

Market-Proven Cloud Platform Opens Path to Next-Gen OTT TV For MVPDs of All Sizes

Anvato Leverages its Widely Deployed TV Everywhere Technology to Deliver Turnkey Support for Operators' Broadband TV Initiatives

Introduction

As mid-tier and smaller providers of pay TV services struggle to keep pace with the tectonic changes sweeping the industry at large, their biggest challenge is to find a cost-effective approach to service innovation that will sustain their competitive strength for years to come.

While there has been growing interest in cloud-based solutions that can utilize IP technology to generate broadband-based service enhancements, MVPDs (multichannel video programming distributors) have been reluctant to invest time and money in lengthy trials to determine whether unproven solutions are viable. Now, however, with Anvato's introduction of Anvato Watch, the MVPD-optimized iteration of its widely deployed Media Content Platform (MCP), operators finally have recourse to a market-proven solution that's already in operation supporting distribution of live and on-demand content with advanced monetization capabilities to tens of millions of consumers.

Anvato's MCP has been the engine for streaming ever-increasing volumes of live and time-shifted marquis TV programming. Through MCP, consumers have been able to access the Super Bowl, Major League Baseball's World Series and hundreds of other sports, news, events and episodes delivered over broadband networks from the likes of FOX Sports, NBCUniversal, Scripps Networks Interactive (home of Food Network, HGTV and The Travel Channel), Hearst Television and many other content owners and broadcast outlets.

The Need for a Software-Based Next-Generation Service Platform

With implementation of the turnkey Anvato Watch cloud platform, MVPDs have an opportunity to offer a new generation of live and on-demand multiscreen pay TV services that outstrip anything consumers can obtain through the a la carte OTT experience. Along with all the personalized, social media-connected and advanced advertising capabilities such a service requires, operators will be able to differentiate their broadband TV services even farther through implementations of time-shifted access and hybrid combinations of licensed pay TV and OTT content.

The need for a proven hybrid cloud, software-based means of supporting next-generation pay TV services has become an urgent matter for MVPDs of all types and sizes. Shrinking margins in the traditional pay TV business resulting from higher licensing and broadcast retransmis-

Anvato Watch Highlights

- Market-proven software-based cloud platform used by major TV networks to deliver OTT content to tens of millions of consumers
- Allows MVPDs to quickly create and launch next-generation TV Everywhere without building a multi-vendor solution or using expensive hardware
- Supports hybrid combinations of licensed pay TV, OTT content and local programming
- Enables new business models and program packaging customized to user tastes
- Fosters development of shared super headend services to further lower next-gen service costs for smaller operators
- Capabilities available as part of the end-to-end Anvato platform include:
 - Ingest live linear streams from multiple sources
 - Aggregate video on demand from multiple sources
 - Prepare and transcode live and on-demand video to play on an array of connected devices
 - Offer subscribers personalized TV Everywhere experiences on all connected devices
 - Manage content rights, restrictions and user entitlements from a single console
 - Ensure secure playback on multiple connected devices
 - Replace broadcast TV ads with user targeted, high-value ads
 - Customize iOS and Android apps with operator branding
 - Socially share video content instantly to Facebook, Twitter and other platforms

sion fees, falling subscriber numbers attributable to cord cutting as the number of premium OTT video options multiplies, and rapid increases in the ranks of Millennial generation "cord-nevers" have driven an industry-wide search for broadband-based pay TV options that can compete with these trends.

While some Tier 1 MVPDs through extensive development of software platforms supporting video processing consolidation and middleware implementations on datacenter facilities have been able to introduce

some of the capabilities intrinsic to such services, smaller operators have struggled to find a way to do likewise. For them, the obvious answer is a cloud-based turnkey solution that can match or exceed anything that could be done by cobbling together various elements from multiple vendors in house.

Advanced Services Incorporating Local, OTT and National Content

For the first time, Anvato Watch gives tier 2/3 operators recourse to a market-proven cloud platform that they can reliably deploy to transform their premium video service portfolios. Watch embodies all the components essential to supporting whatever immediate service enhancements operators might want to implement, while ensuring the scalability and feature-rich flexibility to evolve services in stride with changing market conditions.

Operators can tap Anvato's cloud resources to streamline OTT video processing and distribution capabilities from capture and encoding to stream generation to HD-quality playback on IP-connected TVs, set-tops, game consoles, PCs and handhelds of every description. At the same time, they can seamlessly integrate the Anvato cloud instantiation of Watch with use of the software platform in their own headends to support processing of local broadcast and other content for incorporation into the broadband service portfolio.

