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Merger Mania: How Two Blockbuster Moves Could Shape the TV Market

With the pay TV market in flux, it's no surprise that major players are wheeling and dealing to position themselves to capitalize. A pair of recent moves underscores just how volatile and competitive the market has become in the era of cord-cutting and OTT delivery.

AT&T and DirecTV

While the failed Comcast/Time-Warner Cable merger sparked interest and a fair amount of public (or at least media) outcry, the DirecTV and AT&T merger went forward to its successful conclusion with much less drama. That's in part because AT&T only competes with DirecTV's TV offerings in a few markets and only in one arena (TV), so there were fewer competitive concerns. What's more, AT&T spun the \$48.5 billion deal as a liberation, freeing the telecom giant to spread high-speed internet access across the country. Using money it claims it will save on TV licensing, AT&T promised to redirect the savings into expanding fiber-to-the-home, pledging to add 12.5 million homes into its footprint in four years with the ultimate goal of 14 million homes in the near future. The FCC will hold AT&T's feet to the fire, imposing a set of conditions on the deal that will force the company to extend broadband to low income housing and faster gigabit services to schools and libraries, among other conditions.

But beyond a more aggressive broadband rollout, the deal raises questions about the future of Uverse, AT&T's IPTV service. With DirecTV and its 20-million-plus U.S. subscriber base under AT&T's belt, will investment in Uverse wither?

In 2014, AT&T CEO Randall Stephenson told analysts he didn't see DirecTV "displacing our fiber-fed video product in our U-Verse footprint." In 2015, he was singing a more bearish tune, telling attendees at the World Economic Forum in Davos that despite having 7 million customers, Uverse "still can't make money because of programming costs."

Indeed, the first offering from the newly merged companies was just that: conventional bundles of wireless and satellite service. In a somewhat vague FAQ, AT&T reassured Uverse subscribers that their service was not going to be replaced and AT&T's CFO John Stephens told a media and tech conference much the same.

Still, with DirecTV, AT&T has a video offering with the same national reach as its cellular service, a widely recognized brand and a strong TV presence in Latin America. Uverse, by contrast, is geographically restricted with far less brand recognition. AT&T isn't likely to pull the plug on Uverse in the short-term, but if Uverse was a stock, investors would be shorting it. *Continued on next page*

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Technicolor and Cisco

Silicon Valley venture capitalist Marc Andreessen famously observed that "software is eating the world." Just how much of the world software has between its teeth is a matter of debate, but it's clear that software—specifically, the cloud—played a major role in the other major TV-related deal, Technicolor's purchase of Cisco's set-top box (STB) business.

Cisco cited a desire to focus on the cloud as the principle reason for shedding its customer premise division, which includes IPTV STBs and cable modems. Revenues from Cisco's service provider video segment have been falling of late. The unit lost 5% in revenue during the company's fiscal third quarter, and suffered a steeper 19% decline the quarter before. Cisco's pay TV provider customers, the company said, were more focused on software and the cloud than on newer hardware for the home. The move does position Cisco to strengthen its cloud business. As part of the \$600 million deal, Technicolor and Cisco have agreed to a long-term patent cross-licensing deal covering "next generation video and broadband technologies."

While Cisco sees a declining market for STBs, Technicolor was more optimistic. On a conference call with reporters, Technicolor CEO Frederic Rose defended the deal by saying there was still "massive demand" for STBs. Perhaps, but Cisco has a history of strategically jettisoning products before their market implodes. In 2011, the company killed its hugely popular Flip camcorder business, a move that provoked head-scratching among many analysts. Shortly thereafter, with the iPhone surging in popularity, the Flip camcorder and its ilk were obsolete.

The STB market is considerably larger than the market for video cameras and the competitive threat from cloud delivery may not be as dire as the threat smartphones posed to pocket camcorders. For Technicolor, scooping up Cisco's STB business does make sense. It immediately gives them a sizeable foothold in IPTV, an area where the mostly satellite and cable giant had made fewer inroads. It also positions the company well against Arris, the global STB market share leader, which bulked up substantially this year with the April acquisition of STB market leader Pace. It was the second major STB acquisition for Arris in recent years, the first being Motorola's STB business in 2013. (Smaller players are consolidating too: just days before the Cisco/Technicolor deal went public, England's Amino announced it was buying U.S.-based Entone.)

