

# New Market Realities in Content Delivery

A Parks Associates whitepaper developed for

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## EXECUTIVE SUMMARY

Unfettered access to content has become the focus of the digital media industry... to a point.

While pay-TV providers, CE manufacturers, and content owners are eager to expand the availability of both low- and high-value content to an audience demanding access to content at anytime, anywhere, and on any device, concerns about security and interoperability between connected devices are forcing the industry to take a more measured approach.

**PAY-TV PROVIDERS**, already coping with a disaffected subscriber base, see cross-device content access as a potential panacea that will make the price of their products less objectionable to consumers who increasingly question their value and look for ways to trim their bills. In addition, TV providers are looking for ways to mitigate the impact of OTT services like Netflix and Hulu Plus and have to follow regulations such as the FCC mandate for DLNA Premium Video.

**CONTENT OWNERS**, meanwhile, are excited by the prospect of getting their product to a wider audience, but are more worried than ever about the cost of piracy—which even conservative estimates place at nearly \$500 million annually. Their focus? Security and digital rights management.

**CE MANUFACTURERS**, now building out the home infrastructure for ubiquitous content sharing, are most concerned about creating an inter-related ecosystem that guarantees devices talk to each other and can move video files seamlessly to consumers across an assortment of devices and screens.

**In an arena where content has seemingly ruled,  
consumers, instead, are the driving force.**

The ability to meet their demands—*simplicity, functionality, and affordability*—is critical.

Meeting these requirements depends upon the willingness of CE manufacturers, pay-TV operators, and content providers to adopt standardized guidelines for content delivery and to integrate content security as part of any solution.

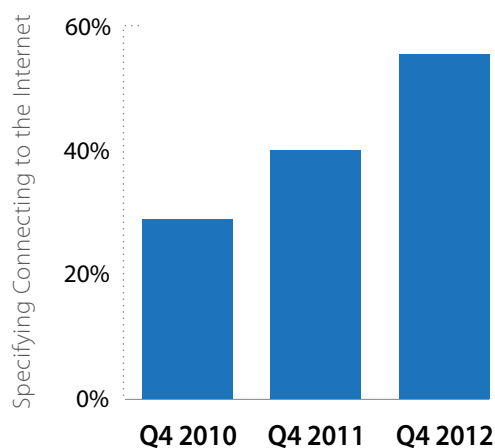
# A Demand for Content Anywhere, Any Time, on Any Device



Welcome to the age of the digital home, where consumers see watching video anywhere they want, when they want, and on any device they want not as just an option, but as a given.

And why not? Digital home entertainment technology allows consumers to enjoy premium content from their pay-TV and OTT service providers on televisions, tablets, computers, and smartphones. They can watch movies and TV shows in SD, HD, and, within the next couple of years, ultra-high definition. The percentage of broadband U.S. households with Internet-connected CE devices—smart TVs, Blu-ray players, games consoles, set-top boxes, or digital media players—has steadily increased (Figure 1). That trend will continue.

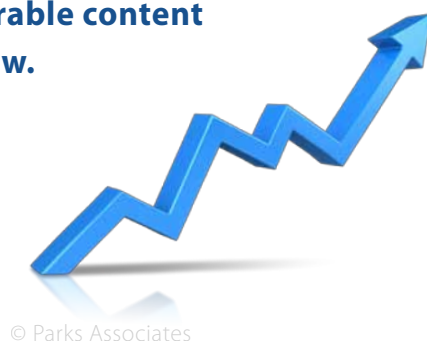
## U.S. Households with Internet-connected CE



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Figure 1: U.S. Households with Internet-connected CE

## The demand for desirable content also continues to grow.



In 2012, Americans watched more than 34 hours of live TV a week, as well as several hours of time-shifted content.

More than half of all broadband households have access to over-the-top video on a TV set, and nearly 40% of pay-TV households watch Internet video on TV. (That's far more popular than pay-TV providers' VOD services, which only 29% of households report watching.)

## More Pain for Pay-TV Operators

While access to content has become easier for consumers, it has created consternation among pay-TV operators.