Consequently, operators can include local programming in the advanced broadband service without needing to equip their headends with expensive purpose-built hardware. Because Anvato Watch is designed to run on COTS (commodity off-the-shelf) servers, operators can benefit from the same cost, scalability and upgrade advantages Anvato gains with the software platform running on commodity hardware in its own datacenter.

This seamless integration between the Anvato cloud "super headend" and operators' local headends allows them to apply all the advanced feature capabilities of Watch to whatever premium content, including content from OTT affiliates as well as local content, they may want to deliver over their broadband networks. These capabilities include a fully integrated universal navigation UI, personalization of features and social media applications and of growing importance - in-stream insertion of ads targeted to users based on geographic and demographic parameters.

Business Model Flexibility

Critically, operators are able to build the IP side of their TV business incrementally in parallel with their legacy service, offering consumers new subscription options without having to strand investments in set-tops or incur new capital costs for IP-capable multiscreen gateways. Moreover, Anvato Watch supports cloud DVR and other time-shift capabilities that operators can employ with legacy as well as broadband TV services to reduce CPE costs and extend DVR convenience to connected devices operating independently of in-home CPE.

Along with providing a turnkey cloud-based solution for individual operators, Anvato Watch is designed as a shared resource platform that can be deployed as part of a super headend service which a third-party provider could leverage to bring all these advanced service capabilities to multiple MVPDs. Further, local channel/affiliate origination can also be enabled, albeit with a much smaller hardware/software footprint in a localized installation.

The advantages of a shared next-generation cloud service are much on the minds of many players in the second- and third-tier markets. For example, as the National Cable Telecommunications Cooperative (NCTC) works with members to address the new pay TV challenges, Anvato

Watch has made the organization aware of how a shared-cloud service can enable NCTC members to cost-effectively strengthen their service offerings with real ROI benefits.

At the same time, Anvato is pursuing discussions with NCTC members who are interested in deploying Anvato Watch individually to build new offerings. These efforts will get underway with the launch of pilot trials to test consumer reaction to various service enhancement strategies.

In the discussion that follows we take a closer look at market developments and how they're shaping new pay TV service strategies. This is followed by an in-depth exploration of the benefits Anvato Watch contributes in making such strategies a practical option for mid-tier and smaller MVPDs.

The Changing Pay TV Landscape

Developments along two major trend lines are contributing to a historic mandate for change in the pay TV distribution marketplace. On the one hand, programming fees are creating a Hobson's choice for operators where they must either endure a drop in pay TV cash-flow margins to untenably low levels or pass along costs to consumers who are already rebelling against the costs of the traditional bundle.

At the same time, operators are witnessing a surge in consumer engagement with online video driven by the proliferation of video-capable IP-connected devices, increasing broadband speeds and the expansion of premium video options from pure OTT players, aggregators of "skinny" pay TV bundles and traditional pay TV programmers. While many consumers are dual subscribers to online sources and pay TV, the allure of leaving or never signing up for the bundle has intensified.

Shrinking Pay TV Margins

Where margins on pay TV services are concerned, SNL Kagan, a leading supplier of metrics in the MVPD marketplace, has moved away from projecting ongoing strength in the pay TV market to predicting that the stress providers are under now will only intensify in the years ahead. Looking at the largest publicly traded cable MSOs – Comcast, Time Warner Cable and Charter Communications – Kagan calculates the group experienced a drop in weighted average estimated margins on pay TV services from 23.3 percent as of Q2 2012 to 16.1 percent in Q3 2014.¹

While Kagan projects revenue from U.S. cable pay TV service will increase slightly as a function of rising prices over the next ten years, going from \$56.6 billion today to \$59.5 billion in 2024, the researcher predicts the number of cable pay TV subscribers will drop from 53.5 million today to 46.9 million ten years from now. Overall, Kagan says U.S. multichannel household penetration, counting telco and DBS as well as cable, will drop from 85.1 percent today to 76.7 percent in 2024.

Research from ABI tells a similar story from another perspective. ABI predicts just a 3.7 percent CAGR (compound annual growth rate) for pay TV revenue in the U.S. through 2020 compared to a predicted 24 percent CAGR for OTT subscription revenues through 2019.²

The Shift in Consumer Behavior

Meanwhile, many studies reveal how broadly consumers are now using connected devices to view long-form video. For example, based on metrics gathered from hundreds of millions of users worldwide, online video publisher Ooyala recently reported video consumption on tablets and smartphones doubled between Q4 2013 and Q4 2014 and now accounts for 34 percent of all online video plays (Figure 1).³ Figures from Parks Associates provide another perspective, showing vast majorities of wireless device owners now use TV apps on those devices at least once a month.⁴

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Ooyala also reported that 70 percent of video viewing time on tablets was spent with content lasting more than ten minutes. Forty-one percent of viewing time went to such long-form content on mobile phones. The firm's research shows how important live programming has become in driving online video consumption. In terms of time spent per play, live content is well ahead of on-demand video on all device platforms, Ooyala says.

