

# THE ONLINE REPORTER



Thinking ahead about tablets and smart TVs...and the content and infrastructure they'll need.

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## Telcos to Offer 100 Mbps Over Copper Wires

- DSL Technology Gets Souped Up to VDSL2 with Vectoring
- ASSIA Software Makes DSL/VDSL Operate More Efficiently

**Significance:** 70% of the world's broadband homes can get it over the telcos' copper wires, not over coax or fiber. So to get 100 Mbps available to every residence, it'll have to be done with new technology for copper wires.

The headlines lately about broadband have been about how China is building the world's largest fiber-optic broadband network for 200 million or so residences. What's not been reported is that the world's telcos own the world's largest broadband network, and it's mostly DSL broadband technology over copper wires for at least the final mile to the residence. The barrier to its future use has been copper wire's long loop lengths, interference in the lines and limited bandwidth, much more limited than the cablecos' hybrid fiber/coax network.

The company ASSIA says significant improvements are coming to the DSL/VDSL technology that telcos use for broadband over copper wires. It will allow speeds from 100 Mbps to 200 Mbps by 2015. That is actually better than the cablecos' DOCSIS 3.0 broadband technology over coax, because the telcos' broadband is not shared by other homes in the neighborhood. DSL/VDSL broadband is a dedicated line that delivers its full-rated speed to each home.

ASSIA doesn't make DSL/VDSL products. It makes DSL/VDSL networks operate better. SVP of marketing Steve Timmerman said ASSIA manages 58 million lines of DSL/VDSL, helping telcos such as AT&T make them more efficient by reducing interference. Other ASSIA customers include BSkyB, Deutsche Telekom's Magyar Telecom (but not yet Deutsche Telekom in Germany) and Telefonica, the dominant telco in Spain and much of Central/South America. AT&T was ASSIA's first investor, and Telefonica is its largest. The company has been growing at 60% per year.

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## UltraViolet to Change How Consumers Buy & View Movies & TV Shows

- Creates a Family's Library of Digital Content That Their Devices Can Access
- Streams & Downloads to up to 6 Household Members
- Puts the Studios Squarely in the Digital Era

**Significance:** Registering a new Blu-ray/DVD movie with UltraViolet is now very quick and easy. Consumers can then easily play recently purchased movies on their digital devices, and the studios can protect their content from piracy. The studios still need a better process for registering previously purchased content, but UltraViolet for new films is an eye-opening experience of what can be done in the digital era.

If the record companies had done something similar 10 years ago, they might now be reporting revenue increases instead of declines.

*By Charles Hall*

This was the week I ventured into the UltraViolet world for the first time, prompted by Walmart's offer to start registering previously purchased movies on UltraViolet in a few weeks.

The studios call UltraViolet an "entertainment ecosystem for digital content." It bridges the worlds of physical and digital media and gives consumers an easy way to watch their purchased content on any of their digital devices, such as smart TVs, iPads, PCs, Blu-ray players, smartphones and smart TV adapters, like the Apple TV and Roku boxes. It may soon eliminate the need for physical media altogether.

Consumers can purchase content once and have up to six family members watch it on up to 12 different digital devices. UltraViolet is fully compatible on services like Flixster (the app and the Web site) for download and streaming capabilities to PC, Mac, iOS and Android. It will also

be made available on Vudu as part of a Walmart initiative on April 16.

UltraViolet is backed by more than 70 companies, including most Hollywood studios, CE makers and pay TV services. It's administered by a consortium of them called the Digital Entertainment Content Ecosystem (DECE). The two notable missing members are:

- Disney, which is developing its own scheme for digitally distributed content called Keychest.
- Apple — which, of course, has its own scheme for storing purchased content in its iCloud.

UltraViolet has gotten some bad press, but my experience with it was mostly positive. It is very simple and straightforward — almost Apple-like. There were no unpleasant surprises. There was nothing that could cause someone not to want to use it again. The steps were:

1. The purchase of the Universal Pictures movie "Tinker Tailor Soldier Spy" from Amazon, which brought one shrink-wrapped package that included:
  - A Blu-ray disc
  - A standard DVD
  - A numeric code that, after registration, allows for storing both the movie and the owner's viewing rights in the UltraViolet cloud
  - The code provided by Universal also offers a download of a digital copy for Vudu, iTunes, Amazon or Windows Media.
2. The online registration was a bit confusing, perhaps because it's necessary to register twice, once for the studio (in this case Universal) and again for UltraViolet. Both registrations can be done at the same Web

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### Quote of the Week...

VDSL2 Vectoring enables service providers to boost the bandwidth on their widely deployed copper infrastructure to 100 Mbps and beyond.

- Lantiq's SVP and general manager of its access networks business unit Martin Schenk

### Stat of the Week...

Globally, the revenue from the recorded music market dropped 3% during 2011, making it the "least negative year for global recorded music sales since 2004," according to IFPI's newest "Recording Industry in Numbers" report.

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site, which may actually add to the confusion. Having registered with both, registrations of future movies and TV shows will be easier, although a separate registration will be needed for each studio the first time.

3. An e-mail is sent with a Web link that, once clicked on, links the two accounts. The owner can select a Universal digital copy download option or the UltraViolet version for the purposes of downloading or streaming.

**My Friend Flixster**

Selecting UltraViolet stores the film and the purchaser's content rights in their digital locker.

UltraViolet videos are available for a variety of platforms. For most users, Flixster is the best choice because there's a Flixster app for every PC, Android devices, all Apple devices except the Apple TV, other smart TV adapters like **Roku's** and **Google TVs** and gaming consoles. Most new smart TVs and Blu-ray players come with the Flixster app.

**Warner Bros**-owned Flixster allows streaming and downloading to a PC or portable device for offline viewing if Wi-Fi is not available.

**Lots of Other Options**

In addition to UltraViolet, Universal offers several other options for digital downloads. Selecting iTunes downloads a digital copy to the PC. It can be viewed in iTunes and on any Apple device that supports iTunes, including PCs, iPhones, iPads and TVs that have an Apple TV connected.

The Vudu selection allows the film to be viewed on any device with the Vudu app. Not yet as widespread as **Netflix** apps, Vudu is getting there.

It's also available for Amazon's Instant Video service and any device that has Windows Media Player.

My first choice was iTunes, so an iTunes video file was downloaded to the PC. It can be watched on PCs with iTunes and on any Apple devices — and in stunning Blu-ray-like quality with full surround sound for a theater-like experience. It even remembered at what point I had stopped watching on the PC when I switched to watching on a TV set with an Apple TV adapter. It offered to resume from where I left off or from the very beginning.

There is no difference in video and audio quality on any of the offered platforms. It's in high-resolution standard definition with full surround sound — both of which are maxed for the device that's being used. We expect it'll soon be available in HD, prompted by the high resolution of the new iPad and other makers' future tablets that are sure to follow suit.

**UltraViolet's Viewing Rights**

UltraViolet viewing rights are very liberal:

- Up to six accounts per household
- Up to 12 apps or devices for downloading for offline viewing, streaming on apps and devices with access to the Internet and — in the future — the option for a physical copy on DVDs and flash drives.

An UltraViolet video can be played on any UltraViolet player that's registered to the household account but not on non-registered devices. Files can also be streamed over broadband but with a maximum of three simultaneous streams.

UltraViolet does not store the video file. Its locker stores licenses for purchased content — regardless of how or where they were purchased. That future-proofs UltraViolet from changes to file formats and physical media.

UltraViolet is an industry standard in that all participating studios must offer the same viewing rights to six household members and 12

devices. However, each studio can select which optional service it'll offer — such as iTunes or Vudu or Amazon. Currently, all studios support Vudu, as indeed they must to assist Walmart in its efforts to register previously owned Blu-rays and DVDs. **Paramount** and Universal both also offer iTunes downloads with their titles, but the other studios do not — although the pressure on them to follow suit will increase with every iPad that's sold.

The only additional thing that could be asked for is that if someone buys a movie for download, UltraViolet would give the option of shipping them a Blu-ray/DVD separately even for a few quid more. Consumers could watch a show on the day it's released and still know a physical copy is coming.

UltraViolet was a smooth and delightful experience, except for the minor registration hiccups.

**Vudu & Amazon Bypass Apple's App Store**

iTunes, Vudu and Amazon are fierce competitors in renting and selling movies and TV shows online.

UltraViolet users are given the choice of Flixster and soon will be offered Walmart's Vudu.

These options prompted the question: "Why would someone select one versus the other?"

iTunes would seem to be the choice for most people because they use iTunes on their PCs, iPads, iPhones and Apple TVs. However, users could not watch it on a TV set unless it's connected to the \$99 Apple TV. Apple does not put iTunes on any non-Apple device except PCs. Vudu is not as widespread as iTunes on PCs and CE devices.

In the end, accessing UltraViolet entertainment through Flixster is probably the best because of its universality — any device, including non-Apple ones, and anytime, including when offline.

As we previously reported, Apple keeps rivals Vudu and Amazon out of its Apps Store, but the 20,000 or so Vudu and Amazon films and TV shows can be viewed on iPads, iPods and iPhones by using the device's browser.

Vudu's big claims to fame include its 1080p videos and surround sound, which Apple can now match on iPads and Apple TVs. However, Vudu says it has optimized its Web site for the iPad. It brags that there's no need to install an app, and it offers movies online the day they become available on DVDs and Blu-rays.

