Telestream
Case Study

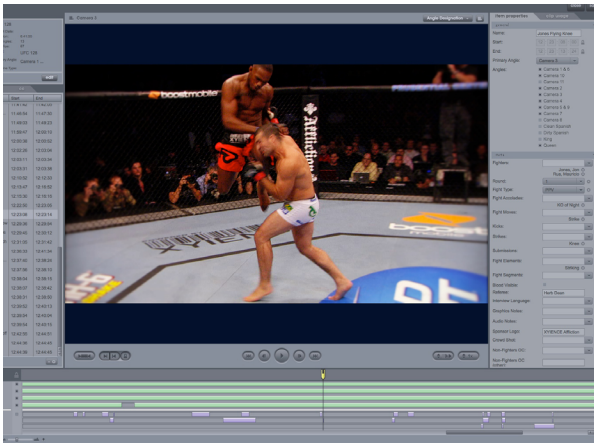
Telestream Scores a Knockout with Video Ingest and Transcode Solutions for the Ultimate Fighting Championship®

"Our material is used in just about every kind of distribution process, from CableLabs television...to Xbox devices to smartphone formats...all of the materials now pass through at least one Telestream process."
- Christy King, Zuffa's VP Digital Technology R&D

Established in the early 1990s to present mixed martial arts (MMA) competitions, the Ultimate Fighting Championship® (UFC®) has grown into the world's largest promoter, producer, and distributor of MMA events. Zuffa® LLC, the parent company of the UFC®, hosts nearly-weekly fight events, distributing live and VOD content across 150 territories on television, and many other technologies. To help feed this formidable appetite for content, UFC turned to a Reach Engine digital asset management system from Levels Beyond of Denver, Colorado. Media ingestion and transcoding subsystems from Telestream provide the speed, efficiency, and reliability required to handle UFC's demanding requirements.

Featuring athletes skilled in multiple martial arts, every UFC bout is covered with 12 to 18 cameras, each shooting 4.5 to 5 hours of raw material. This tremendous volume of footage has to be turned around within hours of each event, made available for distribution in each of the various combinations of television system, format, resolution, and bitrate required by each licensee. At the same time, the company's library of previous fights [and behind-the-scenes videos], now totaling over 30,000 hours, must also be accessible to all territories for intercutting with current material.

"We distribute to about 100 different digital distribution points on a daily basis," says Christy King, Zuffa's VP Digital, Technology R&D, "and we need to be able to pull small bits and pieces out of archived footage and deliver them very quickly anywhere they need to go, and in pretty much any format that



The Reach Engine workflow

you've ever heard of–or not heard of. Our material is used in just about every kind of distribution process, from CableLabs television delivery to Xboxes to smart phone formats. And at some point along the way all of the materials now pass through at least one Telestream process."

Before the Reach Engine system, King says, UFC was tying up a tremendous amount of high-value resources–both labor and equipment–by copying material onto non-linear editors (NLEs), either from archives or from new productions, and then exporting that material to files in all the various formats required by licensees. "The issue we were trying to address with this new system," King says, "is the inefficiency and duplication of effort that comes when you don't have the right equipment in place to ingest and export materials digitally."

The Reach Engine solution

Integrating leading content editing, transcoding, and delivery solutions into a seamless automated workflow, the Levels Beyond Reach Engine was specifically designed to handle complex video production requirements like UFC's. "UFC was faced with migrating from a tape-based workflow to a digital asset management workflow, including not only keeping up with a huge volume of current material being generated on an ongoing basis, but also digitizing an existing tape archive and ingesting it into the DAM," says Danny Gold, EVP Strategy and Solutions at Levels Beyond. "And all this was combined with the need to output to a huge variety of different formats, and to do so very quickly after each event. And they wanted to be able to do it all without a significant increase in staff."

The UFC Reach Engine deployment incorporates three different Telestream products. Six Pipeline HD video capture systems and ten Episode Engine transcoding systems serve as the primary system workhorses, while four FlipFactory systems transcode content for distribution to Video On Demand (VOD) providers. "The Pipelines are doing the ingest to ProRes 4:2:2 of taped material from our content library and, for a short time more, from our current productions," says UFC production engineer Mike Saindon. "Pipeline is a multi-channel system; each of them can handle two streams of HD capture at a time, or four streams if we wanted to do SD. So being able to do 12 HD streams at once is a huge plus for us. With our volume, it's all about the speed of the workflow."

Once encoded to ProRes 4:2:2, the material is ingested into the Reach Engine DAM, with all angles of a given event being assigned to a single timeline. Ten Episodes create the video proxies that are displayed to users who access the footage via the Reach system's Web-based front end, which enables metadata-based searching for clips by UFC's own production staff and also by UFC licensees from anywhere around the globe. When a clip is requested by a given system client, the Episodes transcode the material according to parameters stored in a preset profile associated with that user.

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"Because everyone has their own specific needs," Saindon says, "we deal with more than 150 output formats. So the range of formats that Episode can create is huge. And Episode's speed is key as well. Our ten Episode servers run as a 'split and stitch' cluster, meaning that each task is split up for processing across multiple servers and then stitched back together. The speed allowed by that clustering option is huge for us.

Plus there's the fact that we can easily expand the cluster–which we'll be doing soon–without losing our investment in the equipment we've already bought."

Regarding the VOD transcoding that is handled by UFC's FlipFactory systems, Saindon points out that "the VOD specifications are very specific about every little aspect of a file. If one little thing is off, the playback systems know it. We use FlipFactory because it is very good about outputting streams that are completely compliant with those specs."

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Relying on Telestream

For Levels Beyond, the decision to rely on Telestream for the various ingestion and transcoding aspects of the UFC DAM was an easy one. "We've been partnering with Telestream for going on eight years now," Gold says, "so we have longstanding experience with their products. We have workflow steps and modules for almost all of the Telestream products, so Telestream is already well-supported by the Reach platform. And the Telestream systems that we use have been stress-tested and field-deployed to numerous enterprise accounts. So when a new client like UFC asks us to build a system, using Telestream allows us to build on parts that we already know will work."

Gold's enthusiasm for Telestream was contagious when the system was being designed, and his judgment has been born out now that the system is up and running. "The Reach system is agnostic in that it does not depend on using specific brands of subsystems," King says. "But Levels Beyond spoke very highly of Telestream solutions and offered the tightest integration with Telestream products, so that's what we went with. Now that we've had a consistently excellent experience with the Telestream systems, we are very happy with that choice."