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NetStreams DigiLinX, MediaLinX, and ViewLinX IP Video

John Sciacca | Feb 2, 2008

"World's first" is not a title that comes easily, but it is one that has been given to Austin, Texas-based NetStreams more than once. Their DigiLinX was the world's first fully IP (internet protocol)-based audio distribution system, which means that all analog and digital audio signals are converted into Internet-style information packets that are whisked around the home's high speed network and then reassembled bit-for-bit with no resolution loss at the other end. One of the features that makes DigiLinX so unique is its StreamNet technology that allows audio signals to be distributed to multiple rooms simultaneously with absolutely zero time delay between rooms - a traditional problem with the IP-based approach. In fact, I was so impressed with the DigiLinX system (originally reviewed July 2006) that *Sound & Vision* selected it as its 2006 Editors' Choice Custom Installation Product of the year!

At the time of my original review, DigiLinX was limited to strictly audio distribution, but NetStreams CEO Herman Cardenas promised that a video-over-IP function was also in the works. So when Herman told me this part of the system - another world's first - was ready, I knew I had to take a look. Alhough I was a DigiLinX believer following my initial review, distributing high definition video is about a gagillion times more complicated than audio, so I wanted to see if their system was up to the challenge.

Setup Given the complex technology required to transform a million pixels of video into a TCP/IP stream *on the fly*, the actual installation process for the system is quite simple. Turning video into network-ready IP packets requires an encoder for each source, and a decoder that rebuilds the image pixel-for-pixel at each display. The encoder is the MediaLinX model NS-MLAV300 ($2,900) and the decoder is the ViewLinX model NS-VL100 ($2,800). Therefore, to make five sources viewable on three displays requires five MediaLinX and three ViewLinX. Each device is half-component width, so an encoder and decoder can sit side-by-side and look right at home in your equipment rack.

Each MediaLinX encoder provides inputs for composite, S- and component video as well as VGA for routing computer signals. MediaLinX handles 480i/p, 720p and 1080i signals as well as computer

The Short Form
$16,030 as tested / netstreams.com / 512-977-9393
Snapshot
It ain't cheap, but NetStreams new video distribution system sends an unlimited number of pristine HD feeds to an unlimited number of displays - over incredibly long distances.
Plus
•Pristine video quality over huge distances •Scalable to any sized project •No sync or delay issues among zones
Minus
•HDMI currently not supported •Expensive compared with other solutions
Key Features
System as tested: •(2) ViewLinX NS-VL100 ($2,800 each) •(2) MediaLinX NS-MLAV300 ($2,900 each) •(4) PL-228 power supplies ($120 each) •TouchLinX TL-380 controller ($1,450) •SwitchLinX SW1024 Gigabit switch ($2,700) •IP video distribution of video signals up to 1080i (or 1280 x 720 VGA) •Works over virtually unlimited distance •System can support an unlimited number of sources or displays •No audio or video delay or sync issues

resolutions up to 1280 x 768 at 70-hertz. Audio signals from the source connect via standard RCA analog or coaxial digital cables. The MediaLinx also provides convenient pass-thru outputs that allow a local system, such as a home theater, to share the connected source without using any signal degrading y-cables. Outputs are provided for controlling the connected source component from remote rooms with either IR or RS-232, and there are contact closure inputs for triggering automation control as well.

The ViewLinX decoder provides audio and video outputs that correspond to the MediaLinxX, plus it includes an audio *input* that is perfect for adding any local audio sources, such as from the TV or local cable box, to the system. An IR or RS-232 output is available for controlling the display, plus an additional contact closure input is available for local automation. The ViewLinX also features an IR sensor for using a handheld remote to control components located elsewhere.

At this price point, I was disappointed that the system doesn't support HDMI. Cardenas said HDMI was left off because they felt it wasn't reliable enough yet. However NetStreams plans to release future HDMI-capable models in the second half of 2008 that will support HDCP, be fully 1.3 compliant, support 1080p, and pass all next-gen audio formats.

NetStreams sent me two of each model, so I used one MediaLinX for distributing my HD cable box and the other for Blu-ray distribution from a PlayStation3. One ViewLinX drove my 61-inch primary HDTV, while the other drove a secondary bedroom LCD. Both connected using component video cabling. I was able to use the coaxial digital output from my cable box to distribute Dolby Digital signals, but since the PS3 only has an optical digital output and the NetStreams doesn't provide an optical input I was only able to send analog signals from that source. (Optical-to-coaxial signal converters are available for under $50, so there is a workaround for this.)

Signals are transmitted over the network at an *über*-fast 1-gigabits per second speed, requiring a gigabit switch. NetStreams offers the SwitchLinX, which has been optimized for distributing audio/video signals, and all MediaLinX and ViewLinX components wire back to it using Cat5 cabling. Once all the components are connected, some minor programming is required. And I mean minor - like less than 5 minutes worth.

NetStreams DigiLinX, MediaLinX, and ViewLinX IP Video Page 2

I began my evaluation by watching a variety of high definition programming over cable, and signals appeared on both displays in the same pristine form I've come to expect from HD. Even when watching complex, fast moving images like basketball or football games, the picture stayed solid and sharp without any breakup or pixelating. An on-demand showing of Hairspray demonstrated that voices remained in perfect sync to the on-screen singing and dancing.

Video quality was equally pristine when sending Blu-ray titles from the PS3. Whether watching Dave Matthews and Tim Reynolds in concert, or ducking explosions and mayhem in Live Free or Die Hard, the DigiLinX system kept up with the action.

As a final torture test, I played some Call of Duty 3 on the PS3. If there is any delay or lag, a first-person shooter will lay it bare. Even with this demanding challenge, DigiLinX was right on step, matching every pixel to every gunshot, with the onscreen action responding in perfect sync to my joystick control.

The two components also include some nice video cross-conversion options to ensure that any source will be compatible with any display. Beyond the basic composite and S-video conversion to component, the system also converts VGA to component and vice-versa.

Since all the NetStreams devices reside on the network, you can access and control them using a Web browser. This let me sit on the couch and flip between sources with my laptop, using a slick touch panel style interface. With the incredible, nay unlimited, distance range that DigiLinX can send video, this means control can be provided anywhere within the network wireless range.

Bottom Line The DigiLinX video-over-IP system worked exactly as promised: It sent unaltered, HD video signals over the network to multiple displays without *any* lag, delay, or loss in quality. And it eliminated all the common problems associated with HD video distribution, namely expensive cabling costs, or video artifacts like wavy lines, rolling bars, and color timing errors. Its one caveat, though, is its cost: There are several very competent component video-over-Cat5 distribution systems available (including NetStreams' own Panorama system) capable of sending signals up to 1,000 feet for *far* less money. For most residential applications, DigiLinX is probably overkill.

On the other hand, there are those times when the system makes sense. For truly large estates or homes spanning multiple buildings on a property, DigiLinX provides a video distribution solution that comes without compromise. Further, the system is incredibly scalable, allowing it to easily and quickly expand and change to meet any changes or additions. And in the commercial market, DigiLinX video could turn out to be the "killer app" for digital signage inside hotels or airports, HD displays in convention centers or sports arenas, or monitors placed in remote learning centers at school campuses. For those with the means or the need, there is really nothing that compares to DigiLinX.

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