**Questions & Answers**

Here is a question-and-answer session we had with a DECE spokesperson for UltraViolet:

**Q:** Why would a studio not include iTunes? Is that Apple or the studio?

**A:** How studios choose to offer content is their choice, and we cannot speak for them or Apple.

**Q:** How long does UltraViolet last? Is it free forever? An annual charge?

**A:** The beauty of UltraViolet is that consumers can be confident that they will have possession of and the ability to view their favorite movies and TV shows into the future — including freedom from fears that the content will not be compatible with future devices. There is no charge for set-up or annual use of UltraViolet. Files that UltraViolet users have downloaded are theirs to use forever, wherever, on a range of apps and devices from participating brands, with no charge. An UltraViolet buyer gets up to three downloads at no charge beyond the purchase price, and then can copy or move those files

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onto other UltraViolet-registered apps/devices (up to 12 at one time). Consumers will also receive free streaming for at least one year after purchasing an UltraViolet-enabled title, and we expect that many retailers and streaming service providers will exceed this minimum requirement. In fact, the UltraViolet offers on the market today commit to at least three years of streaming for no charge, and we expect that it may become the market norm to not charge for ongoing streaming — or additional downloads beyond the included three — as a means for companies to attract, retain and engage video-watching audiences.

**Q:** Is there a limit to the number of UltraViolet titles a user can have?

**A:** No. There is no limit to the number of UltraViolet titles a user can have in their collection.

**Q:** Can a user de-register a device and replace it with another one?

**A:** Yes. Apps/devices can be registered and unregistered by accessing your account on UVVU.com, or directly within the Web sites of participating UltraViolet retailers who have chosen to implement this account management feature.

**Q:** Does the UltraViolet option store the movie in the locker? Or just the rights?

**A:** The UltraViolet system only stores rights and enables consumers to access their content based on those rights, while the storage and distribution of the actual UltraViolet content files are managed by retailers and/or in some cases an infrastructure/service provider that is engaged by the retailer. In this way, multiple different companies' cloud storage-and-transmission services can be used by the consumer, all based on the underlying UltraViolet rights that can "connect the clouds" for the consumer's benefit.

**A Pleasant Experience for New Purchases...**

This implementation of UltraViolet is a major and positive move by the film industry. It will take some time for consumers to realize its importance, but it could over time change the way consumers buy and watch content. That's one reason large retailers of DVDs don't want to be left out. Walmart is the first, but **Best Buy** and **Tesco** are already members of DECE. They, along with **Dixons**, are expected to join the UltraViolet parade this year.

UltraViolet is a pleasure to use — if for no other reason than making it easy to watch on any device. Like many others, I had thought about getting software that would rip DVDs (legally, of course) so I didn't have to fiddle with discs. Yet I, like many, still wanted to have a physical copy in case the digital copy went awry.

Getting UltraViolet up and running was faster than expected — almost like an Apple experience. It was a delight to see the movie start playing on each device.

Notably, all three versions (streaming, downloading and a physical copy) are automatically sent to purchasers, including a DVD disc, in addition to the Blu-ray and code number for the rights to access it through UltraViolet.

Consumers will soon also be able to buy UltraViolet versions of movies and TV shows online from Walmart's Vudu without a physical disc being involved. The question that rises once again is: "What is the future for Blu-ray discs?" Was Steve Jobs correct several years ago when Apple began not putting Blu-ray/DVD players in Apple PCs? No tablets or smartphones have Blu-ray/DVD players. All software and apps are now downloaded over the Net. HD videos are increasingly downloaded and will be even more so because of the ease and universality of using the UltraViolet ecosystem.

Apple's iDevice fever is spreading rapidly. Millions of iOS products are being sold globally — none of which has a Blu-ray/DVD player.

However, old-schoolers still want a physical copy. But like most of the younger set, many of them have enough new-schooler in them that they want the convenience of digital for watching on their tablets, TVs, smartphones and PCs.

The studios got it right with UltraViolet — at least for new releases.

**...But Not Yet for Previous Purchases**

Consumers cannot register from home the Blu-ray and DVDs they have previously purchased. Starting April 16, they will have to take them to a registration center, initially **Walmart** stores and possibly in the future to **Tesco**, **Dixons** and **Best Buy**. It may be a simple process once you get there, but getting to a big box retailer can often be a messy and time-consuming process, especially for people that don't frequent them.

Walmart's UltraViolet will be Vudu-based in that people that register discs at Walmart can watch them on their Vudu service.

We're not optimistic about its success. For starters:

- The Walmart crowd is the Disney crowd, and Disney isn't participating in UltraViolet.

- Walmart has not yet said which movies and TV shows it will support for UltraViolet, but it certainly won't be every movie and every TV show ever made. It'll probably only be those that are available for purchase or rent on Vudu.

- Walmart will charge a per-disc fee for each registration of previously purchased discs.

Last week's *The Online Reporter* carried a detailed analysis of the UltraViolet after-market that was mostly negative, especially about the cost of it to consumers.

As part of its UltraViolet effort, Walmart's Vudu is expected to start selling UltraViolet versions online — no physical media involved — but with all the rights to play on any digital device.

**Another View**

Long-time industry executive and *The Online Reporter* contributor Chuck Parker warns that registering previously purchased Blu-ray/DVDs can be a painful and costly process. Consumers cannot register them from home as they can for new purchases. Only Walmart can currently register previously owned discs, although we expect Best Buy, Dixons and Tesco to follow suit. Walmart charges a fee of \$2 for an equal conversion for standard-definition DVDs and Blu-ray discs and \$5 for standard DVDs to be upgraded to HD.

Parker said that if a consumer buys another title that comes from a different studio, it might not allow the registration to Vudu. For a **Warner Bros** title, he said, you have to register with that studio's Flixster, for example.

"If you buy five or 10 titles, you will notice some give you the ability to stream to other devices and even download to an iPad — and some only allow streaming," he said. "Try buying four more titles, each from a different studio, and then write another article."

**Looking Ahead**

The problem with piracy and particularly with the young is they think they have a right to see and listen to all content, anytime, anywhere and on any device. They have no respect for the "windows" the studios use to maximize revenues by staggering releases on various venues. If they can't get something legally, they will get it illegally.

UltraViolet is the studios' venture (not including Disney) to make it easy to get content legally and play it easily on multiple devices in the same family, even devices that don't have a Blu-ray or DVD player.

In February, Disney chief Bob Eiger showed doubts about  
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UltraViolet by saying, "I don't want to sound too critical, but we're taking a wait-and-see approach on UltraViolet." He then said UltraViolet had not "proven to be as robust as we'd expected or as consumer-friendly as we had hoped." Eiger's opinion might change if he were to buy a Universal movie on Blu-ray with the UltraViolet option and try it now.

Ours certainly did, and we were very skeptical about UltraViolet.

UltraViolet will be transformative for many, especially owners of

tablets, smartphones and portable PCs who have been trying to figure out how get their DVDs and Blu-rays copied to their devices. Once they see how easy it is to get purchased movies and TV shows playing on all of the family's devices, it'll be easy to get them hooked on the coming "no-disc" version of the UltraViolet ecosystem. All that are needed will be HD versions and a few hundred more "must-see" movies and TV series.

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ASSIA founder Dr John Cioffi is reportedly the inventor of DSL and often referred to as the father of DSL technology.

What's driving the demand for higher broadband speeds are the IPTV pay TV services the telcos have started offering, OTT services and the backhaul market for cellcos — the use of DSL/VDSL to send wireless data from the home back to the cellcos' mobile network.

Standard-definition (SD) video requires 1 Mbps to 2 Mbps per stream, but HD videos need 3 Mbps to 4 Mbps per stream. If a home has two or three TVs getting HD and an iPad/ultrabook or two also getting HD videos, then lots of bandwidth will be needed, much more than can be delivered now.

Telcos are now typically installing a fiber network to the neighborhood (or node or cabinet) and connecting it to the copper wires that run the last mile or so to the home. Using VDSL technology, they can generally get 24 Mbps to 40 Mbps to the home, which is sufficient to allow two to three streams of HD pay TV and 10 Mbps or so broadband for an Internet connection. Some telcos are installing fiber-to-the-home (FTTH) in parts of their footprints, which currently allow speeds up to 100 Mbps. For example, **Verizon** offers fiber in 40% or so of its footprint but still has four million DSL subscribers.

Copper wire networks are already part of the world's largest broadband network, according to Timmerman. There are 1.2 billion total copper wires to homes and businesses. He listed the number of broadband subscribers worldwide as:

DSL	390 million, about 70% of the global broadband market
Cablecos' DOCSIS	113 million
Fiber	60 million

He said the US is a unique market because the cablecos have a 60% broadband market share.

He said FTTH deployment has stalled with the increasing speeds that VDSL can deliver over a hybrid fiber/copper network. European telcos are no longer pushing FTTH, he said.

**VDSL2 Vectoring Enables 100+ Mbps Over Telcos' Copper Wires**

A new VDSL technology called VDSL2 Vectoring has been developed that will enable speeds up to 50 Mbps by year-end and 100 Mbps sometime next year, according to Timmerman. VDSL2 Vectoring conditions the copper lines to eliminate crosstalk. It is already in field tests at the telcos **Belgacom**, **Telekom Austria** and **Turk Telekom** by network gear maker and DSL/VDSL specialist **Alcatel-Lucent**.