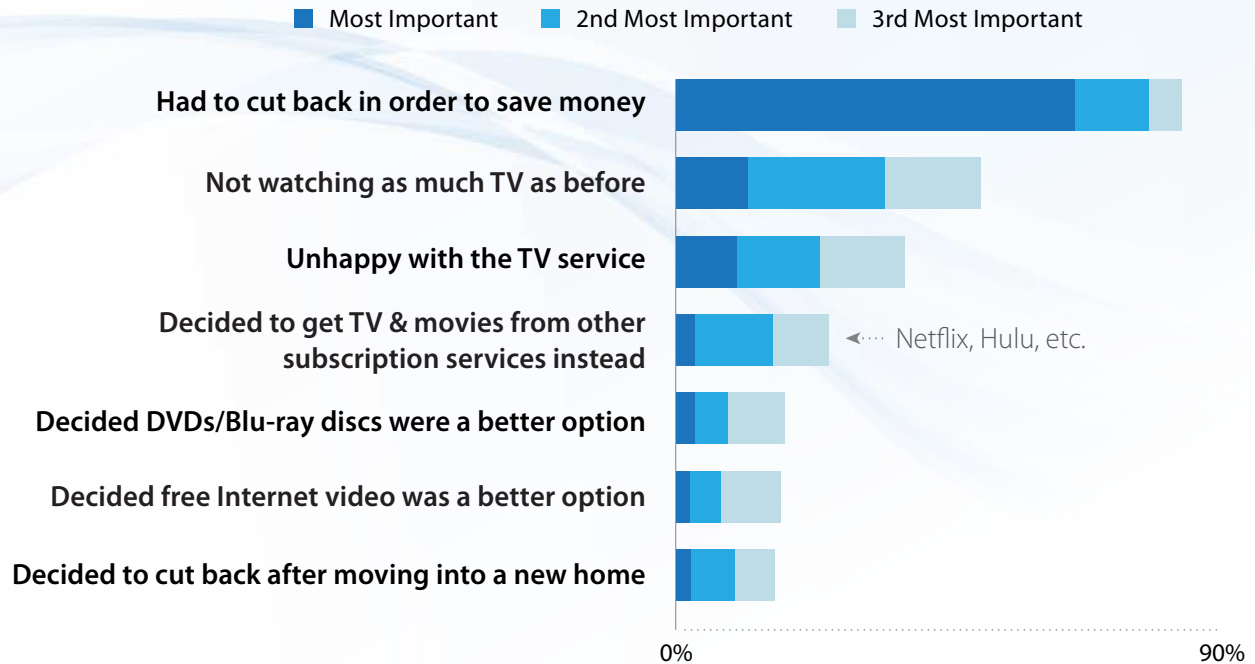
Operators struggle with consumers "shaving" their pay-TV packages, i.e., keeping their cable subscriptions but trading higher-priced packages for lower-cost streaming alternatives. For the most part, the number of shavers has been small. But those reductions in income for providers are significant, especially during a time of rising content costs.

In 2012, 12% of pay-TV subscribers downgraded to a less-expensive TV package, and an additional 10% said they were likely to cut back in 2013.

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## Top Reasons for Downgrading a Pay-TV Package

(U.S. broadband households that downgraded)



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Figure 2: Top Reasons for Downgrading a Pay-TV Package

**Subscribers cite several reasons for cord shaving, but the primary reason is the desire to save money (Figure 2).**

**FULLY TWO-THIRDS** of consumers who trimmed back their service did so to save money. This result is unsurprising in an economy that has remained hesitant at best.

While cord shaving is a problem for operators, perhaps even more worrisome is the coming of age of a generation of “never-weres.”

**NEVER-WERES:** Young consumers who have never had a subscription to a cable, satellite, or IPTV service and who turn instead to the Internet for their entertainment.

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A SIGNIFICANT PORTION  
of consumers aged 18-24

~70% own game consoles which are connected to the Internet.

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A quarter of consumers 34 & younger  
in broadband households own smart TVs.



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In addition to having a large number of connections to wired Internet services, many younger consumers, particularly those 18-24, are likely to access the Internet through a wireless subscription.



## The High Cost of Content—and Piracy

Producing high-quality entertainment—including sports—is expensive, with costs per minute reaching into the tens of thousands of dollars.

Content owners, studios, and sports production companies earn the bulk of their return-on-investment from initial theatrical releases, live TV, and real-time sports broadcasts. As content ages, the ability to monetize it declines. The inherent value in “new” content, obviously, is its novelty.



