digital digest

a market research quarterly

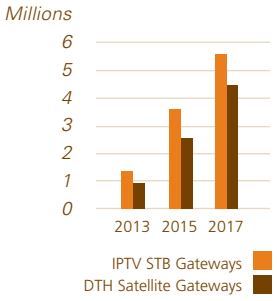
Digital Tech Consulting

In This Issue | November 2012

The Gateway to Video to Go

It's time to rethink the term "couch potato." Rather than camping out on the sofa with an over-sized bowl of Cheetos, an increasing number of video consumers are taking their shows on the road. Mobile viewing – on tablets and smartphones – is on the rise and it's placing new hardware demands on pay TV providers who are scrambling to keep their content in front of an increasingly mobile target.

Estimated Worldwide Shipments of Gateway STBs



Specifically, it's leading to an evolution in set-top boxes (STBs). A new breed of box – the home gateway – has emerged to serve the needs not just of a more mobile consumer, but to provide an improved multi-room video delivery experience as well. Gateways are high-end boxes typically containing multiple tuners, ample DVR storage capacity and the ability to transcode video content into AVC/H.264 for devices, such as tablets and phones, throughout a home network.

Beyond mobile devices, gateways provide a more elegant solution for multi-room viewing and DVR capability. Rather than tether expensive STBs with hard drives to each TV in the home, the gateway can serve as a central hub accessed by IP-based thin client boxes via coax, Ethernet or wireless networking. These thin clients are easier to install – and don't necessarily have to be hardware: software apps on a Smart TV or game console can also do the trick.

While it's still early days yet for gateways, pay TV operators such as Dish, AT&T, Comcast and Time Warner have already hopped on the bandwagon. DTC expects demand for gateways for both IPTV and DTH satellite pay TV markets to grow from approximately 2.3 million units in 2013 to close to 10 million units by 2017.

The adoption of gateways is likely to be slow at first as these high-end boxes appeal to a wealthier demographic – typically those demanding multi-room DVR capabilities.Their deployment will be led by tier one providers in both North America and Europe. If the gateway model proves successful, it's reasonable to expect other STB suppliers and more pay TV operators to embrace these devices in other regions.

Yet it might not be smooth sailing for gateways. The same imperatives driving TV operators to invest in more powerful residential hardware is also leading them to explore 'cloud'-based infrastructure as well. The cloud can handle many of the gateway's duties – it can process and render user interfaces, store recorded content, allow authenticated devices access to video, etc. – but opens the door to even more features, such as geographically unbounded viewing. Where a gateway today can distribute content within a home network, a cloud-based multi-screen offering can theoretically deliver video to any device within a sufficiently fast and secure network. That would truly be "TV Everywhere."

Continued on next page

Shifting video delivery to the cloud can also, potentially, be a major cost-saver for pay TV operators. Rather than maintain an inventory of STBs, which need to be serviced and replaced, it can access third-party network servers on a pay-per-use basis. What STBs are left for home use can be inexpensive thin clients, since most of the processing and storage can be handled in the cloud.

"Still, the trend is clear: whether they're pulling it from a cloud or a gateway, consumers want their TV to go."

As is typically the case, the obstacles in front of cloud-based solutions are less technical than legal: content owners are still wary about unleashing their goods outside of a controlled home environment. Still, the trend is clear: whether they're pulling it from a cloud or a gateway, consumers want their TV to go.

Connected Devices Jump the Shark

You know a technology has become mainstream when product designers feel comfortable enough to pack it into an unexpected device or form, sort of the tech equivalent of jumping the shark.

Digital cameras enjoyed their jump the shark moment when Sharp packed one into a cellphone in 1997, for instance – a cellphone? With a camera? Who would have thought? Or when you could buy the first Bluetooth-enabled – wristwatch. Flash memory thumb drives kind of jumped the shark when you could buy one encased in a funny enclosure.

Connected devices, heretofore limited to the expected spate of mobile phones, mobile music/game players, PCs, tablets, TVs, media streamers, a handful of Wi-Fi cameras and a smaller handful of appliances, enjoyed their jump the shark moment a couple of months ago when 3M and Roku announced the first Wi-Fi streaming portable projector – portable projection TV that included built-in Wi-Fi connectivity for video streaming.

Will the 3M Streaming Projector be an emulated success a la that first cellcam or a connected device evolutionary dead-end? In many ways, it doesn't matter. The projector's mere existence, that executives from two established companies believed Wi-Fi connections were ubiquitous enough and Wi-Fi connectivity familiar enough to conjure the device into existence, is evidence enough of how mainstream connected devices have become.

Once upon a time – a year ago – early-adopter consumers were happy to come across a product that could connect to the Internet.

And, now, it seems as if we all expect our devices to be able to communicate with the cloud. In addition to the videogame devices, BD players and video streamers, the television is quickly joining this fraternity.

Of course, overall the number of connected devices is rising. All but the lowest-end Blu-ray players double as media streamers. Tablet makers are castigated when they fail to include 4G LTE-connected options along with the de rigueur Wi-Fi-only models.

Perhaps more indicative of how mainstream connected devices have become is not the 3M/Roku projector shark jumper, but the first 4G-connected camera, Samsung's Android-powered Galaxy Camera, due this fall. Given the open and adaptable nature of Android, it's inconceivable other digital camera makers won't follow Samsung's connected camera example.

But the surest sign that connected devices, especially 4G LTE connected devices, have gone mainstream is not any new device, shark-jumping or otherwise. It's the recognition by the national cellular carriers that average Americans are accumulating a number of connected devices.