With Cisco's STB business under its belt, Technicolor said it would achieve a 15 percent worldwide market share, a global install base of 290 million STBs and 60 million device shipments annually. It will still trail Arris, but it will become the number two player across all TV platforms. With more cable consolidation on the horizon, such economies of scale will only grow in importance. For video players, it's go big, or go home.

HEVC: A game of Catch-up

There are a large number of devices already in the market that can playback UHD/4K content. But so far hardware adoption is rapidly outpacing content availability in the classic "chicken and egg" conundrum.

To date, the two leading streaming services (Netflix and Amazon) offer limited programs with limited access. Dish and DirecTV also have limited services available. There are other smaller services offered in select markets like CHILI in Italy, Wuaki.tv in Spain or Maxdome in Germany which offer Samsung's UHD video pack with TV purchase or the cable service from Hyundai HCN and IPTV service from KT Corporation in S. Korea. Although streaming services have received the most attention for providing content, there are a number limiting factors that don't make for the greatest access: 1) Most broadband households don't have sufficient capacity to stream 4K programs, and 2) Not all 4K compatible TVs will play these services. HEVC coding is critical in improving access.

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While DTC estimates that 11.2 million HEVC compatible TVs will ship in 2016 not all of those may be able to receive 4K content since some services only stream or broadcast UHD content to certain televisions as was the case for DirecTV's initial STB the Genie which only worked with Samsung UHD TVs. However the recently released upgrade - Genie Mini - can work with virtually all UHD TVs allowing more customers to view UHD content.

Content offerings, though, are on the rise. Many of them are in trial phases but they afford a glimpse from where the next sources of content may come. In addition to trials, existing services are expanding. For example Amazon is now offering its 4K service in Germany and many major service suppliers are set to have commercial offerings by the end of 2015 including Comcast in the U.S., SkyPerfectTV in Japan, and Tata Sky in India.

But even with the increased content offerings devices equipped with HEVC are still far out pacing content. While the millions of TVs already equipped with HEVC may be impressive the unrelenting shining star is mobile phones. DTC expects 304 million phones to ship with HEVC in 2015 growing by leaps and bounds with 1.6 billion units expected to ship in 2018 yielding a 75% compounded annual growth rate over that period.

The rapid pace that consumer electronic products are adopting HEVC is not in vain however as HEVC-encoded content promises to help relieve overall pressure on clogged networks – whether the encoded content is in UHD, HD or SD. HEVC being used to enable UHD/4K is a foregone conclusion and DTC anticipates there will soon be more content to fill the pipelines. And for the most part DTC expects that any Internet-connected device designed for video playback, such as mobile handsets, tablets, and media streamers could support HEVC.

The pace and rate of adoption of HEVC is a bit hazy given a level of recent uncertainty regarding royalty rates for licensing the standard. And until all industry participants are clear on the royalty costs, it's not clear if and when service providers (especially streaming services) will begin using the codec for distributing lower-value HD and SD content. For the moment at least, HEVC looks like it will continue to be the codec of choice for UHD. So as content and service providers work toward beefing up UHD services, the chicken and egg conundrum will slowly fade away – on a big UHD screen in the living room.

Video: Is it Eating all our Spectrum?

Governments, RF engineers, media executives and video service providers continue to wrestle with the video-delivery capacity problem. Balancing the need for efficient spectrum use, government desires for large spectrum-auction pay days, and industry-specific interests makes for a messy mix of solutions where spectral efficiency seems to be taking a back seat.

Today's overwhelming consumer hunger for "on-demand" convenience has resulted in a high level of unicast delivery of video. Other than PVR services that allow consumers to save programming originally received from a broadcast transmission for later playback, today's streaming services use single point-to-point transmissions – an inefficient use of valuable spectrum.

Efforts are being made, however, to find technical solutions that allow for dynamic use of spectrum in which programs are transmitted via unicast or broadcast in a single network. There are also other methods for cutting down on spectrum use such as new network and transmission standards that make more efficient use of spectrum.