As more viewers watch a piece of content over time, the demand for that asset decreases and with it, its value. *This inverted pyramid of value demands a significant investment in security, especially for new, high-value content.*

Depending on the source, the cost of piracy to movie studios, content owners, and pay-TV operators is estimated to be anywhere from a hundred million dollars to billions of dollars. Piracy also has increased pressure for content owners to shorten release windows in an effort to minimize the effect that the “free” pirated content has on an asset’s value. It’s a threat that has become critical as Internet bandwidth has increased, peer-to-peer networks have proliferated, and the sharing of content has become easier.

Unfortunately, content piracy shows no signs of easing. Regulators have been reluctant to impose any significant penalties on pirates, and governments have been inconsistent in their enforcement. Recent research from PWC<sup>1</sup> indicates that 81% of younger viewers, 18-25 years old, report they are likely to continue using pirate websites, and 40% indicate they had pirated at least some content using a mobile device.

The need for security is obvious, and a unified strategy is likely to offer the strongest protection.

## Content Owners Seek Expanded Delivery



**More eyeballs generally mean more revenue;** *the more viewers a TV show, movie, or sporting event garners, the more money that asset will make.*

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Increasing the number of devices that play an asset increases that content’s availability and the profit that a content owner can make from it. But expanding availability also makes an asset more vulnerable to piracy.

Nevertheless, content owners and operators are working to expand content access to a plethora of connected devices, a strategy being driven by the sheer number of connected devices on the market.

*By 2015 the average U.S. household could have as many as* **24** **CONNECTED DEVICES.**

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<sup>1</sup> Broadband TV News, March 6, 2013: *Operators Face Piracy Threat*


Operators say that the growth in device quantity and diversity has made delivering video securely, already a complex task, harder still. Generating multiple adaptive bit-rate streams—the differing demands of IPTV delivery, QAM and HTTP, for example—places major demands on content management infrastructures and increases transcoding, storage, and delivery costs.

In recent years content owners have considered delivering their own product directly to consumers. By doing so, they hope to maximize their brand, establish closer ties to customers, and, in circumventing operators, cut out the middle man and raise income. That route faces its own challenges, including digital rights management issues, geo-rights management, tracking content, generating analytics, and a fragmented CE marketplace.

## The Opportunities of the Connected Home and Multiscreen Delivery

As alluring as saving money from cutting or shaving the cord appears, many consumers actually...

**INCREASE THEIR SPENDING ON CONTENT** when they cut the cord.



In lieu of pay-TV premium channels, many turn to services like Netflix—where consumers said they increased spending 30%—or Hulu.

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For digital storefronts *Amazon and iTunes*, **cord-shaving consumers report they increased spending 33%.**

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Netflix has seen its U.S. streaming subscriber base **soar to more than 27 million;**

*both Amazon and Hulu also have experienced sharp gains in users.*

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While over-the-top services may be perceived as competition for pay-TV providers, especially as they continue to attract cord shavers and never-weres, it is important to note the following:

- 75% of Netflix subscribers also say they subscribe to a pay-TV service.
- OTT content users and smart-TV owners are more likely to use premium TV features.
- Netflix users are more likely to watch pay-TV content on a mobile phone.
- Smart-TV owners are more likely to watch content on a provider's website.

**It is not just content that has experienced a surge in consumer interest.**

The ability to watch content delivered by pay-TV service providers on multiple screens—TV Everywhere—also is becoming more popular. Among broadband households, viewing time on tablets has more than doubled in the past year, while viewing on mobile phones has grown even faster.

Cable, satellite, and IPTV providers have responded with a rush of TV Everywhere deployments, making it among the quickest deployments of a technology in the history of the industry.

The emergence of gateways in homes, which provide direct connectivity to the service provider's network and provide access to multiple devices, also provides for unique opportunities for secure content sharing in homes.

RGs make it easier for consumers to network all of their CE devices and make it easier to add new devices as they are acquired. From a content owner's standpoint, a residential gateway provides more security and the potential to reach additional screens with value-added products.

## TV Everywhere initiatives have great potential for consumer adoption for several reasons, among them:

- **SINCE OPERATORS CONTROL** their own networks, they control the quality of service (QoS) and quality of experience (QoE) delivered to their customers. When an issue with delivery arises, customers have a number to call.
- **SEARCH AND DISCOVERY** remains a sticking point for many OTT providers, something most pay-TV service providers currently are addressing with a varying degree of success.
- **CONSUMERS ARE COMFORTABLE** with the pay-TV delivery model of linear channels, something that has been in place for decades.
- **UNLIKE MANY OTT SOLUTIONS** for TV-based viewing that require consumers to install additional digital set-top boxes and cables, the pay-TV operator provides an end-to-end system that—increasingly—will integrate a multitude of CE devices.
- **PAY-TV PROVIDERS**, using a managed network, are better able to guarantee the security of high-value assets, unlike the unmanaged Internet.



