News

EAVC4 enables the same quality encoding with 20% less bandwidth

Unlocking the future of multi-screen TV delivery

ATEME recently announced a 'breakthrough' new technology in the field of video compression for multiscreen delivery. **Jake Young** talks tech to Chief Strategy Officer Benoit Fouchard

BROADCASTERS HAVE had to format video-on-demand content for multiple screens since the advent of over the top video. The streaming techniques used to deliver content through the open internet or to tablets and smartphones use multiple profiles for a single device.

As ATEME's Benoit Fouchard explains: "The way it's done is that the stream adapts to the available bandwidth. The client device will switch to a lower bandwidth profile, so potentially lower resolution or lower bitrate. For these new devices, a perfect viewing experience will require multiple profiles to be generated simultaneously.

"The number of profiles that broadcasters have to deliver is increasing, the channel lineups are not getting smaller and there's more and more HD content. All of this poses a challenge in terms of transcoding complexity and the volume of the processes that have to be aligned in parallel."

An evolution in encoding
ATEME claims to have launched a major leap forward in encoding technology. EAVC4, with its bold slogan 'Beyond the industry's requirements for high fidelity MPEG-4 coding', offers the ability to tailor video content for specific screen sizes and available bandwidths through an optimised encoding software algorithm.

"EAVC4 is coded in assembly code, so it's very optimised in terms of speed," he explains.

"A number of statements have been made in the press that maybe the only way this [software transcoding] is going to be doable for broadcasters is to use hardware acceleration," says Fouchard. "We are making an argument that when you go to hardware acceleration you compromise the picture quality."

Because a lot of attention is already shifting to the next compression standard HEVC, ATEME wanted to send a strong signal to its clients. "Although we are already developing HEVC, we haven't given up on improving H.264 or MPEG-4. We didn't want to just ride the wave of HEVC and let customers think that maybe this is the end of any improvement that they can expect with MPEG-4 deployments."

Resulting from a redesign on previous software codec generations, the EAVC4 encoder significantly elevates the level of available video quality. "People can actually encode for the same quality with 20% less bandwidth, and still deliver the set quality that they had decided to offer to their

Benoit Fouchard: "What we try to do inside our compression software is identify where the human eye is going to land"

subscriber base," says Fouchard. But the machine measurement is actually only part of the story. "Most important to viewers is the perceived video quality," he says.

ATEME has built rate-control and psycho-visual enhancement tools to solve specific artefacts, for example, the perceived quality of an area of interest rather than the peak signal to noise ratio for the entire picture. "What we try to do inside our compression software is to identify where the human eye is going to land," says Fouchard.

EAVC4 approaches processing video for multiscreen output with a patented technique called Multi-Screen by Design. Its encoding core is specially designed to provide high efficiency output of multiple formats as required for Adaptive Bitrate delivery.

"With EAVC4 we have thought of the need to deliver multiple resolutions. It's a need that wasn't there when we released our codec engine last time back in 2008," says Fouchard.

The next step for ATEME is to offer EAVC4 to its existing customers. "We want to make sure it's available broadly to broadcasters," says Fouchard. "Broadcasters who have a smaller amount of content or channels can benefit from this technology through an aggregator or through a post production facility."

Flexibility in monitoring: At IBC2012 Kroma will showcase its new 7000 series of monitors available in 9-inch (in two different versions, for field work and studio), 17-inch and 24-inch. It includes independent waveforms for Y, Cb and Cr, vectorscope and histogram and feature 3G/HD/DH-SDI, PAL, DVI-I and HDMI inputs. Audio monitoring is assisted by its improved Vu-meters (1dBFs definition) that can display up to 16 audio channels at once. Monitors also feature audio inputs (analogue and embedded audio in the SDI signal) and outputs (analogue and digital AES-EBU, headset and speakers). New features are the In Monitor Displays (static or TSL protocol), and Tally on screen or lamp. Correct camera calibration is assisted with the addition of two new functions: False colour and Luma check. — **Melanie Dayasena-Lowe**

XOR Media and Adobe collaborate on file-based production workflow

By **Melanie Dayasena-Lowe**

XOR MEDIA (formerly SeaChange Broadcast), developer of IT storage for media applications and private cloud data centres, has teamed up with Adobe. Together, the two companies will offer media companies a file-based production workflow for broadcast production.

XOR Media's Universal MediaLibrary (UML) enterprise storage system features edit-in-place and storage sharing in a private cloud, allowing media editors to access files directly in the UML from the workspace of the Adobe Creative Suite 6 Production Premium software.

The UML also allows edit-while-ingest for live broadcasting stations, giving the production team the ability to manipulate files before ingest is completed so that content is edited and played 'near to live'.

XOR Media says its UML is unique in its ability to support simultaneous NAS and SAN connectivity, so that media files are accessed without volume reconfiguration or gateways. It is an open, cloud-capable, and media-centric storage that can scale from a per 'brick' capacity of 72TB to a grid capacity of 144PB, all in a single global namespace.
www.xor-media.com