AIMS versus ASPEN – The Next Format Battleground?

January 14th 2016 - 04:00 PM

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3/4 U-matic

DVCAM

DVCPRO

Betacam SP

Betacam SX

Digital Betacam

The digital age was first represented by years of "tape du jour". Image courtesy Cintrex AV.

About the only thing broadcasters and production types can agree on is that there are too many formats. Unfortunately, it appears a battle is brewing over the next connectivity format/standard.

Am I the only one who remembers previous format battles - **Beta vs M, the D wars D1, D2, D3, D5, DVCAM vs DVC then MPEG1 – wait let's not forget SDTI .** SDI finally made us interoperable again, until file-based workflow introduced a gazillion codecs that needed wrappers or containers for interoperability.

And more standards groups popped up. Remember the Grand Alliance where we agreed on 36 approved formats for HD? I'm kind of happy with SMPTE, EBU, ITU, IEEE, and NAB. Perhaps IP needs its own working groups. Of course there's the Internet Engineering Task Force (IETF) which produces its own standards and recommendations – or RFC – which actually stands for Request for Comment.

The lines are being drawn, with a champion in each corner and much of the industry is hedging their bets and looking to join both camps. In one corner we have AIMS (The Alliance for IP Media Solutions) and in the other corner we have ASPEN (Adaptive Sample Picture ENcapsulation). There must be a new industry called "Build an Alliance". Instead of bringing new ideas or concepts to the standard groups we already belong to we build another one convincing everyone to pony up another membership fee, and then create more conferences.

Often with media technology, like Windows versus Apple, there is no right/wrong decision--just options. Image: FreeDigitalPhotos

I come to this party with no emotions or preferences. I do however have strong feelings on interoperability and the delaying tactics to getting the last piece of the IP puzzle agreed upon. Are we really going to punish the industry with multiple standards locking them into technology choices that impact their entire facility?

Remember what happened with HD! The industry stood like deer in headlights not wanting to spend precious capital on equipment based on format roulette after the approved 36 formats. This time at least CES and the consumer isn't involved. They are busy competing over UHD/4K/HDR.

Recent articles published on The Broadcast Bridge have provided excellent tutorials about the new format/standards contestants with nice granularity. Two of those tutorials include, New Alliance To Promote Video Over IP and Industry Aligns To Embrace IP. Both are linked here for your reference.

ASPEN members include: Abekas, AJA Video Systems, ChryonHego, Cinegy, Coherent Video Systems LLC, Deltacast, Diversified Systems, Discovery Communications, Dome Productions, Edit Share, Embrionix, Evertz, FOR-A, Game Creek Video, Hitachi Kokusai Electric Limited Inc., I-MOVIX, LEADER Electronics Corp., Macnica America Inc., Matrox Electronic Systems Ltd., Myricom, NEP Group Inc., Neutrik, PacketStorm, Phabrix, Providius Corp, Ross Video, Sony, Tektronix, Time Warner Cable SportsNet, and Vizrt.

ASPEN is an initiative in early stages loosely based on encapsulating a few SMPTE IP standards for audio, video and metadata. This is an open group founded by Evertz with no cost of entry to follow along. The ASPEN website is here.

AIMS (founded by Grass Valley) is another alliance based on work previously completed by the Video Services Forum (VSF). VSF proposed its own work as a solution based on, TR-03 (Technical Reference), which is claimed to be better than their TR-04. TR-04 is based on SMPTE 2022-2 and AES67 IP standards. TR-03 uses a different uncompressed video format and no embedding, TR-03 is based on the 2005 IETF RFC 4175 standard. AIMS has an entry fee for full members and has yet to announce another member level. The AIMS website is here.

AIMS members include: Arista Networks, CISCO Systems, EVS Broadcast equipment, Grass Valley, a belden brand, Imagine Communications, LAWO, Nevion, Snell Advanced Media, The telos alliance

My smart network engineering friend asked where all this was going. "Interoperability" was my answer. Broadcast and production organizations have become frustrated that each time something new comes along they have to choose sides. Making a 5-10 year investment in the work technology can be risky to one's job security. Then the engineering department has to hope that the losing technology will be supported long enough to justify the next capital investment.

That's what happened when we first went digital, everyone held their breath (and wallets) until the dust settled. Early adopters got burned; technically and financially.

We are still suffering from the codec wars over file-based production and content delivery. Didn't we learn anything?

A mobile operator once told his clients at a forum that with each major technology change the only things he could keep were tripods and intercom.

Consider these additional points about the two proposed formats/standards:

- We actually don't know what areas apply to the AIMS versus ASPEN issues.
- Will cameras support both?
- Will production switchers and audio devices support both?
- How do each of these formatted signals multiplex or groom together into a single IP stream for transport?
- How do they get spliced together into a single finished program stream or file?
- How do editing applications address ingesting live content?
- Oh yeah and that metadata thing, does metadata get replicated, synchronized or forgotten?
- And let's not ignore the messy little discussion about sync.

- Timecode is its own discussion.

The Open Source approach to software may work in the IT world, but it may not be a best solution for media environments.

Open source solutions have become a dangerous buzzword that started in the IT world with Linux. Open source allows anyone to modify the software. Think always custom. Interestingly that's how Red Hat became successful by offering consistency in the code even though it is still technically open source. Once you customize it you own it forever. But I digress. Let us continue asking questions about our future.

- How many of the applications and systems in the current IP and file-based ecosystem will be adversely impacted if there are multiple standards for live IP streams?
- What does this do to the encoding process?
- Where do the individual streams get re-assembled as a single program feed for live distribution?
- What new technology creates the final package?
- How does the media management software manage the metadata?
- Where is the metadata entered?

Both AIMS and ASPEN are looking at different SMPTE standards as the basis for their recommendations—unfortunately, not the same ones. If all roads lead to SMPTE and all the participants in both groups are SMPTE members, maybe they could work together under one tent and produce an interoperable standard.

There I go again, being ever wishful! Interoperability and a single standard should be the mantra. That is not breaking new ground.

As manufacturers create new products and services and the broadcast and the production community makes decisions about their next generation of equipment, we should not confuse the buyers with having to pick from possibly conflicting standards or formats.

Follow me as I educate, rant a bit and help you " Smooth the Rocky Road to IP".

Other related articles posted on The Broadcast Bridge.

AIMS Sets Out to Help Broadcasters Manage IP Migration
New ASPEN Community Website Launched
Smoothing the rocky road to IP
To IP or Not to IP – That is the question!