Figure 1

Multiscreen Video Engagement Trends

Percentage of U.S. Wireless Device Owners Using TV Apps
(at least once per month)

Smartphone Owners	Tablet Owners
55%	61%

Source: Parks Associates

Mobile/Tablet Share of All Video Plays

August 2011	April 2012	December 2012	August 2013	March 2014	March 2015
2%	5%	6%	13%	22%	34%

Source: Ooyala

The TV, of course, is also playing a big role in the growth of online video consumption, thanks to the proliferation of smart TVs and a wide range of IP streaming media players that have made OTT content available to TV viewers. In the U.S., 34 percent of all broadband households own a smart TV and 26 percent own streaming media players supplied by Roku, Apple TV, Amazon Fire, Google Chromecast, Boxee and others, according to Parks Associates.⁵

Multi-device video consumption and the impact of OTT subscription options are especially pronounced among Millennials, the share of the adult population aged 18-34. Online analytics provider comScore's recent findings on generational video consumption of original TV programming from all sources in the U.S. are summarized in Figure 2.

Figure 2

Share of Time Spent Watching Original TV Programming

Age Group	Tablet	Smartphone	Desktop/Laptop	Traditional TV
18-34	6%	6%	19%	66%
35-54	3%	2%	10%	84%
55+	2%	1%	6%	90%

Source: comScore Total Video Report⁶

comScore also reports that even when Millennials do watch original TV programming on TV sets, 32 percent of them use connected TV devices to access the video online. The study also found that Millennials are 77 percent more likely than average to never have subscribed to pay TV services and that, among those that do, Millennials are 67 percent more likely to be cord cutters than other age groups.

The Surge in OTT Viewing Options

Working in tandem with bandwidth expansion and video-capable device proliferation to drive OTT video consumption is the growing number of subscription options available to online viewers. A big factor in growing viewership for the pure-play OTT providers like Netflix, Hulu and Amazon is the appeal of their original programming,

As these providers draw ever more viewing time from traditional

broadcast and premium TV networks, the latter, in growing numbers, are taking action independent of MVPDs to keep pace with consumer demand. Some, like HBO with HBO Now and CBS with CBS All Access, are marketing standalone subscriptions to their content. Others, like Anvato customers NBCUniversal, FOX Sports, Scripps and Hearst are leveraging free online availability of selective live and on-demand programming to drive new advertising revenues.

The significance of the opportunity for these programmers can be seen in the latest statistics compiled by online video ad management provider FreeWheel. The company reported ad views attributable to authenticated subscriber viewing of over-the-top (OTT) content accounted for 56 percent of all long-form ad views in Q4 2014, reflecting a 591 percent increase over authenticated long-form video viewing a year earlier.⁷

Viewing of live video online is playing a big part in the shifting advertising scenario. FreeWheel reported live viewing grew 297 percent year over year, driven by strong growth in sports streaming and news simulcasts. Moreover, based on the tracking of about 125 billion ad views throughout 2014, FreeWheel reported broadcasters experienced a 67 percent increase in digital video ad views for shows in their first season.

At the same time, with the launch of Dish Network's Sling TV, Sony's PlayStation Vue and BSkyB's Sky Go Monthly Ticket, growing numbers of providers are showing they are ready to break with the traditional bundle to capture OTT viewers. Sling TV, for example, boasts a 16-channel lineup that includes ESPN, AMC, TNT, CNN, History, HDTV and the Disney Channel for a monthly subscription price of \$20.

These developments are having an immediate impact on viewing behavior and on projections for future revenue growth in the online video subscription business. Parks Associates says 57 percent of consumers in U.S. broadband households now subscribe to OTT video services with payments averaging \$9 per month.⁸

According to The Diffusion Group (TDG), the percentage of adult broadband users who do not subscribe to a legacy pay TV service is rising rapidly, having reached 14 percent in Q3 2014 compared to 12.4 percent a year earlier.⁹ In 2011, the first year TDG reported this metric, the percentage of non-subscribers was just 8.6 percent. Looking ahead, U.K. analyst Ovum predicts total online video subscriptions will top 100 million worldwide by the end of 2015, rising to 177 million by 2019.¹⁰

The New Cloud Track for MVPDs

Clearly, market conditions call for new approaches to building the pay TV business. For mid-tier and smaller MVPDs there's no better way to achieve the scalability and flexibility to develop competitive OTT options for subscribers than through the use of a cloud-based system that obviates the need for building an IP-oriented headend infrastructure in-house. But they must have recourse to a cloud platform that has been market proven in real-world commercial operations if they are to avoid the risks of deploying untested solutions.