VDSL2 Vectoring, an ITU standard, requires a new line card in the DSLAM. Chipmakers such as **Ikanos**, **Broadcom**, **Lantiq**, **MediaTek** and **RealTek** are already making VDSL2 Vectoring products.

Timmerman gave as an example VDSL2, which at 500 meters (547 yards) can do 40 Mbps without vectoring but achieves 120 Mbps with vectoring. Those are net speeds over a dedicated copper line to the home as compared to a DOCSIS connection, which is often shared by 64 users.

The cablecos are already achieving 100 Mbps and more with DOCSIS 3.0, which did not require them to run new cables. However, that bandwidth has to be shared with other nearby subscribers.

Timmerman said it will be much easier and less expensive for the telcos to achieve 100 Mbps dedicated service than for the cablecos to achieve 100 Mbps.

Alcatel-Lucent told us last fall that VDSL2 Vectoring technology is commercially available. We first reported on it several years ago, when it was being tested in its labs.

Alcatel-Lucent said its vectoring technology uses sound cancellation to limit interference and crosstalk. It increases DSL speed and the distance over which the higher speeds can be attained.

"Our objective is to help operators and nations 'get to fast, faster,'" Alcatel-Lucent's president of its wireline division Dave Geary said last fall. He said the telcos would need less time to recoup their investments, and it would make it easier for telcos to meet various national broadband goals.

The availability of vectoring is timely because service providers and governments worldwide want to increase broadband speeds, but the costs and complexities associated with FTTH deployments are major obstacles. VDSL2 Vectoring should make superfast broadband speeds available to many more people, much faster than many in the industry had thought possible.

Alcatel-Lucent said that more than 1.25 billion households globally are connected to copper lines, and new DSL technologies such as VDSL2 Vectoring can use the existing copper wires to bring more bandwidth to more subscribers.

It will also make the telcos competitive with the cablecos, whose global footprints are much smaller than the telcos which is unfortunate for consumers in countries that have only one company competing for their broadband account.

Alcatel-Lucent says it's the master of VDSL2 technology, having supplied more than half of the VDSL2 lines in the world. It points out other DSL technologies it has originated to help squeeze the maximum out of copper wire such as high-capacity VDSL platforms and VDSL2 bonding.

In a world that's seemingly totally dependent on access to the Net, we all will need as much speed as we can get.

**Copper Wiring & DSL in China, Too**

ASSIA's technology will still be needed to wring maximum performance over VDSL2 networks that use vectoring.

Timmerman said the economics for fiber disappear where there is copper in the ground.

In China, the telcos dominate the broadband market with their copper and hybrid fiber/copper networks. As a counterbalance, the Chinese government agency **SARFT** is encouraging the country's many cable TV companies to consolidate so they can afford to upgrade their one-way pay TV networks. Using Ethernet-over-coax (EoC) technology from companies such as **Broadcom** and **Qualcomm Atheros**, the

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Chinese cablecos are deploying 1 Gbps fiber to the country's thousands of MDUs and then using fiber or coax or occasionally copper wiring, from the fiber's termination to each residence.

Even in China, Timmerman said, many cablecos are using some version of DSL over copper to connect fiber's endpoint in the MDU to each residence.

#### **Making DSL/VDSL More Efficient**

ASSIA says its DSL Expresse suite of software tools helps telcos achieve speeds up to 50 Mbps at 500 meters when used with VDSL2 technology. Most importantly, it's done with existing copper wires over the final network run to the home and delivers the maximum bandwidth to each subscriber by using a dedicated line all the way to the home. There's no sharing, as is the case with DOCSIS, which slows speeds down when a number of homes on the same DOCSIS connector start using the Internet. That is becoming increasingly a problem, as the cablecos' subscribers use OTT services to stream videos, especially HD videos.

Noise and physical impediments can hamper DSL, he said, especially from the DSLAM in the central office all the way to the home, although 90% of them occur in the last mile to the home. Physical impediments include wiring defects, bad splices, shorts, AM radio signals and lighters in the home — all of which reduce the capacity of the copper wires. The impediments can vary from day-to-day. ASSIA's suite of software is continuously monitoring every line's readiness for maximum performance. It also increases stability on average by 47%.

The technology that ASSIA uses is called dynamic spectrum management. It's standardized by the telcos' standards body, the ITU. ASSIA licenses its technology to other companies but says, as expected, that its implementation is the best.

It compares each subscriber's broadband speed to that of nearby neighbors to help determine where the interference is located. It's like having a technician monitor and adjust each line 24 hours a day.

Timmerman said that in some cases, new copper wires have to be run to the home when the existing copper is old and frayed but said it's rare.

Where the DSL Expresse suite is deployed, Timmerman said, problem phone calls from subscribers and dispatches of repair trucks decline. Speeds improve 20% to 95%. Subscriber churn diminishes. The faster speeds allow telcos to offer premium services, the most important of which being pay TV.

Unlike VDSL2 Vectoring, the ASSIA technology is entirely software. It works with any DSLAM gear, customer premises equipment and most DSL/VDSL lines. It also reduces the amount of electricity that is used by helping make the DSL/VDSL network more efficient.

#### **So?**

To get 100 Mbps available to every broadband residence, it'll have to be done with new technology for copper wires, such as VDSL2 Vectoring and monitoring/adjusting software such as ASSIA's. DSL/VDSL technologies bring subscribers an added bonus. Subscribers get a dedicated connection to the Net, not one that's shared with nearby users.

#### **VDSL Vectoring from the Horse's Mouth**

Willem Zevenbergen, Alcatel-Lucent's industry analyst relations manager, said the company has "some fundamental concerns regarding this article" because it claims certain products and solutions from ASSIA are unique and absolutely necessary to make VDSL Vectoring deployments work.

He said, "This is simply not the case because:

"1. Many vendors, including Alcatel-Lucent, offer the same functionality as ASSIA.

"2. While these solutions offer many benefits for operating and troubleshooting networks, they are simply not an absolute requirement to get to 100Mbps."

Alcatel-Lucent is the world's largest maker of DSL/VDSL gear and led the development and deployment of VDSL Vectoring.

*The Online Reporter* has scheduled an interview with Alcatel-Lucent about VDSL2 Vectoring, which will be in next week's edition.

## **Hon Hai Connects Apple to Sharp to Apple TV**

Connect the dots, maybe. Taiwan's **Hon Hai** is one of the largest manufacturers of **Apple** devices. Japan's **Sharp** is rumored to be the supplier of HD TV displays for Apple's upcoming TV set. Hon Hai buys 10% of Sharp.

Hon Hai agreed to purchase about half the LCD displays from a 93% Sharp-owned factory that makes LCD panels. In the States, Sharp is known for its success in making and selling large HD TVs — 50 inches and larger.

Sharp also gets \$800 million in cash to help it rebuild its LCD display-making operation which have accounted for most of its recent losses.

*Wireless Watch* reports that Foxconn chairman Terry Gou and related investment companies bought 46.5% of **Sharp Display Products**, a joint venture with Sony. This cuts Sharp's stake in the venture to 46.5%, while Sony's 7% holding remains unchanged.

The deal includes an agreement for Foxconn to purchase as many as 50% of Sharp Display's LCD panels, which could make Sharp the main competitor to Samsung for Apple's display business.

The Hon Hai/Sharp partnership faces major competitors in **Samsung** and **LG**. Samsung is the major supplier of displays to Apple for use in iPads, which Hon Hai's **Foxconn** assembles.

The purchase by the \$117-billion-per-year Hon Hai shows how far Japanese electronics makers have fallen. The wounded list also includes **Sony** and **Panasonic**. Is there a Chinese company that can pump some cash into them and agree to buy displays?

**IHS iSuppli** said Sharp will begin shipping displays using its advanced IGZO technology for the new iPad next month, in addition to the ones Apple is currently getting from Samsung.

Could it be that Apple is also looking for displays for its Apple TV sets? A Samsung executive has said Samsung is not concerned about a potential Apple TV set because no one makes better displays than Samsung. However, Sharp TVs are considered the major challenger to Samsung in the States for sets that are larger than 42 inches.

The move could also be a signal that Apple will launch a line of larger TV sets.

## **France Telecom Orange Prepares for an OTT Future**

- **One Platform for All of Its IPTV/OTT Services**

- **Some HbbTV Thrown in, Too**

- **More Complex Task Than Even Some Vendors Expected**

*By Philip Hunter in Faultline*

**France Telecom Orange** is doing what vendors and analysts have been preaching for some time by migrating to a single unified platform for delivering all its pay TV services. This is because Orange is in the for-

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tunate position of owning relevant technologies needed to construct a coherent platform, while the vendors preaching about unified head-ends and single multi-screen infrastructures have discovered they do not actually have all the ingredients they need.

That is why we have seen **Cisco** acquire companies for its Videoscape multi-screen platform, most notably of course **NDS** for \$5 billion. Meanwhile, **RGB Networks** has teamed up with **nangu.TV** to complement its multiple bitrate H.264 transcoding platform with the latter's video storage and multi-screen delivery system. We are not quite comparing like with like here, but the point is that unified end-to-end multi-screen delivery is a more complex task than even some vendors had bargained for.

That is why major deployments have been few, with the Orange migration to its new converged service called La Nouvelle D'Orange being by far the largest scale so far. Orange described it as the world's biggest IPTV migration to date, which is incorrect only insofar that it does not just involve IPTV customers. There is also the point that Orange plans to start making its services available OTT, which is part of the reason for the migration, although presumably for existing customers to start with, for access from tablets on the move perhaps.