## How DLNA Industry Standards Can Help Pay-TV Operators, Content Providers

Recent mandates from the Federal Communications Commission (FCC) make the residential gateway an even larger player in the ecosystem. Traditionally the pay-TV market has been a closed environment, protecting distribution and business models via a fully controlled operator network that is closed to competitors.

In 2010, the FCC published Amendment 76.701, a commission rule that requires the following of cable operators:

*...ensure that they provide high-definition set-top boxes that comply with an open industry standard for audiovisual communications including service discovery, video transport, and remote control command pass-through for home networking.<sup>2</sup>*

<sup>2</sup> FCC public notice, Aug. 16, 2012, *Media Bureau Seeks Comment on TiVo's Request for Clarification & Waiver of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii)*

Though the mandate was originally to be enforced starting December 1, 2012, a delay was granted at the request of TiVo to allow further clarification of the new requirement. Instead, the mandate will take effect as of June 2, 2014, (providing an additional 18 months for compliance) for most cable operators and until September 2, 2014, for smaller cable operators.

That “open industry standard” referenced in this new rule could very well be the premium video profile championed by the Digital Living Network Alliance (DLNA). The DLNA is a non-profit organization that counts more than 250 members, including every major CE manufacturer as well as software developers and service providers.

DLNA members have rolled out a collective 20,000 unique DLNA devices that have reached the formal “DLNA Certified” status, including DVD and Blu-ray players, television sets, game consoles, digital media players, photo frames, cameras, network attached storage (NAS) devices such as hard disks, PCs, and mobile handsets.

### **That pace is expected to accelerate as the industry—and consumers—continue their uptake of connected devices and embrace the connected home.**

Industry sources estimate that more than  
**300 MILLION DLNA-supported devices**  
*were shipped in 2012* .....➡  
and 2 billion by 2015. © Parks Associates



A number of service providers, among them Comcast, Cox, DirecTV, Orange, and Time Warner Cable, have deployed products implementing the DLNA premium content guidelines.

While most of the focus currently targets simplifying content sharing in the home, it may eventually extend to other areas, like sharing content outside the home to mobile devices and automobiles.

DLNA devices are designed to be interoperable, built along industry guidelines covering physical media, network transports, media formats, streaming protocols, and digital rights management mechanisms.

**The organization’s device focus is understandably broad;** *below are the classes most germane to operators and content owners:*

**DIGITAL MEDIA SERVERS (DMS)**, which store content for access to network digital media players (DMP) and mobile digital media players (M-DMP), digital media renderers (DMR), and digital media printers (DMPr). Some examples of digital media servers include PCs and NAS devices.

**DIGITAL MEDIA PLAYER (DMP)** products find content offered by a DMS or M-DMS and provide playback and rendering capabilities. DMPs are not visible to other devices on the network such as Digital Media Controllers (DMC or M-DMC). Examples of DMP devices include TVs, home theater systems, game consoles, and handheld mobile devices like smartphones.

**DIGITAL MEDIA RENDERER** products are similar to DMPs in that they render or play content received from a DMS or M-DMS. However, DMRs are unable to find content on the network and must be set up by a Digital Media Controller (DMC or M-DMC). A combination DMP / DMR device can either find a DMS on its own or be controlled by an external DMC or M-DMC. Examples of DMRs include TVs, AV receivers, and remote speakers for music.

**DIGITAL MEDIA CONTROLLER (DMC)** products find content offered by a DMS or M-DMS and match it to the rendering capabilities of a DMR—setting up the connections between the DMS and DMR. An intelligent remote control is one example of a DMC device, such as a tablet or smartphone.



The standards initially focused on personal content but have evolved to include premium content such as live TV, VoD, and pay-per-view. The DLNA approach allows for a more horizontal approach to sharing media. This, in turn, reduces OPEX and CAPEX for operators as some of the stumbling blocks in deploying proprietary solutions are mitigated.

