve their existing infrastructure with new capability while increasing their return on investment and their competitive advantages.

eFactor Transmux SDK allows you to create a scalable, enterprise-level, multi-format video delivery solution. The Transmux SDK gives you the ability to dynamically repackage a single, live or on-demand, source asset into multiple file formats, reducing the complexities of reaching the widest audience possible of today's market leading connected devices.

The Transmux SDK is a software development kit consisting of one or (optionally) two Linux daemon services, shared libraries, header files and a sample Apache server module (plug-in). Utilizing the SDK, customers can develop and integrate a Transmux plug-in into existing media server infrastructure.

Transmux is the process of dynamically repackaging a source media asset into a different file format and adaptive bitrate (ABR) fragmentation schemes. The supported input and output formats are specified below. The SDK is intended for development in C or C++ languages on 32 or 64 bit architectures for Linux and Windows.

Supported Output Formats – Live/Linear Broadcast and Video on Demand

1. Apple® HTTP Live Streaming (HLS)
2. Adobe® HTTP Dynamic Streaming
3. Microsoft® Smooth Streaming

Supported source file formats – Video On Demand (VOD)

1. Single bitrate: MPEG-4, part 15, Microsoft Smooth Streaming (.ismv), (.f4f)
2. Standards Based Adaptive Bitrate
 - a. Multiple MPEG-4, part 15 single bitrate files packaged together with a manifest file (SMIL)
3. Native Adaptive Bitrate formats
 - a. Microsoft Smooth Streaming (.ism + .ismv + .isma)
 - b. Adobe Flash Fragmented File (.f4m, .f4f)

Supported Live Publishing Protocols

The Transmux SDK includes an interface to receive live broadcasts from encoders that publish content utilizing the supported protocols. Upon request for live content in one of the supported output formats, the Transmux plug-in will re-package the live content into the format required by the requesting client.

1. RTMP – single and multi-rate
2. Adaptive Bit Rate Transport Stream (TS)
3. HTTP – single and multi-rate