Orange currently has 9.6 million DSL broadband subs in France, more than double its 4.37 million pay TV customers, so there is plenty of scope for growth in IPTV without having to go out over other service providers' networks. In fact, Orange is doing very nicely at the moment in pay TV, with the current number of subs 25% up on a year ago.

These subs fall into four categories: IPTV over ADSL, IPTV over FTTH, hybrid satellite/IP and pure satellite. The first three of these are being moved first, with 400,000 subscribers already on the new converged platform run jointly by **Viaccess** and **Orca**. The satellite subscribers will be moved later.

The platform comprises Orca's middleware designed for IPTV, including the Right TV service management and Compass content discovery platforms, with Viaccess IPCAS content protection. The combined package incorporates VoD, catch-up TV, content discovery and recommendations, EPG, DVR services and apps within a common EPG.

***This Orange migration is the biggest ever in IPTV***

The stated motivation is increased service velocity through collapsing the different delivery platforms into one, with substantial operational cost savings on the way. Of course, as all physics students know, velocity is only much use if it is in the right direction, but Orange seems to know where it is going. It depends where the subscribers are coming from. For its satellite customers, hybrid based on HbbTV will be the name of the game, with trials just getting under way, involving the international multilingual current affairs channel France 24 and another France telecom company **GlobeCast**, which provides long-haul content delivery services.

Then, for all subscribers there will be a trend towards OTT and delivery over both Wi-Fi and mobile. Orange has been interested in the Integrated Mobile Broadcast (IMB) standard making use of unused 3G spectrum, having been involved in a trial with **Vodafone** and **O2** in the UK during 2010, but things have gone quiet on this front since. We have been unable to confirm so far whether Orange is still interested in IMB.

Since that IMB trial, DVB-T2 Lite has emerged as a more compelling option for mobile TV, although Orange itself is more likely to be interested in an IMB equivalent for 4G/LTE, which it has pledged to have deployed in all its European Union markets by 2015.

The new converged La Nouvelle D'Orange service also raises an immediate commercial question. Orange's IPTV middleware had previously been a combination of in-house components and **Technicolor's** Smart Vision, a service delivery platform acquired through the purchase of the **Thales** IPTV systems business in 2005.

***What will Technicolor do now that its biggest client has dropped its Smart Vision?***

But then, recently Orange has been investing in a multi-screen software company called **SoftAtHome**, whose latest offering, the CloudAtHome software separating content delivery from the underlying hardware, has been shortlisted in the "Best Multiscreen TV Solution" category at the IP&TV Industry Awards. Yet Orange did not see fit to mention this product or company in its news releases about La Nouvelle D'Orange. So far, Orange has failed to respond to our requests for comment on this matter as well.

## Comics Give Online Distribution a Try

Comedians like Aziz Ansari, Louis CK, Jim Gaffigan and Bill Maher are taking steps into online video distribution, producing stand-up specials themselves and selling them through their Web sites without editorial control or other interference from broadcasters.

This move draws viewership away from TV channels, most notably viewership from male viewers and desirable younger viewers. Programmers need to take note, "unless your attitude is that you're going to be retired in 10 years, and you don't care," said Mark Greenberg, CEO of **Epix** and former **Showtime** and **HBO** executive.

### CK's Successful Venture

Last December, FX series "Louie" star CK released his stand-up special "Live at the Beacon Theater" from his Web site, at \$5/download and without copy protection. He said his primary motivation was to escape censorship.

"I don't have to go, 'Here's this product,' to whatever company and then cringe and shrug and apologize to my fans for whatever words are being removed, whatever ads they're having to watch, whatever marketing is being lobbed on," he said.

CK's production cost \$250,000 and sold more than 220,000 downloads, grossing over \$1.1 million. He gave \$250,000 in bonuses to his crew and donated \$280,000 to charities.

### Hopeful, but Duly Cautious

Others have followed his example, like Ansari and Maher, but it's doubtful that the online distribution model will completely replace traditional distribution methods.

Kent Alterman, Comedy Central's head of original programming and production, cautioned that only "a very rarefied community of comedians" would have the fan base to be able to succeed in the online distribution model. He said that Comedy Central is still a hub for comedians due to "the marketing muscle that we have and the enormous exposure they get."

There is no guarantee, even for comedians with large fan bases, that online distribution will be lucrative in every instance. Even CK is

**Comics:** *continued on page SEVEN*



**Comics:** continued from page SIX

unsure of whether he will follow the Internet model for his next special, saying “I think there’s huge potential, but potential means there might be nothing.”

Gaffigan is planning to release his next special on April 11 for a \$5 fee, as he was drawn away from traditional distribution via a network after a portion of his act was censored by Comedy Central in 2010. He’s contributing \$1 from each sale to charity.

## Walmart Struggles to Keep Pace with Amazon, Costco

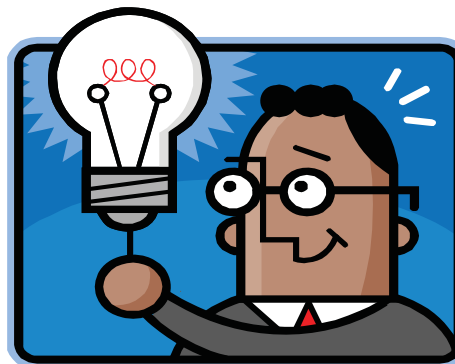
There has been a shift in shopping behavior from physical to online stores, and **Walmart** hasn’t been able to keep up with the innovation, according to *Motley Fool’s* analyst Adam J. Wiederman.

In spite of a second full quarter with positive growth, which was a low 1.5%, Walmart has seen an overall earnings decline of 13%, following same-store sales declines over nine consecutive quarters. It has lost 50% of its customers to **Amazon.com**, double the 25% it lost to Amazon five years ago. Walmart’s chief technology officer Jeremy King has even admitted that they are “playing a catch-up” game with Amazon, which may be a losing one, given Amazon’s Kindle Fires and the increasing ease-of-purchase through any device.

Even **Costco** is “light years ahead of Walmart’s Sam’s Club,” said Wiederman. With its low item markups, continued patronage-generating items available only short-term and easy return policy (without a receipt, gasp!), it’s no wonder that Costco’s member retention major has hovered around 90%, according to Wiederman. It presents a major competition to Walmart.

With Walmart’s size and market share, it’s highly unlikely that it will fade away anytime soon, but it will have difficulty maintaining profitability and a solid foothold as more consumers head to Amazon for online purchasing and Costco for cheap bulk purchases in-store. Amazon and Costco are fractional in size compared to Walmart, so they have more room to grow.

Wiederman said, “Even though Walmart is often touted as an all-weather stock — capable of gaining in both boom and bust economies — the real all-weather stocks of today are Amazon and Costco.”



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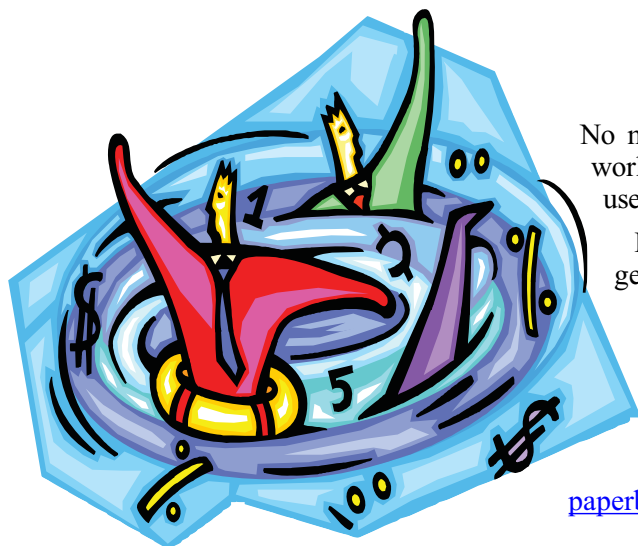
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## BROADBAND BEAT

### Austria's Telco Goes for AlcaLu's 100 Mbps Broadband

- First to Commit to System-Wide VDSL2 Vectoring

**Significance:** There's always some question as to whether service providers will commit the time and money to deploy new technology throughout their footprint, but the lure of 100 Mbps broadband over existing copper wires is powerful. Here's the first company-wide commitment to VDSL2 Vectoring.

**Alcatel-Lucent** (AlcaLu) said in January that **Telekom Austria Group's** domestic subsidiary, **A1**, would be the first telco worldwide to deploy its VDSL2-based vectoring gear to actual subscribers. Phase one would be Korneuburg in lower Austria, followed by a comprehensive, countrywide rollout planned for the second half of 2012.

Telekom Austria's A1 Giga-Network passed 2.1 million households and businesses at the end of 2011.

Belgium's **Belgacom** was an AlcaLu trial account for VDSL2 Vectoring. It has scheduled system-wide deployment for 2014. It currently has about 80% coverage with FTTN/VDSL2.

AlcaLu's VDSL2 Vectoring gear started becoming commercially available in December 2011, and general availability will be offered in the second half of 2012.

China-based network gear maker **ZTE** is expected to become a main competitor in DSL/VDSL equipment.

### Lantiq Shipping Chips for 100 Mbps over Telcos' Copper Wires

- VDSL2 Vectoring Gets Telcos Up to Cablecos' DOCSIS Broadband Speeds

**Significance:** VDSL2 Vectoring technology promises to increase the telcos' broadband speeds over copper wires up to 100 Mbps – and the copper is already in the ground. It'll make them competitive with the cablecos' DOCSIS broadband.