By ensuring interoperability with both CE and pay-TV standards, DLNA standardization also has helped bring CE players to the table in cooperation, rather than competition, with operators. The guidelines allow service providers and content owners to leverage an end-to-end multiplay platform that not only is easier to deploy and builds upon than many end-to-end offerings in the market today, but also leverages the benefits of a managed network and comprehensive security solutions in maximizing revenue.

**Consumers, too, realize multiple benefits, including streamlined support, easier access to premium content, and increased security for their own home networks.**

The reasons that these factors point to increased revenues follow:

- Operators can extend consumer tech support offerings to an extensive home network of devices that are connected over simple-to-troubleshoot home networks. Being recognized as a “go-to source” for all network issues will help create “sticky” services for providers.
- Simpler access to premium content means consumers will be more likely to rent or buy more content. They also are likely to increase their uptake of value-added products related to that content.

<b>Comcast</b>	Comcast, for example, reports that devices supporting the DLNA premium content guidelines can access premium services using XG1 set-top boxes with the AnyRoom DVR service that Comcast is deploying.
<b>Cox</b>	Cox, meanwhile, is actively deploying its Cox Advanced TV Plus video service that allows DLNA premium content devices to access Cox Whole Home DVR content. Cox anticipates that more than 500,000 subscribers will have DLNA premium content functionality using its Trio advanced guide by the end of 2013.
<b>DirecTV</b>	DLNA guidelines used by the DirecTV Genie allow full HD DVR functionality without the need for receivers in every room.
<b>Orange</b>	European operator Orange said the guidelines specifically provide benefits for its Livebox Play offer, including a diagnostics feature that will allow its helpdesk service to guide customers to problem resolution quickly and easily.
<b>Time Warner Cable</b>	For Time Warner Cable, which already has deployed millions of set-top boxes capable of delivering content to DLNA premium content products using its Signature Home Service, continued development of DLNA premium content guidelines will help extend the reach of TWC’s services to more consumer devices.

While DLNA is the largest organization attempting to establish a standard for devices handling premium video in the home, it does have a competitor.

Founded in 2005 by a small collection of players—JVC, Mitsubishi, Samsung, NBC Universal, Charter Communications, and Sun—the High-Definition Audio-Video Network Alliance (HANA) focuses only on HD Video and is based on long-distance FireWire.

## Turning a Security Concern into a New Revenue Stream

For content owners and creators, the explosion of over-the-top delivery options, a plethora of connected devices, and the ensuing demand for content by consumers have created a quandary.

On the one hand, these companies worry about losing control of their assets or decreasing their value.

On the other, it's easy to build a case for attractive revenue growth by expanding distribution to new devices.



**SOME CONTENT OWNERS** already have reached that tipping point, propelled by security solutions that aptly address conditional access and digital rights management. As more solutions tie CA/DRM solutions into a DLNA framework, new business models are likely to emerge.

One, as example, is the ability to implement device-based subscriptions. As the number of connected devices per household continues to increase, especially by adding smart TVs, tablets, and smart-phones, there is opportunity to create specific subscription packages, with niche content, for each device. Premium content streamed to a teen's laptop, for example, is probably significantly different than that streamed to a smart TV generally used in a younger child's room.

**Revenue from multisubscription bundles with *a la carte* programming can far exceed current ARPU.**

Other natural extensions of simple content sharing in the home include an increased focus on pay-per-view events, a premium subscription to allow unlimited catch-up TV, access to studio-exclusive live events, and expanded VOD movie catalogs.

## The Future

**At the core of the video ecosystem is the consumer.**

Their demands?

**Simplicity. Functionality. Value.**

**While the evolution of connected CE devices causes consumers to expect to view the content of their choice on any device, at any time, and anywhere, the multiple options threaten to create an environment that is too technologically difficult for the average consumer to navigate.**

In order for the market to grow with minimal hiccups, the industry must continue to focus on networking simplicity, guided by a set of open standards having interoperability and interconnectivity as the goals. While some companies with proprietary solutions may benefit in the short term, ultimately those solutions have the potential to do more harm than good, even to the company that controls them.

**CONTENT OWNERS** should focus on “more.” To successfully sate consumer appetites and drive revenues, the availability of premium and value-added content needs to accelerate. Expand rather than contract the number and types of distribution channels accessed. While pay-TV operators offer the most structured distribution, OTT operators offer a more global audience, a more targeted audience, and they may eventually be able to offer access to that audience at a lower cost.