They come from different offshoots of the TV and communications industries.

- Telcos are experimenting with LTE Advance which allows for broadcasting over parts of the otherwise unicast architecture of LTE-A mobile networks

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NEW HEVC STUDY RESULTS AVAILABLE

DTC recently completed an in-depth forecast and analysis for HEVC/H.265. We are now offering customized consultations from the extensive study.

Highlights for the HEVC study:

- Forecasts and analysis for consumer electronic products -mobile handsets, tablets, STBs, TVs, media streamers, Blu ray players, video game systems and PCs (including software and graphic cards)
- Non-consumer HEVC applications - professional encoders / medical imaging equipment
- HEVC licensing landscape

DTC has been analyzing and quantifying the video compression market since 1996, making us one of the most experienced in the field. For more information on our customized consultations, contact Myra Moore at 214.915.0930 or myra@dtcreports.com.



- At the German Technische Universitaet Braunschweig a promising system that combines cellular and digital terrestrial TV broadcasts has been developed and tested.
- U.S. broadcasters have supersized their effort to produce a radically different digital terrestrial TV standard (ATSC 3.0) that, among other things, emphasizes the blending of broadcast and unicast distribution.

The latest advances for the cellular LTE standard does contain elements that address spectrum efficiency in that a part of the LTE-Advance (LTE-A) standard (eMBMS) enables some broadcasting over cellular transmissions. This effort is in its early stages as a handful of tests have occurred in sporting stadiums where mobile phone users can view a broadcasted signal of the game (or other programming the telco chooses to broadcast). It's not clear how these tests will transition into commercial offerings, however.

Technische Universitaet Braunschweig has been working on a system that accommodates both cellular and DTT signals in a single transmission. The team, led by Professor Ulrich Reimers, instrumental in creating Digital Video Broadcast (DVB), has been working on two problems — enabling more efficient use of the radio spectrum and promoting the use of hybrid receivers that can receive both digital terrestrial TV signals and those delivered over LTE Advance networks. The system, also, allows one transmission to accomplish both tasks.

The University has dubbed this technology Tower Overlay over LTE-Advance+ (TOoL+) and it works by using the future extension frames available in DVB-T2 and in the work-in-progress ATSC 3.0 standards. In these future extension frames, a signal that can be read by terminals addressing the cellular network is included. So from a terrestrial TV broadcast one can either use a TV channel allocation for digital terrestrial TV (assuming it is DVB-T2 or ATSC 3.0) in the traditional way or content can be included which can be received by LTE-A+ receivers, which do not require a broadcast front end.

The system was recently tested in Paris with French broadcaster TDF utilizing a temporary transmission point from the Eiffel Tower. The system was reported to function properly and to have a greater coverage area than was originally assumed.

For all the technical sensibility of the system, it turns out that the biggest challenges the proponents of Tower Overlay over LTE-A+ face are not technical.

Perhaps the highest hurdle to clear is convincing the 3GPP standards-setting body to add the technology needed to be placed in the consumer receivers to the LTE-A+ standard. In order for the system to work, receivers that can read LTE-A+ signals must be in place. And the second is convincing governments and policy makers that using a system like this will help solve some of the spectrum-shortage problems which are currently being addressed by auctioning TV broadcast spectrum to wireless carriers for point-to-point and less efficient broadcast over multi-cell (eMBMS) mobile broadband transmissions.

Concurrent with the Institute's work and government modifications of spectrum policy, is the work being done in the U.S. by the ATSC to fast track a next-generation DTT standard. In fact, the Institute team has been working closely with the ATSC standards-setting body to incorporate the future ATSC standard into the Tower Overlay technology.

The upcoming ATSC 3.0 standard promises much greater spectral efficiency (in addition to a hybrid terrestrial/IP abilities), which will presumably make a positive contribution to accommodating the seemingly insatiable consumer appetite for on-demand video programming to multiple device types. The use of OFDM for baseline transmissions, which can enable single frequency networks (SFN), is one of the technical improvements promising greater efficiency. Will the most efficient methods prevail for delivering future video services? Efficiency will undoubtedly be a factor but government policy and individual industry interests could play a larger role. Stay tuned.