In January, the German chipmaker **Lantiq** announced what it called was the broadband industry's first VDSL2 Vectoring chip, the VINAX IVE1000. It enables full system-level crosstalk noise cancellation — nearly interference-free copper pipes for broadband data that allows broadband speeds up to 100 Mbps. It said the technology would more than double the data rates and geographical reach for next-generation networks that are based on VDSL2

Lantiq is already shipping the VDSL2 Vectoring chips.

VDSL2 Vectoring is an **ITU** standard.

Lantiq said noise cancellation technologies like those that are standardized in G.vector technology are not sufficient to completely eliminate crosstalk. It said only system-level vectoring solutions, like the new Lantiq vectoring engine device, more than double data rates and reach next-generation needs. It called it a "breakthrough in full system-level vectoring capability, scalability and expandability up to 384 ports" and said it's ideal for triple-play broadband services, including multiple streams of HD-quality TV, Internet and voice.

It said it's "the most cost-effective, future-proof broadband infrastructure deployment" that can be used in the telcos' central office (CO) or in neighborhood/in-building cabinets.

The thing about VDSL2 speeds are that they are symmetrical, and each user gets a dedicated broadband line with no sharing with neighbors.

VDSL2 Vectoring also reduces power consumption by up to 20% as a result of optimal balancing of transmission power.

Perhaps most important for the telcos is that it extends the life of and enhances the performance of their existing copper wire networks.

For an end-to-end full vectoring solution, VDSL2 Vectoring requires "vectoring-ready" VDSL2 line cards, VINAX IVE1000-based central vectoring cards and vectoring standard-compliant consumer premises equipment (the broadband modem).

Lantiq's SVP and general manager of its access networks business unit Martin Schenk said VDSL2 Vectoring enables service providers to boost the bandwidth on their widely deployed copper infrastructure to 100 Mbps and beyond. He said it's "the most scalable and best-performing solution to allow service providers to capitalize on the potential of their copper access networks."

### Telcos' Broadband & IPTV Growing Faster Than Ever

- 597m Homes Have Broadband

- China Dominates Top 10 Charts

- Russia Has Fastest Growth

Numbers out this week from the **World Broadband Forum** show something that its research partner, **Point Topic**, has been pushing as an idea for the past quarter or so. Broadband is once more speeding up, and the 2011 growth numbers show the fastest growth in the past five years, with broadband now reaching 597 million homes.

This amounts to 12.3% annual broadband growth, and suddenly Russia is off and running with the fastest increase in both broadband and IPTV, leading an Eastern European surge, with strong showings from Poland and the Ukraine.

On the back of broadband growth, IPTV had its strongest ever quarter in Q4 2011 with the number of China's IPTV subscribers finally overtaking those from France, to give China the top country spot for both broadband and IPTV.

Broadband growth was calculated as an additional 65.5 million lines in 2011, taking the global total to 597 million. In the last quarter alone, this represents a rise of 2.6% and an annual growth rate of 12.3%.

"This is an exciting return to higher growth figures and points to a strengthening in the broadband market," said Robin Mersh, CEO of the **Broadband Forum**. "With a number of active new markets coming online and standards based deployments becoming common. We are seeing broadband move into the daily lives of more and more people the world over. A great example of this is the exceptional growth in some key Eastern European markets, such as Russia, Poland and the Ukraine."

Russia had over 36% growth in broadband and more than doubled its IPTV subscribers from 495,500 to 1.145 million in just one year.

With 254.7 million broadband lines, Asia is by far the biggest region overall, but growth there is slowing. However, the sheer size of the market means that it continues to take market share even when growth is lower. The region added 7.8 million broadband subs in Q4 of 2011, up 3.2%, and has annual growth of 16.4%. Significant changes in the Top 20 broadband rankings are appearing as Brazil, Russia, India, China (BRIC) and the Ukraine all show double-digit growth. Russia showed the highest growth rate with 36.9% over the year, and India is also moving up the rankings with an annual growth of 24.5%.

In technology terms, DSL has 60.8% market share and remains the

**Telcos': continued on page NINE**



## BROADBAND BEAT

**Telcos'**: continued from page EIGHT

dominant broadband technology but is beginning to lose ground, and the expectation is for hybrid fiber/DSL deployment systems to grow rapidly. Actual fiber-to-the-home (FTTH) is increasing, too. The combined market share for FTTH and FTTx/hybrid technologies has again grown from 16% in Q3 to 16.7% at the end of 2011, encroaching on cable TV's market share, which has dropped to 19.4%.

In IPTV, Europe continues to hold the top regional penetration, but China is the fastest-growing country and now has over 12 million subscribers, outstripping France for the top spot in the Top Ten IPTV countries worldwide.

"China will continue to dominate the top of the charts from now on. This is a market with greater headroom, more demand and overall more potential than anywhere else," said Oliver Johnson, CEO of Point Topic. "Outside the top 10, the prime movers are Malaysia, Vietnam and Belarus. There are a number of conditions that have to be in place for IPTV adoption to be significant. The availability of enough consistent bandwidth tops the list but pricing needs to be right for the consumer as well. Once those metrics are at certain levels you start to see real growth."

This report appeared in *Faultline*.

### UK Broadband 'At the Back of the Pack'

- Government FTTH Efforts Not Up to Par

The UK may be "frozen out of the next industrial revolution" due to poorly funded and ambition-lacking government broadband plans, according to former **BT Group** technology chief Peter Cochrane.

He and others responded to a **House of Lords** Inquiry on the national broadband strategy. They criticized government plans, which had vowed to create the "best superfast broadband network in Europe by 2015" with 24 Mbps for 90% of the 25 million UK households and a 2 Mbps minimum for remaining homes.

"Even our aspirations are low: 20 Mbps isn't superfast. It's super slow. It's a candle, while the rest of the world is using the light bulb," said Cochrane. "The UK risks being frozen out of the next industrial revolution."

#### Insufficient Funds and a Matter of Human Rights

To bring broadband to rural areas, £530 million (\$842.5 million) has been earmarked for this Parliament and £300 million (\$476.9 million) for after 2015. High-speed fixed and mobile Internet for 10 cities – including London, Belfast, Edinburgh and Cardiff – is funded by a

£100-million (\$158.9-million) earmark.

BT said it would match the £830 million (\$1.32 billion) in government funding. Councils will be asked to do the same, which would bring the total UK rural broadband investment to well over £2 billion (over \$3 billion).

However, Cochrane said the £2.5 billion (\$3.97 billion) going to rural services was insufficient, that the industry estimates that it would cost £15 billion (\$23.8 billion) to bring fiber to every British home.

"True, high-speed, unlimited access to the social, economic and democratic benefits the Internet brings is a fundamental human right," he told the Lords communication committee. "Yet in terms of broadband, the UK is at the back of the pack. We're beat by almost every other European country, and Asia leaves us for dust. The great decline in our relative global position has saddened me over the years, and we need to invest at least £15 billion to redress this now."

The **Country Land & Business Association (CLA)**, representing 34,000 rural businesses, agreed and said the funding "will be insufficient to build a future-proofed superfast broadband network, fit for purpose." It also said that broadband access should be available as a basic human right and be classified as a universal service obligation, not a universal service commitment, which "provides government with a get-out clause in the event that the 2 Mbps benchmark cannot be achieved by the stated deadline of 2015."

#### Where the UK Stands Now

The **OECD** published last September that the UK is 15th in the global league of countries with the fastest advertised speed and has one of Europe's smallest fiber-to-the-home (FTTH) levels. 250,000 UK homes and blocks, out of a population of 62 million, are reached by FTTH, according to the **FTTH Council Europe**.

FTTH reaches 6.3 million homes of a 66-million population in France and 16 million homes out of 143 million in Russia. Estonia is the only one out of 39 European countries that has FTTH reaching fewer citizens, but its ratio exceeds that of the UK's — 210,000 homes out of a 1.3-million population.

"Some homes and businesses [in the UK] are struggling to access even the basic speed of broadband internet. This is completely unacceptable in this modern age, and it puts us at a serious risk of being left behind. For Cumbrian businesses, providing a decent Internet connection is not a luxury, it's the difference between surviving and folding," said Liberal Democrat MP for the Cumbrian seat of Westmorland and Lonsdale.

## HOME NETWORKING

### Quantenna's List of Announced Wins Gets Longer

**Quantenna's** win list for its HD-capable Wi-Fi chips is a very impressive one for a chip start-up in such a short time and in a very competitive market — one that the big chipmakers are very active in. As far as we know, this is a complete list of its publicly announced wins.

We expect more service providers to announce soon, if for no other reason than the number of STB makers it has. Few STB makers announce a box unless they have orders in hand.