**PAY-TV OPERATORS**, while still experiencing subscriber erosion from cord-cutting and cord-shaving, nonetheless maintain strong, stable customer bases overall. A robust network infrastructure that already is in place and existing CPE deployments—often of more capable STBs—make expansion of services affordable and potentially lucrative.

Service providers are well positioned to roll out the following high-value proposition services:

- Multiroom scenarios that allow users to watch all their PVR content on any device inside and outside the home.
- Cloud content plays that allow a user to discover and use services and play content—including personal media files—that resides on STBs, PCs, and other devices on a tablet or smartphone without installing new applications.
- Follow-me TV options that allow users to start watching a movie in the living room and easily switch to another room or device, continuing from the same point at which they left off.
- Swipe-to-TV features that enable a user to browse through their own media library on a tablet, for example, and watch by simply “swiping it” to a networked TV.

**CE MANUFACTURERS** also have a significant stake in the rapid growth of multiscreen services and will benefit from making devices that are simple to network and that allow fast sharing of content.

**Smart-TV manufacturers will hold a prime seat at the table if they develop a future-proof roadmap that allows for affordable upgrades to their own technology.**

CE manufacturers also may have the ability to create a direct path to consumers for high-value content, including pay-per-view events and even content release windows shortened to days or weeks instead of months for some theatrical content. Hurdles are obvious: most CE manufacturers have little to no experience in content distribution and likely will start with small shares of audience. The strategy would also put them into direct competition with legacy service providers. Nevertheless, direct-to-consumer strategies offer enticing potential for new revenue streams.





## ACCESS Point of View

As the digital media industry expands its content delivery to consumers, concern about how to overcome the substantial hurdle of secure digital content delivery continues for pay-TV providers, CE manufacturers, and content owners.

**Studios and content owners remain reluctant** to distribute high-value content to the growing number of “non-trusted” connected devices. In order for the industry to make more exclusive content available, and for consumers to adopt multiscreen media sharing, accepted industry standards for interoperability and proven technologies that provide security to digital content owners are necessary.

*In addition to the consumer demand to consume content on any device, pay-TV operators face new requirements from the FCC, mandating an open standard for premium content distribution.*

To provide CE device manufacturers, operators, and content owners the **security confidence** and the tools to fulfill the FCC mandates, ACCESS CO., LTD, a global provider of leading mobile technology, software products, and platforms for the Connected Home, is collaborating with the CA-DRM industry to deliver connected confidence for multiscreen services.



ACCESS provides a unique architecture that combines digital rights management with DLNA that bridges both pay-TV and consumer electronics universes. ACCESS' NetFront™ Living Connect, the market-leading Digital Living Network Alliance Technology Component™ with Verimatrix security, provides “studio confident” security and an in-home media sharing solution.

These “studio confident” home network solutions provide extra security so that content owners and studios can safely allow their content to be shared throughout the home. These solutions are underpinned by innovations across all multi-screen media-sharing, HTML5, and OTT/social TV platforms, thus assuring operators that the user experience is uniform and effective on all screens.

Although DLNA Premium Video guidelines provide operators a standard approach for in-home premium content distribution, just implementing the standard is not enough to allow flexible business models and a security level that is expected by studios. The ACCESS-Verimatrix solution provides the next step. By managing the content rights and the devices locally, plus leveraging DLNA Premium Video to distribute content, the combination of ACCESS and DRM solutions becomes a “must-have” feature and key competitive differentiator. ACCESS works with the CA/DRM industry to provide a complete solution rather than a simple technology module. The current ACCESS—Verimatrix solution is the first example of “studio confident” security that needs to be in place before flexible in-home media sharing can take off.

**“STUDIO CONFIDENT” HOME NETWORK SOLUTIONS**



## About the Author



### **Brett Sappington, Director, Research**

Brett Sappington leads Parks Associates services research team, including access and entertainment services, digital media, OTT, cloud media, video gaming, and technical support services. Brett is an expert in worldwide television and broadband services. His personal research focuses on the activities and trends among operators and the market forces affecting their businesses.

Brett has spent over eighteen years in the industry as an analyst, executive manager, and entrepreneur. He holds an MBA from the University of Texas at Austin with a concentration in high-tech marketing and a BA in physics from Baylor University.

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The company's expertise includes new media, digital entertainment and gaming, home networks, Internet and television services, digital health, mobile applications and services, consumer electronics, energy management, and home control systems and security.

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