

ScreenPlays

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Multi-Screen Distribution Plays To Software System Advantages

Digital Rapids Serves Demand for Running Major ABR Modes Over Many Paths From One Box

BY FRED DAWSON

As multiplying formatting requirements for content and applications make it ever harder for makers of purpose-built hardware to keep pace, Digital Rapids is going all out to convince content and service providers that software-based encoding, streaming and other processing solutions are vital to timely execution on new opportunities to monetize assets.

With its latest product releases the company has significantly expanded content owners' and service providers' ability to take advantage of adaptive bit rate (ABR) streaming and other advances to serve multiple categories of devices at multiple levels of resolution from a single platform, says Digital Rapids president Brick Eksten. "Faced with the challenge of ever-increasing audience expectations combined with new budgetary realities, customers need top quality, flexible and efficient solutions across their entire media workflows," Eksten notes. "The new advances we're featuring were all designed to help our customers achieve these goals."

For example, the firm's new StreamZHD Live ABR encoder can encode and stream live HD and SD content in seven separate streams over any of the three leading ABR distribution formats, including Dynamic Streaming used by Adobe's Flash Media Server; adaptive HTTP streaming used for distribution to Apple iPhones, and Microsoft

Internet Information Services (IIS) Smooth Streaming used in conjunction with Microsoft's Silverlight platform. StreamZHD Live ABR is also easily extensible to support additional adaptive delivery technologies, such as Adobe's HTTP Dynamic Streaming solution, which will be part of the forthcoming Flash 10.1 release, notes Mike Nann, director of marketing and communications at Digital Rapids,

"Encoding in parallel for IPTV, mobile and Web all at the same time has always been our mantra," Nann says. "Now our customers are there, and we believe these advances will give them the flexibility they need to operate at maximum efficiency."

Along with the introduction of support for advanced encoding for adaptive streaming to iPhones, new features in the latest version of Digital Rapids' streaming platform, Stream 3.2, include expanded format support for JPEG2000 video and Dolby Pulse audio; enhanced encoding of content for Sony PlayStation3 and other Sony devices; Microsoft PlayReady technology for protection of IIS Smooth Streaming content; enhanced IIS Smooth Streaming; and YouTube Content ID reference file generation.

Eksten credits two major developments, ABR and the emergence of MPEG-4 H.264 as the universally embraced compression mode, for the surge in the industry's embrace of efficient, multi-platform distribution of high-value content. Where ABR is concerned, he notes, the fact that cable operators have seized on the ability of the technology to minimize the impact of bandwidth fluctuations on the quality of IP-delivered content has done much for the credibility of IP streaming as a conduit for premium content.

"The cable guys got their hands around



Brick Eksten, president,
Digital Rapids

ABR as they're starting to use IP to put together new VOD and streaming systems," Eksten says. "That fact that Comcast, Shaw and others have active programs in place has been a real catalyst for getting people over the mental hurdles of using software-based encoding."

Looking back at the role Digital Rapids has played in bringing the market around, Eksten notes that "the 2008 Olympics was a real game changer." That's when NBC Universal went to an unprecedented level of IP streaming using Digital Rapids' platform to distribute some 2,200 hours of content to online users. On average viewers could access about 20 different live events that were streaming at any given time, which marked an unprecedented use of the Web for live event coverage.

Since then the smartphone has become a major target for content distribution, raising the bar on the number of streams solutions

like Digital Rapids' must accommodate. "Now, all across the food chain everyone from content creators to cable providers is looking to monetize new distribution channels," Eksten says.

"A year ago you would have to gang two encoders to get six or seven outputs including HD," Nann adds. "You can still synchronize multiple Digital Rapids boxes, but with our new ABR box you can stream live out of one box seven concurrent streams at different bit rates up to 720p in VC-1 and all the way to 1080p with H.264. All these different streams have to operate in sync, which is easier to do with one box."

Digital Rapids executives note a big driver behind emerging multi-platform distribution strategies has been the iPhone. The optional module in Stream version 3.2 that supports HTTP-based ABR delivery to iPhone mobile devices and iPod touch

personal media players eliminates the need for an external stream segmenter, Nann says. "By bringing segmenting right into the encoder, we allow you to go straight to the CDN server, which is a big gain in workflow efficiency," he explains.

Where content suppliers are concerned a major force behind streamlining workflows has been JPEG2000, a wavelet-based compression standard that supports compression at multiple levels for storage and transfer of content in whatever modes are appropriate to meeting various asset management requirements. Digital Rapids has added a software option providing full encoding support for the format's multiple layers with output delivered in image sequences or in an MXF (Multimedia Exchange Format) container.

Stream 3.2 also provides exceptional efficiency when transcoding JPEG2000 source content to other formats by allowing the

user to choose which of the multiple embedded resolutions to decode, Nann notes. This avoids time-consuming processing of the full frame size when transcoding to a lower-resolution deliverable.

There's a lot of interest in using JPEG2000 for deep archive storage at very high quality in combination with mezzanine storage at lower quality levels for staging multi-platform distribution. But this requires support for using the standard across multiple entities' workflows. As a charter member of the JPEG2000 Alliance, Digital Rapids is taking an active role in making sure this happens, Nann says.

"As a compression format JPEG2000 is fairly well understood, but in terms of workflows there's a need for interoperability so that deep archives are readable in all spaces," he comments. "What we're working toward with other members of the alliance is using MXF." ■