STB Makers	Service Providers
AirTies	Altibox
Amper	Swisscom
Cisco	Telefonica
Datasat Technologies	
Gemtek Technology	
Motorola	
Netgear	
Sagemcom	
Smartrove	
Technicolor	

## HOME NETWORKING

### Celeno Keeps Adding Wins

Many US and European pay TV services are anxious to deploy whole-home Wi-Fi that is robust enough to carry multiple streams of HD videos from whole-home DVRs. **Celeno** has been a major beneficiary of the trend with its HD-capable Wi-Fi chipsets. Its wins include:

STB Makers	Service Providers
Alpha Networks	BTC Broadband (OK)
Amino	DTC Communications (TN)
Comtrend	Duo County Telephone (KY)
FiberHome	Etex Telephone Cooperative (TX)
Inteno	Farmers Telephone Cooperative (SC)
LEA	Horizon Chillicothe Telephone (OH)
Jensen	Liberty Communications (IA)
Samsung	Surry Telephone Membership Corporation (NC)
Sercomm	Star Telephone Membership Corporation (NC)
Technicolor	Altibox Fibernet
Teldat	Amis
ZyXEL	Bezeq
	Bouygues Telecom
	China Telecom
	Deutsche Telekom
	iiNet
	INS
	Liberty Global
	Hickory Tech
	Matanuska Telephone
	South Slope
	Stadsnat
	UPC
	Telnor
	YES

### Videotron Launches New Cisco-Made HD DVR

Canada's **Videotron** pay TV service will begin deploying in Quebec its **Cisco**-made illico DVRs, which include an enhanced UI and faster navigation. Subscribers will be able to access interactive entertainment and information embedded in particular programs, such as music, weather, local information, voting and polling and other services. The box also has the expected VoD, EPG, pay-per-view, caller ID, weather plus tailor-made entertainment packages.

It has a 500GB drive that provides up to 280 hours of SD and up to 55 hours of HD, multiple tuners, USB 2.0 and an Ethernet jack and also supports the Tru2way open standard.

Mark Kummer, Cisco's VP of service provider operations in Canada, said that with the illico DVR, Videotron advances its video strategy by utilizing its head-end and DOCSIS fiber-optic networks combined with Cisco's STB technology "to deliver best-in-class video entertainment experiences on air, online, on demand."

### MS the Disease

*Rider Research* supports the work of the National Multiple Sclerosis Society.

Multiple Sclerosis (MS) is the leading neurological disabler of young to middle-aged adults.

Please visit the Society's Web site and consider a donation.

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## LIES, DAMN LIES AND STATISTICS

### Music Industry Has 'Least Negative' Revenue Since 2004

#### - Continued Digital Growth

Globally, the revenue from the recorded music market dropped 3% during 2011, making it the "least negative year for global recorded music sales since 2004," according to **IFPI's** newest "Recording Industry in Numbers" report.

Digital formats continue to rise in popularity, accounting for 51% and 32% of recorded music sales in the US and the UK, respectively. There was an 8% growth in 2011 (vs 5.6% in 2010) for global digital revenue, which now accounts for 31% of total recorded music revenue.

Global sales for digital tracks and albums grew 19% — Australia led with 60% growth, compared to the UK's 10% and the US' 8%. The US sold \$1.27 billion in digital copies, while the UK sold \$176.2 million.

IFPI said that services like iTunes Match, **Spotify**, **Rdio**, **Mog** and **Rhapsody** are driving digital sales growth. It said the digital services, integration with social media like **Facebook** and increased anti-piracy efforts helped the industry in 2011 and may help it continue to bounce

back from the 40% total decline in revenue it has seen in the last decade.

Physical revenue decreased by 8.7%, a considerable improvement over the 13.8% loss in 2010. Overall, 17 countries saw positive growth in music sales.

### Music Industry Targets Small Restaurant

The music industry is targeting small companies again, the most recent being Florida-based restaurant **Harvest Moon Gourmet Bistro**, run by Terri and Perry Margolis.

The Margolises have paid licensing fees of \$400/year to **Broadcast Music Inc** (BMI) for more than 10 years so that husband Perry could "legally" play guitar and sing and so the restaurant could play the radio for customers. However, that fee apparently didn't cover songs licensed by the **American Society of Composers, Authors and Publishers** (ASCAP), which is now seeking a \$683/year fee from the Margolises. Terri has said that they have stopped playing the radio in the restaurant altogether, fearing the copyright infringement penalties they could face, which run between \$750 and \$30,000 per song.

## LIES, DAMN LIES AND STATISTICS

### iPad's LTE Not Attractive to Consumers. Yet.

Only 6% of iPad owners connecting to **Localitytics**' network of apps used the tablet's cellular capability, according to data from a recent session sample.

The company found that only about 10% of iPads connecting to it had cellular capability to begin with. On Localitytics' network, only 8.8% of original iPads or iPad 2s have 3G cellular capability, said Localitytics marketing executive Daniel Ruby. About 1.5% of all iPad 3s have 4G, and data costs for mobile plans have likely played a part in the slow uptake.

It is still too early to draw conclusions, however, because the numbers were released less than two weeks ago.

Those who do have cellular-enabled tablets make relatively frequent use of it, Localitytics said. On its network, 45% of sessions from 3G-enabled devices actually used the cellular service to connect, and 36% of 4G-enabled devices used cellular.

### More iPad Purchases on the Horizon

- High Interest by Tablet Owners & Non-Owners
- Tablets Replacing Laptops?

Interest in the new iPad by both iPad owners and non-owners is "encouraging" for **Apple**, according to **Baird Equity Research** analyst William Power. Its recent study indicated growing purchasing interest for the iPad in and outside the States, as well as purchasing behavior that may lead to tablets replacing laptops.

In the US, 24% of respondents said they plan to purchase the new iPad, while 29% of respondents outside the States said the same.

42% of those wanting to purchase the new iPad do not already own a tablet. Of current iPad owners, 35% of which own an iPad 2, 48% said they intend to buy the new iPad.

Respondents wanting to purchase the new iPad were most interested in the Retina Display (28%), the A5X processor (26%) and LTE capability (17%).

Some have suggested tablets may replace laptops. Baird's study

revealed that, in spite of 28% of respondents suggesting that the iPad purchase was replacing a laptop purchase, 50% suggested that purchasing an iPad wouldn't delay other electronic purchases. However, that still leaves a fair number buying tablets over laptops and relying on them as their primary personal computing devices.

The discounted price of the iPad 2 is also drawing interest, with 15% of US respondents and 22% of respondents outside the States saying they intend to buy one.

Power said the survey was of 488 potential customers and "catered to a younger, tech-savvier group on average."

### IDC Expects Android Devices to Overtake Windows by 2016

The **International Data Corporation** (IDC) said it expects a "dramatic shift" from **Microsoft** Windows platforms to **Google** Android platforms between 2011 and 2016. It predicted that Windows market share will drop from 35.9% to 25.1%, and the market share of **ARM** CPU-powered Android platforms will increase from 29.4% to a dominant 31.1%.

Last year, shipments of smart connected devices – such as PCs, tablets and smartphones – exceeded 916 million units and generated revenues over \$489 billion, according to IDC's recent data. It predicted that shipments will reach 1.84 billion units by 2016.

iOS devices are expected to grow from 2011's 14.6% market share to 17.3% in 2016. Android and iOS devices together account for almost half of the connected devices market.

"Android's growth is tied directly to the propagation of lower-priced devices," said Tom Mainelli, **Mobile Connected Devices** research director. "So, while we expect dozens of hardware vendors to own some share in the Android market, many will find profitability difficult to sustain. Similarly, we expect a large percentage of application developers to continue to focus their efforts on iOS, despite the platform's smaller overall market share, because iOS end users have proven more willing to pay for high-quality apps."

## MOBILE BROADBAND

### Data Throttling Threatens Mobile Video Services

- Cellcos Struggle to Stay Ahead of Surge in Usage
- Video Data Consumption Likely to 'Go Nowhere But Up'

As content providers increasingly provide their services on mobile devices, consumers' data usage increases, which puts pressure on mobile broadband's spectrum. One way cellcos are responding is "throttling," capping monthly usage and charging higher fees to the biggest data users. Many have eliminated unlimited data plans altogether.

Video content accounts for the most data traffic over mobile networks, so taking the biggest hits are services like **Netflix**, **Vudu**, **Amazon** and **iTunes**, plus **DECE**'s UltraViolet.

"Streaming video consumes the most data of all possible activities and is often the reason customers are among the top 5% of heaviest users," **AT&T** says on its Web site.

**AT&T**, **T-Mobile** and **Verizon** Wireless have all stopped offering

unlimited data plans. **T-Mobile** and **Verizon** both begin throttling customers after 2GB, while **AT&T** began offering new data plans of \$30 for 3GB and \$50 for 5GB. **Sprint** is the only carrier that continues to offer unlimited data plans.

#### A Growing Problem That's Not Going Away

A study from **PricewaterhouseCoopers** showed that data consumption will most likely "go nowhere but up," as both social TV participation on second screens and video content services become increasingly popular.

**AT&T** estimated that wireless data volume doubles annually, with a 20,000% increase in wireless data traffic over the last five years.

**Validas**' recent study indicated that, for 15,000 smartphone lines from January to December 2011, average data consumption rose 34.7% for all users (448.8MB to 604.8MB). It also found that data consumption for median users rose 136.1% within that time, from 164.1MB to 387.4MB.

**Data Throttling:** *continued on page TWELVE*

## MOBILE BROADBAND

**Data Throttling:** *continued from page ELEVEN*

### Tackling the Issue

Lack of mobile broadband spectrum for operators is at the center of the problem, according to Walter Piecyk, mobile industry analyst with **BTIG Research**. Wireless spectrum consists of the frequencies that the federal government license to carriers. Every cellco is pushing for more. The 2010 federal National Broadband Plan calls for “an additional 500 MHz of spectrum available for mobile broadband within the next 10 years.”