This past summer, AT&T, Sprint and Verizon each initiated multi-device data sharing plans – buckets of data minutes subscribers can dip into from any of their 4G LTE gadgets.

It's seems we've reached the point where we'd be surprised by any device that can't be connected.

Next Generation of MPEG: It's not just about broadcast anymore

For the first time since the beginning of the digital TV revolution of the early 1990s, the next generation of the standards-based MPEG video will not be driven by the traditional TV world. Since its very inception MPEG video compression was designed for and adopted by broadcasters – both pay and free-to-air. Now, the kick start of High Efficiency Video Coding (HEVC) will likely come from the Internet and wireless parts of the video world.

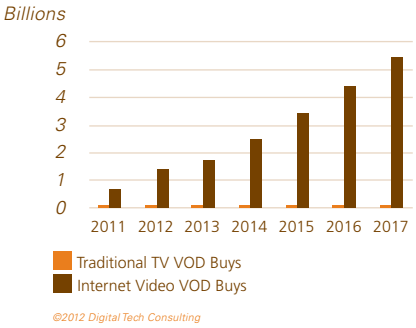
Although HEVC is billed as the compression technology that will herald in the 4k and 8k (Ultra HDTV) era, it will likely get its heaviest use from video displayed on the much smaller screens of smartphones and tablets that can't take full advantage of ultra-high resolution pictures. Ultra HD has little meaning for these small devices and subsequently has little meaning for the video that streams to them, but a sizeable increase in compression efficiency is already getting the attention of wireless carriers and Internet video service providers. It has been reported that the testing of a pre-finalized version of HEVC has resulted in 35%-49% bit rate reduction for HEVC Main Profile-encoded video compared to the bit rates for moving AVC/H.264 High Profile-encoded video.Any credible efficiency improvement in the capacity-challenged wireless and broadband networks is highly coveted by those managing them.

The rate at which users upgrade their smartphones is much greater than that for high-end large-screen televisions resulting in a much smoother path to next-generation video compression migration for small displays. DTC believes that the first large order of silicon for decoding the HEVC standard (due to be ratified in January 2013), will be for smartphones and tablets and not for 4k televisions. This could result in, for the first time, ongoing improvements in the new standard coming more from the mobile services and Internet industry than from the traditional broadcast industry.

The pattern is already established for the current version of MPEG video compression – MPEG-4 AVC. Even for Internet-delivered video that consumers actually pay for, the estimated number of VOD buys for content encoded in MPEG-4 AVC-encoded is far greater than that of VOD buys for traditional pay TV (DTH satellite, cable, IPTV), according to DTC's latest forecasts.

On the surface, it may seem a bit like splitting hairs to ponder the differences between a standard that is optimized by traditional broadcast engineers and one by those more conversant in the IP world – the two worlds are slowly converging anyway. After all, it is a standard. But these widely adopted video compression technologies typically have a life of at least 10-15 years and the standards-amending and improving process will continue throughout the technology's lifetime. If a greater number of MPEG implementers are more interested in bandwidth savings than with Ultra HD pictures, this generation of MPEG video may be the last one built for the traditional broadcast world.

MPEG-4 AVC Encoded Porgram Buys: The Internet Takes Over



MISSING REVENUE?

Have you suspected that you may be leaving revenue on the table when evaluating how to use your intellectual property in the emerging-technologies markets? It's important to understand the market potential of your IP and once you've designed a licensing program, you want to make sure that you know who is using your IP and that they are accurately reporting sales. Such critical issues deserve tailored market-research expertise concentrated in quantifying technology use and potential revenue. DTC's more than 10 years of experience in helping companies manage their IP has resulted in the foundation of solid market-forecast models that account for both products and services that use very specific and sometimes obscure technology. DTC's intellectual-property services are put to work in a number of varied situations. Our clients have employed our expertise: To forecast potential revenues for technology IP they own; conduct due diligence for IP acquisitions; identify companies using their technology; to apply our critical technology market and licensing knowledge to help in developing sound licensing terms.

For more information about DTC's technology IP services and client case studies, please contact Myra Moore at 214-915-0930, or myra@dtcreports.com.

MPEG-4 AVC Products: Worldwide Shipments Forecasts
(2011-2017)

November 2012 US | **$1,800 - $6,480**

These data-intensive reports delivered in a spreadsheet format provide worldwide data and forecasts of select MPEG-4 AVC product categories.

The report includes forecasts for:

- Set-top Boxes
- PCs, and PC peripherals (includes Blu-ray PCs, tablets & aftermarket kits)
- Applications software downloads (includes desktop software & online media players)
- Mobile Devices (includes phones, tablets & PMPs)
- Consumer Electronics (includes Blu-ray & IDTVs)

For more information, please visit
http://dtcreports.com/report_avc.aspx

Digital Tech Consulting is a market research firm providing strategic information and analysis to help companies succeed in the consumer digital marketplace. To learn more about DTC and how our analysts might help your company, please contact us at the information below.

PUBLISHER

Myra Moore,
President
Digital Tech Consulting

214.915.0930
214.915.0931 fax
dtcreports.com

CONTRIBUTING ANALYSTS

Shelby Cunningham
Maya Jasmin
Greg Scoblete
Myra Moore
Jing Sui
Stewart Wolpin

digital digest | a market research quarterly
Digital Tech Consulting

918 DRAGON STREET DALLAS, TEXAS 75207