Live Video Over IP: More Confusion Than Clarity

August 4th 2015 - 08:01 AM
By Gary Olson, GHO Group

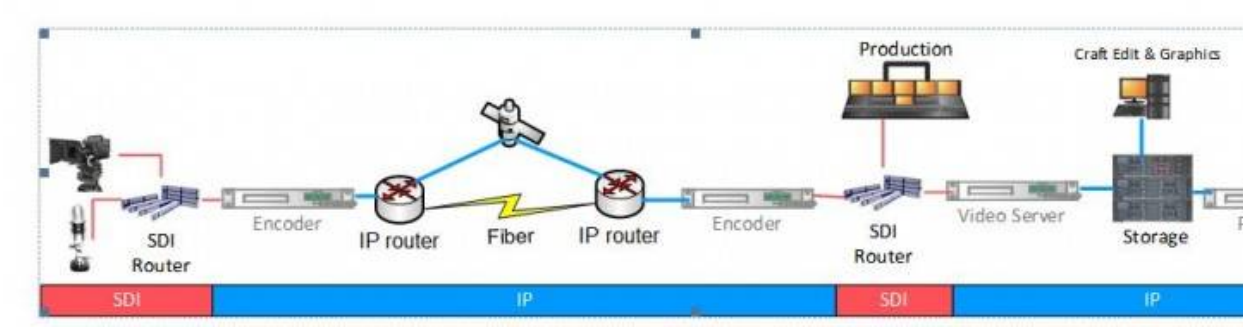
Between broadcast and studios, IP is the standard connection method. Why not within studios also? Image courtesy HD Broadcast Arizona.

Just when I thought it was going to be safe to go in the water, out comes a survey and a statement that Live over IP is still 5 to 10 years away. Really?

This reminds me of an engineer I know who every time he goes out of town on a project, he tells his wife it will be for 2 weeks. On every call home over the MONTHS of the project she asks and he again says 2 weeks. It's starting to sound the same for Live over IP.

At a recent SVG conference, I was speaking with Larry Barbatsoulis of Zixi and they are already sending live over IP for major sports events. All the carriers are using IP as transport on video circuits. SONET, ATM, MPLS and Fast Ethernet are all IP. It does matter if the end device converts or restores it to SDI. (And why would we really want to do that?)

Think about it- Video out of a camera, SDI to a router to an encoder for transport over IP, restored to SDI to a router, to feed an encoder to a server.



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We seem to be more there than not there – can we get all the way there!

New survey-same questions

Am I missing something? Of course, there's no generational loss in digital. I saw that movie! Or maybe we change the words to concatenation loss. Same idea bigger words!

I love surveys!!! So Quantel Snell has made a bold statement that their survey clearly shows the appetite of the industry for IP. I analyzed their results as well and have a slightly different take.

- Question 1 - To what extent is your organization planning to use live signals over IP in 2016?
- Question 4 – When will your SDI router will be completely replaced by IP routers?

Let's look at the first question. It is not asking about production or transport. Let's do a survey and ask how many are already using IP for contribution and distribution of live video and audio. OOPS!!!

Now the second question! In each major technology change,

- B&W to Color,
- Analog to Video version 1 (MPEG1),
- Analog to video version 2 (MPEG2),
- SD to HD,
- Over the Air Analog to Digital
- And NOW SDI to IP.

The complete transition or migration does take time. Media continues to exist in all formats. Depreciation and amortization cycles don't always track technology changes.

It's the cost of transition

Broadcast and production organizations don't change technology on whim and fancy. It is either driven by program requirements or as the current technology fails or reaches the end of its lifecycle, it gets replaced with new technology and usually a bunch of interfaces and adapters to make it compatible with the existing technology and infrastructure. It isn't until a technology becomes impractical for either business or technical reasons, or both, that the decision is made to make the significant investment to fully upgrade to the next generation of technology.

And on the investment side, IP isn't any more expensive if you are building from scratch. Was SDI more expensive than analog or SD to HD? Keeping both with all the black boxes and interfaces is costly but that peels away as more of the facility is based on a common technology.

Broadcast facilities have always been hybrids of mixed technology generations and formats. A/D's, D/A's, up and down converters, encodes and decoders.

The adoption of file-based workflow, multiple platforms and formats has come faster and is more disruptive than any other changes. One engineer, no longer with us, had commented that the last true innovation was the ADO or digital effects. He didn't get to see IP.

Vendors need to catch up

It's important for vendors and service providers to support a hybrid broadcast and production environment. But we should begin to accept that IP is here. ALL IP ALL THE TIME. Maybe not yet. Who was the first to raise their hand as the first all color network or first digital network and now the first all IP network?

I am curious how much SDI infrastructure, You Tube, Netflix and Amazon have. Sony is promoting a cloud program origination platform, Adobe Anywhere is a cloud craft and production platform.

ATT, L3, Vodaphone, Verizon, Zayo and all the other carriers are all IP for the transport circuits, and use various technologies like Net Insight, MediaLink and AXON for the mesh network and encoding platform for live video transport.

In my Last Mile article, I called on the vendors to put their efforts into adding an IP output on a camera/ CCU and how to do a crossfade and clean cut between live sources. They are still doing the 4K road show trying to convince everyone it's more relevant than finishing the IP ecosystem.

I think some of the reluctance is the skill and knowledge requirements for IP are moving slower and are more disruptive. SDI was made to look just like analog in integration and topology. IP is completely different. Totally disruptive with new knowledge and skills that broadcasters fought against.

I was told that it takes 10 times longer to program and configure an IP switch than an SDI router. I find that difficult to accept. Cloud and Software Defined anything is not the answer.

We need to put more effort into training, education and sharing knowledge between the broadcast side and IT side of the house. Knowledge sharing is a good thing. Taking advantage of someone else's knowledge and skills is also a good thing It's not as important to know everything as it is know someone who has the knowledge you need, learn from them and include them in the process.

Follow me as I help Smooth the Rocky Road to IP.

Readers can find more of Gary Olson's tutorial series on IP technology below.

ASSOCIATED RESOURCES:

The Anatomy of the IP Network, Part 1

The Anatomy of the IP Network, Part 2

The Anatomy of the IP Network, Part 3

The Last Mile Is The Hardest--Getting To Live IP

NAB Musings on the Move to IP

Smoothing The Rocky Road to IP