“The problem of throttling is a result of the government’s inability to source additional spectrum to the operators,” said Piecyk. “Without spectrum, the operators that most Americans use for their wireless service will not only throttle speeds, but also increase prices on whatever data the consumer can squeeze through the throttled space.”

The **FCC** recently began taking steps to make more spectrum available, such as having **Dish Network** switch some of its satellite spectrum to mobile broadband. Some carriers are coming up with their own solu-

tions, like Verizon’s move to purchase wireless spectrum from four cable TV companies for nearly \$4 million.

### How Big Is the Issue?

Validas found that only 5% of AT&T customers went over 2GB of data per month, and only 2.7% of those used 3GB or more.

“The fact remains it’s a slim portion of users who are in the red zone,” said Dylan Breslin- Barnhart, VP of communications for Validas.com.

Still, with the same company showing how median data use has increased well over 100%, it’s clear that mobile data traffic is still an issue that needs to be addressed. Pressure on carriers will likely continue to rise, as the average traffic contribution from all users increases.

Consumers and providers alike have complained about throttling, as 3GB of data allows subscribers only 140 minutes of streaming video, according to AT&T. That’s easily surpassed by even the most casual video viewer, especially with streaming movie services offered by Netflix, Amazon, iTunes and Vudu.

## ONLINE MUSIC SERVICES

### Aspiro’s WiMP Service Sees Success with Niche Appeal

**Aspiro Music**’s streaming music service WiMP has had considerable success in its experimentation with localized niche appeal and content updated by editorial staff, as indicated by high user satisfaction. Over half of the service’s test users participated in a satisfaction survey, with 90% saying they were “happy” or “very happy” with the service. 88% said they would continue to use the service several times a week or more. It was initially launched as a closed beta in Germany last December, and primarily music industry representatives were invited to give the service a test run. A commercial launch for Germany is expected in the second quarter of this year, and it will eventually be available

in other countries, including Holland and “at least one country outside Europe,” according to *Hypebot*.

### HTC Moving Toward a Digital Music Service

**HTC** has reportedly been having talks with digital music service provider **Mog**, which sources have told **Reuters** may precede HTC’s own full music service. A price in the \$17-million range has been agreed upon, and the deal is in its final stages, according to Peter Kafka at *AllThingsD*. The purchase would be made by audio technology firm **Beats Electronics**, which HTC acquired a 51% stake in (worth approximately \$300 million) last year. HTC’s stake in Beats, acquisition of rights to the “Beats by Dr Dre” headphone brand and possible deal with Mog seem to indicate a clear move by HTC to compete against services like **Spotify**.

## OTT SERVICES

### The Future of Broadband TV (OTT)

- **Winners Will Be Those Who Provide Discovery on the Second Screen**

- **Takeaways from the OTT Conference**

By *Chuck Parker* at [www.chuckparker.tv](http://www.chuckparker.tv)

“The future of OTT will be won by service providers who can deliver discovery on the second screen” is the quote that best summed up the Over-the-Top TV & Video Conference this week in Santa Clara.

Panelists and presenters were a good mix of service providers and content owners/distributors (**Fox**, **NBCU** and the like), though some of the smaller concurrent sessions were blatant and poorly presented sales pitches. Thanks to **MESA**, I joined with the other 400-500 attendees in the conference’s packed keynotes about the new OTT digital video ecosystem.

There was some interesting banter on exactly what “OTT” meant to different people on the panels, with the day two keynoter Jon Cody suggesting we scratch the name OTT and replace it with “broadband TV.”

It was surprising how few people attending the conference under-

stood the second screen or even what discovery was. The other big surprise was how pervasive the view that OTT (or broadband TV) was somehow going to grow up and kill **Comcast**, **DirecTV**, and/or **Verizon**, for example.

Though stats were thrown around both days, many attendees just didn’t seem to process them. We all know that **Netflix** has 20+ million subscribers and that **Apple** has sold 4+ million Apple TVs and that online video is growing quickly. However, we fail to remember that of the roughly 37 hours of TV that the average American watches every week (not sure where the average person finds the time), only three hours of that is online — Web, OTT or otherwise.

Further, of the \$200 billion in TV advertising, a scant \$4 billion (2%) is spent on online/OTT video. Despite the fact that OTT has taken a significant chunk of the DVD business (close to 20%), when compared to the combined sell-through, TV advertising and pay TV amounts, the Netflix, iTunes, **Hulu Plus**, **Amazon**, **Vudu** and such all add up to less than 5% of total consumer spend. (Thanks for your keynote covering some of these points, Jon Cody.)

**The Future:** *continued on page THIRTEEN*



## OTT SERVICES

**The Future:** *continued from page TWELVE*

There is no doubt that IP-delivered video is going to continue its march to near global ubiquity, as one speaker predicted. But I do believe that 2012-2015 will be marked by the striking back of operators who will march over to the content creators in Hollywood with their StreamPix (Comcast's answer to Netflix) and Verizon/Redbox partnership (their answer) and demand the same mobile streaming rights that Netflix has for no additional charge, because they are already paying millions and millions for their pay TV rights to the same content.

I don't think Netflix, with 20 million subscribers at \$8 to \$15 a month, can outspend Comcast with a similar subscriber base at \$100 a month. In the end, I think the big operators will either consolidate the OTT players or try to match their capabilities to do what they do best: raise ARPU and reduce churn.

Consumers will win. They will get the video they want, when they want it. The operators (OTT or otherwise) that continue to provide a great user experience for their subscribers will survive. Apple is an easy prediction here.

Perhaps the quote at the top sums it up best. The digital video future will go to those who build great consumer experiences. The ones with deep pockets might make a few blunders and might move slowly, but they will move and they will flex their dollar-based muscles. Ultimately they will provide their own broadband TV services across their own and other pay TV services' broadband networks.

### BBC Ponders DVD-Less, UltraViolet-Like Ecosystem

- Buy Once, Watch Forever on Any Device
- Will Mine Its Archives to Increase Revenues

The BBC has seen income from its government-mandated license fee being squeezed for political reasons, and its opportunities for getting additional revenue from inside the UK have been virtually nil. In exchange for the license fee on every residence with a TV set, the BBC is denied the opportunity to sell advertising.

The BBC has two important cards up its sleeve. One is substantial overseas demand for its content, where it can charge for it (which it has been increasingly successful in doing), boosted by availability of the iPlayer on a subscription basis in a growing number of countries.

The other card is its archive, which contains far more material that people might be willing to pay to watch than foreign equivalents. Such, at least, is the BBC's judgment in trying to wrangle its way towards charging for this without annoying license fee payers. Its first effort to do this failed, aiming to charge for access to content via the iPlayer once the window — currently one week — had expired. This failed because of the perception that it was putting the boot in at a time of recession, open to accusations that it was charging twice.

Now the BBC is having a go at achieving exactly the same objective another way by offering archived content quite independently of the iPlayer on a download-to-own basis. Director general Mark Thompson set about this delicate mission in a speech to the **Royal Television Society** last week. The only real difference is in the presentation and packaging of the project, rather than the substance.

The idea is to present it rather like the **Digital Entertainment Content Ecosystem** (DECE) UltraViolet initiative in creating a virtual DVD that the purchaser owns for life and can consume on any device. This was how Thompson presented it, as giving something over

and above the normal BBC service, emphasizing that the archive would be available through other means, although it was not clear when and under what circumstances consumers would get one-off access free of charge.

In fact, the reason the archive has not been available before has been partly because of rights issues relating to payments that actors and content creators would have had to receive. Thompson pointed out that people were already happy to pay for DVD sets of past series, although that has been limited to highly popular and iconic series such as "Fawlty Towers" and the more recent "Top Gear." The idea of what is being called Project Barcelona is that the huge black hole of less well-known content will be available, although it is not clear to what extent prices will reflect the perceived appeal or value.

*The BBC wants to offer its archived content in a download-to-own format*

But Thompson also went out of his way to stress that the prices will be modest, implying that content will be considerably cheaper than DVD versions, even though the cost of the latter is determined by the content value rather than the actual physical medium. This suggests DVD versions will soon cease to exist.

By putting the emphasis on owning past series, rather than having to pay to watch recent ones that have only just left the iPlayer window, the BBC is hoping to diffuse the criticisms it faced over the earlier plan. It should be successful in doing so, and the next question is how much revenue it is likely to raise. **BBC Worldwide** revenues have now passed the £1-billion (\$1.5-billion) mark and are growing at a healthy 8% or so a year, probably accelerating now that the international version of the BBC iPlayer is gathering subscriptions at around €50 (\$75) a year. There are no figures on how well that is doing yet, but in the long term, the BBC hopes international sales will ensure total revenues grow in step with **ITV**, and for that matter **BSkyB**, ensuring that it maintains its competitive edge in content creation.

Whether the archive will make a substantial contribution remains to be seen, but there is certainly a pent-up demand driven by nostalgia among older (and younger) viewers to be tapped. There are many old sitcoms and costume drama series from the 1960s and 1970s that are fondly remembered by many and have never been repeated.

*This appeared in Faultline.*

### Conax Uses Off-the-Shelf Plug-Ins for OTT & Multi-screen Services

**Telenor's** conditional access subsidiary **Conax** has a rather novel approach to accelerating the development of a fully featured multi-screen and OTT software stack. It points out that only the larger pay TV operators have the money to put together customized next-generation TV projects. Its plan is to take best-of-breed local suppliers, which it has come across in different regions around the world, and become their marketing arm, effectively giving them a far broader reach through integration with its conditional access system.

