

[< Back to Main](#)

The Future of Television is Finally in Plainview

By Dom Serafini

The future of television — the one that will change both the current TV business model and the way TV is consumed — can coincidentally enough be seen in Plainview (not a play on words), a dormitory community on Long Island that's just a 30-minute ride east of New York City. But it can also be seen in Toronto, Canada, and 250 other locations throughout the world.

The technology for these TV systems uses an IPTV (Internet protocol) model; therefore there is nothing new in terms of basic information. What is remarkable, however, is the fact that the operation is not the usual computer-connected system (which should be indicated as "streaming"), just a TV concept or the usual demo unit, but an actual plug-and-play system that has been on the U.S. market since September 2005. It is also important to point out that it's not a "walled-garden" system of the FiOS (U.S.), FastWeb (Italy), or FREE (France) type.



NeuLion's KyLinTV

VideoAge reporters first saw this set-top box — the heart of the whole IPTV system — at the most recent NATPE in Las Vegas.

After an initial NATPE meeting, *VideoAge's* editors were invited to tour NeuLion's Plainview facilities, assisted by a media analyst, a film/TV producer and a technology consultant.

Chris Wagner, NeuLion's executive vice president, and Jerry Romano, director of business development, welcomed the group. Romano is a new recruit and the only executive in the company with a television industry background.

NeuLion's set-top box operates from any broadband line: cable, DSL (telephone) or Wi-

Fi (wireless), but instead of connecting to a computer, like similar boxes, it is connected directly to viewers' standard TV sets for a high-quality digital broadcast experience.



VideoAge's Dom Serafini with NeuLion's Jerry Roman and Chris Wagner

NeuLion's IPTV system needs broadband lines with a bandwidth of at least 700 kbps, but the company will soon release decoders that can operate as low as 500 kbps without a reduction of picture quality. For streaming audiovisual data (encoding services) NeuLion uses a proprietary technology based on MPEG-4 compression (specifically H.264 MPEG-4-AVC Codec encoder standard).

The decoder (or set-top box) that *VideoAge* reviewed is for NTSC/ATSC TV sets (30 frames/s) and, within the year the company plans to release a version that will support

other TV standards, such as PAL/DTV (25 frames/s).

An interesting aspect of NeuLion's set-top box is that it can be easily carried in any location (or second residence) with a broadband connection, since it's a plug-and-play device.

Another unique characteristic of the set-top box is that it doesn't require buffering, yet it can rewind (REW) and fast-forward (FF) even linear channels (but only after the program has played). The user can use NeuLion's service for VoD offerings and operate it just like a DVD player (functions such as FF and REW work all the time on VoD and PPV channels).

Plus, the system (not the set-top box) is able to store 48 hours of past linear programming, so consumers can also use it as a DVR. It is important to point out, though, that nonetheless, the service is a "streaming video or stream broadcast" not a download service. In addition, there is no storage on the set-top box.

The business model used by NeuLion is similar to that of a cable TV company: including revenue sharing, set-up fees and selling of set-top boxes (at \$125 wholesale) to channel operators. NeuLion provides operators with all encoding, shipping decoders and technical support to subscribers, data storage and billing services, which are basically, credit card transactions, since all subscribers must use that form of payment.

Like cable companies, NeuLion's technology is able to insert local ads into any channel, splitting revenues with the content provider. Unlike cable TV modems, though, if a user moves the NeuLion set-top box to another location (residence), the locally-inserted ads

received remain the ones from the original location. In all cases, viewership can be easily monitored and measured accurately.

The bulk of channels thus far marketed with NeuLion's system is aggregated by KyLinTV for an Asian audience in North America, and originates mostly from Mainland China, Taiwan and Hong Kong.

KyLinTV -- a video service aggregator based in Beijing and created in September 2005 specifically to offer a variety of TV offerings to the Asian community in the U.S and Canada -- licenses the programming, packages content into channels and VoD services, and markets to consumers.

Four people started NeuLion in 2004: Nancy Li, who's also the company's CEO; Chris Wagner, Michael Her and Ron Nunn, all executive vps. Initial investors also included computer mogul Charles B. Wang, founder of Computer Associates; and Cablevision founder Charles Dolan, both of whom also funded KyLinTV. All founders of NeuLion were former executives of Computer Associates' units. Li, who is Wang's wife, also runs KyLinTV.

The KyLinTV offerings exclusively available on NeuLion's platform include 31 linear TV channels and 25,000 hours of VoD services -- displayed on a TV set at levels at or above DVD quality (30 frames per second, VGA, 640 x 480).

KyLinTV currently serves 15,000 subscribers and expects to reach 50,000 by the end of 2007. Each subscriber pays, on average, \$15 for basic service, plus \$10 for additional transactions -- such as VoD -- paying as little as \$1 to watch episodes of popular Chinese TV programs or movies. The set-top box is loaned to subscribers with a \$125 refundable deposit.

The platform does not have any limit on the number of channels or the amount of VoD fare customers can request.

The decoder weighs about 2.2 kg and measures 28 x 19 x 4.5 cm. It comes with a 44-page booklet written half in English and half in Chinese and, as is the case with most instruction manuals, it's not too consumer friendly. Set-up instructions are not stored into the set-top box, nor available through a dedicated channel. According to NeuLion's Jerry Romano, "The best solution would be to put the instruction guide on the program providers' website."

TransVideo, a company in which Wang has an ownership interest, manufactures the set-top box in China. To tailor-make (encode) NeuLion's decoder for a content provider takes eight-to-10 weeks. The unit loaned to *VideoAge's* reporters featured both English and Chinese-language screen selection information. The set-top box accepts input from a Wi-Fi set up, cable modem or DSL modem. The unit doesn't have an RF output, just video and stereo audio outputs to connect to a TV set. The set-top box can be branded with the service logo and, at some extra costs, the instruction manual can be printed in other languages.

All functions (including changing TV channels) are commanded solely by a remote control as in any cable or satellite TV system. A video guide only assists program selection in any of two languages. New TV channels can be added into the platform at any time from the head-end, since it is a two-way system. The set-top box is able to support interactive features, such as Internet telephone connections and gaming.

Storage and datacasting for NeuLion is well backed up. The company has a partnership with Switch and Data, a Tampa Florida-based provider of Internet exchange and collocation services, with datacenters in Los Angeles and New York. "We can move into any of 30 different data centers in the U.S. as we need to," commented NeuLion's Chris Wagner.

It's the clients' (ie programmers') responsibility to deliver their signal(s) to NeuLion's facilities. The best way to connect to a linear service, such as a TV network in Europe, is to pay to have NeuLion put its transcoder at the network's location, connected to the Internet with a minimum of one Mbps line speed. Satellite can also be used. To deliver VoD content to NeuLion, the company accepts DVDs, hard drives and FTP uploads (this latter is only used if timing is of importance).

[Back to Top](#)

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