The first deals out of the bag are with Polish hybrid middleware supplier **Cubiware** and content management supplier **MPS Broadband**, a Swedish company that has offices in the US and the UK. There are

**Conax:** *continued on page FOURTEEN*



## OTT SERVICES

**Conax:** *continued from page THIRTEEN*

expected to be more pre-integrated systems, which ought to transform Conax into a fully featured multi-screen OTT software provider.

We spoke last week to both Geir Persson, Conax director of strategy and business development, and Tor Kristiansen, director technical product management at IP&TV World Forum. “We have already used Cubiware to extend the Evolution set-top used at **Cablemás** in Mexico to OTT services, which has already gone to almost half of its one million customers,” Persson said.

Conax works with about 300 operators around the world, with many of them broadcast DTH and DTT players, but all of these are now looking to use OTT for at least VoD services.

“The value chain is in flux right now,” said Persson, “And brands, for instance sports brands like the **Champions League**, are all trying to get into the OTT space directly, and through partnership, that could allow our customers to become significant OTT suppliers, but few of them can do it by designing systems themselves.”

Conax says that it has an entire ecosystem built and ready to go and that, at later events such as NAB in the US, it will add to the suppliers that are part of that offering.

One of the key areas we quizzed it about was the area of how to protect OTT content from being pirated, through undermining the iOS or Android operating systems on tablets. Like most of the other conditional access players, Conax insisted that it had its own solution, not one which had been licensed from elsewhere, which would shortly be rolled out on this front, presumably to drop into iOS apps for its operators. Although Kristiansen said that details were commercially sensitive at present.

This is clearly an important “hardening” aspect to Conax Contego and Contego Unite, which are the products it uses for OTT. Contego Unite uses the same hub or server to support traditional conditional access and new multi-screen systems. Contego Unite boasts that it can secure delivery of content to any device, using a single point of billing, offering identical UIs across all devices.

Underlying this we understand is the ability to work with other on-device DRMs such as Secure Stream and **Microsoft’s** Playready. “PlayReady is just a technical specification, a protocol on how to send decryption keys,” said Kristiansen, “and we have our own implementation.” The company says it is operating a number of internal pre-integration trials on new software pieces it plans to add throughout the year.

## SMART TVS AND OTHER OTT DEVICES

### Xbox 360s Used More for Watching Content...

- ...Than Gaming for the First Time
- Comcast, HBO, MLB Add More Content

Microsoft’s Xbox 360 is becoming more like a digital content hub or a smart TV adapter than a gaming console. Its owners can now access new content from **Comcast’s** Xfinity, **HBO GO** and **Major League Baseball** (MLB), making it more like an **Apple TV**, **Roku** or **Logitech’s Google TV** adapter.

The Xbox already has such services as **Netflix**, **Hulu Plus** and **ESPN** as do the other gaming consoles. One major difference is that the Xbox 360 supports Microsoft’s Kinect gesture and voice controls.

Otto Berkes, SVP of HBO’s consumer technology group, said HBO fully enabled the Kinect user experience, including voice navigation,

and tried to take full advantage of the functionality of Xbox.

Xbox 360 users get HBO GO’s entire catalog, including “Deadwood,” “Entourage” and “Game of Thrones.”

Comcast’s Xfinity includes Comcast’s on-demand library of TV shows and films, all searchable with gestures or voice controls.

**MLB.TV** will offer over 2,400 games and the ability for viewers to use voice commands.

Microsoft’s Xbox execs are excited. Yusuf Mehdi, chief marketing officer for Microsoft’s Interactive Entertainment Business, says the content companies “really bought in to the ease of use to help consumers find and enjoy what they want.” He said the number of entertainment apps on the Xbox 360 has doubled year-over-year and, for the first time ever, more Xbox 360 owners are using their consoles for watching content than for multiplayer gaming, particularly during the last four months, such that it “surprised our own hopes and aspirations.”



### Now Is the Time for Real Understanding

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## Staggered Windows for Movies Could Disappear

After using the newest implementation of UltraViolet, it seems the power of the Internet may eventually force the studios to eliminate those staggered release windows and let consumers buy a movie when it's first released. Of course, that will come after some shows that are made for immediate release on the Net become hits and threaten the studios' offerings. and gasoline prices make driving to the theater a major cost.

## Sales of TV Sets in the States to Decline in 2012

Could it be that consumers' love affair with tablets is causing a decline in sales of flat-panel TV sets? **IHS iSuppli** predicts that US flat-panel TV sales will decline in 2012 for the first time ever. It said they'll fall 5% (by 2 million units) to 37.1 million units in 2012. In 2011, shipments increased 1% to 39.1 million units, from 38.6 million units in 2010. It expects the numbers to continue to fall until 2015, when IHS predicts 34.2 million flat-panel displays will be shipped. IHS TV research analyst Lisa Hatamiya said the decline suggests demand may have peaked for the mature US TV market, and most purchases are being made by owners of older flat-panel TVs who are upgrading.

## Hillcrest Labs Puts Motion Control in Second Screens

Second-screen devices can now use **Hillcrest Lab's** Freespace, an embedded motion-control technology already found in smart TVs, video game platforms, PCs and wearable computing devices. The Freespace MotionEngine for Mobile enhances existing motion-based apps by using the motion sensors already commonly found in second-screen devices, such as accelerometers, magnetometers and gyroscopes. Hillcrest Labs has deals with **LG** (for its newest smart TV line and Magic Motion remote controls), **Roku** (for its Roku 2XS motion remote control), **Sony**, **Kopin**, **Universal Electronics** and **SMK**. IHS estimates that shipments of motion sensors in second-screen devices will

rise from 2011's 1.5 billion units to over 4.0 billion units in 2015.

## 2012 May Hold More Amazon Kindle Fires

Three new versions of the **Amazon's** Kindle Fire may come to market this year, according to *Taiwan Economic News*. It said an 8.9-inch, 1920x1200-resolution model is in the works, aligning with prior rumors about a larger device. Also rumored are a low-end 7-inch model with 1024x600 resolution display and a medium- to high-end 7-inch model with 1280x800 resolution. Amazon's 14% capture of the tablet market during its Fire's debut quarter suggests it has an opportunity for success. It will be interesting to see how the new Fire models will compete against the new iPad.

## UltraViolet Begins Moves Outside the States

The UltraViolet ecosystem for delivering premium content to a proliferating number of devices is new but is already spreading outside the States. **DECE** began UltraViolet operations in the US in October 2011 and in the UK in December 2011. UK consumers can already access UltraViolet content from **Warner Bros** and **Sony Pictures**. Deployment plans for additional international markets, including Canada, will be announced in the coming months, according to a spokesperson for the DECE. We also expect the other studios that are members of DECE to join the global expansion. And, who knows, perhaps even **Disney**.

## Best Buy to Close 50 Stores

US electronics retailer **Best Buy** said it's closing 50 stores as it focuses more on mobile devices and services. To counter that, it's opening 100 or so new locations that will be dedicated to mobile. Best Buy is under pressure from **Amazon** and other online retailers that don't have the expense of stores. Also, **Walmart** has increased its online activities and is selling premium CE gear at low prices.

## Apple, Android Drive RIM's Blackberry out of Consumer Market

Blackberry smartphone maker **RIM**, under pressure from **Apple** and Android smartphones, is abandoning the consumer market to concentrate on the corporates, which is where it had its first and greatest success. Newly appoint-

ed RIM CEO Thorsten Heins said, "We plan to refocus on the enterprise business and capitalize on our leading position in this segment. We believe that BlackBerry cannot succeed if we tried to be everybody's darling and all things to all people. Therefore, we plan to build on our strength." He'd best watch out, because Apple is already succeeding in the corporate market, and Microsoft is expected to increase its focus there.

## Hulu Update Adds More Support for Android Tablets

An updated **Hulu Plus** app has an improved interface for tablets and can be accessed by more Android tablets: **Amazon** Kindle Fire, **HTC** Flyer, **Vizio** VTAB and 8" Tablet, **Asus** Eee Pad Transformer and Transformer Prime, **Motorola** XOOM and XYBoard 10.1, **Toshiba** Thrive, **LG** G-Slate and **Acer** Iconia. It was not updated to include compatibility with the **Samsung** Galaxy Tab line. The app is available free from the **Google** Play store.

## iPads for the Very (Very, Very) Young?

Children that haven't breached double digits in age are becoming tablet owners, according to the marketing agency **Kids Industries**. The survey of 2,200 parents and children in Britain and the US found that 9% of children between three and eight years old owned an iPad. 20% owned their own iPod and 15% had used their parents' iPad. In spite of some warnings about the effects of excessive tablet use on learning development, 77% of parents believed tablet use was beneficial for their kids and felt tablets could help them develop creativity.

## Vizio Leaves Room to Put Second-Screen Apps on the TV Screen

Now you won't need a tablet as a second screen when watching TV. **Vizio** is launching a \$3,500, 58-inch CinemaWide TV set that it says has a 21:9 aspect ratio, closer to what movie theaters have. Broadcasts, TV sets and video games have had a 16:9 aspect ratio, so there'll be space on the sides of the pictures for second-screen apps such as **Facebook** and **Twitter**. Vizio is planning to launch 50-inch and 71-inch screen-sized sets with the 21:9 aspect ratio. They'll all have 2560x1080-pixel resolution, LED backlighting, 3D and come with four pairs of 3D glasses.

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