The Anvato-Enabled Transformation in OTT TV

Anvato's turnkey MVPD cloud platform Watch brings into play all the capabilities of the Anvato Media Content Platform (MCP) that have transformed TV programmers' ability to meet consumer demand for anywhere, anytime access to high-value content. Anvato customers such as NBCUniversal, Scripps Networks Interactive, Fox Sports, Gray Television, Hearst Television, Hubbard Broadcasting, LIN Media, Graham Media and Univision have discovered that with minimal reliance on internal facilities they can tap Anvato's cloud-based technology to achieve cost/benefit goals with aggressive OTT expansion agendas.

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FOX Sports, for example, utilizes MCP to support the next-generation FOX Sports Go multiscreen service, which allows authenticated pay TV subscribers to access live as well as on-demand streams from Fox Sports 1 and 2 outlets and regional sports affiliates through a single portal. MCP allows FOX Sports Go to coordinate all the RSN feeds for playback of thousands of events each year in accord with licensing policies tied to specific viewing locations and types of devices, thereby enabling a unique advertising model where national ad spots can be dynamically inserted by the national networks and local avails can be served by local affiliates.

The flexibility MCP provides to coordinate operations across national and local outlets has freed owners of broadcast stations to maximize the revenue-driving and viewer-engagement benefits of OTT distribution. For example, Gray Television, the largest independent owner of CBS affiliates with additional affiliates tied to NBC, ABC and Fox, covering 31 television markets in all, is using Anvato's MCP to manage all rich-media online content, from live capture ingestion to live encoding, editing, publishing and distribution, including live and on-demand video monetization.

Another example in the broadcast station market is Hearst Television, which has deployed Anvato's platform to equip more than 20 TV stations with broadcast-style advertising pods that allow them to use their existing digital ad servers for targeted online advertising across a mix of local and national spots. Hearst and its digital ad operations partner Internet Broadcasting are using MCP in conjunction with Anvato's VAST (Video Ad Serving Template)-compliant server-side integration with Google's DoubleClick for Publishers (DFP) to automatically replace original ads throughout the program stream with ads specific to each local market.

The MVPD-Optimized Cloud TV Platform

Through Watch, Anvato is making all these capabilities available for the multichannel distribution environment common to MVPDs at a moment when, as noted by SNL Kagan and other analysts, the number

of broadband subscriptions has surged ahead of the pay TV subscriber count in most service areas. Now operators have an opportunity to drive new revenues over those broadband connections by utilizing a cost-saving turnkey cloud platform to offer customers a TV-caliber OTT viewing experience that offers far greater choice than they have through other OTT outlets (see Figure 3).

Anvato Watch is a 100 percent software solution designed to run all components of the platform on commodity servers, making it easy to scale to higher quantities of content and to continuously modify features. With its modular architecture and open APIs, Watch allows operators to integrate the platform with existing back-office systems and workflows without having to replace usable IP service components to exploit all the capabilities of the Watch-enabled enhancements.

Operators can use Watch to offer far more compelling TV Everywhere extensions of their legacy pay services than they've been able to offer heretofore. The platform includes support for content ingestion, video processing, streaming, middleware, encryption, content protection and playback on all device categories.

Subscribers can access all the multiscreen viewing options through a single advanced navigation platform with automated authorization and authentication across all content sources. Operators who use Watch in conjunction with third-party suppliers of VOD content or want to affiliate with certain OTT suppliers can easily integrate content from those sources into the Watch workflow for presentation on the unified UI.

Advanced Video Processing

Anvato live streaming transcodes and delivers a multi-bitrate video stream at all resolution levels, including 1080p HD, to all device categories, with around-the-clock quality assurance through use of Anvato's patented Insight technology to monitor encoder health. Through their

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Figure 3



Anvato Watch encompasses the complete workflow MVPDs need to support next-generation TV Everywhere services.

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interfaces to the Watch workflow, operators can easily augment the encoding stream by adding captions and subtitles, marking the content for ad breaks, creating and preserving meta tags, generating contextually relevant clips, supporting social syndication and adding personalized features as they see fit.

The Watch hybrid architecture enables operators to handle the lion's share of processing in the Anvato cloud for distribution of live and on-demand programming targeted to all service areas while implementing the encoding system on datacenter facilities in their own headends to process local broadcast and other locally originated programming. With installation of the encoding software on a one-rack unit in their facilities, operators can be up and running in sync seamlessly and flawlessly with the Watch cloud platform within a few hours, avoiding the need to add expensive purpose-built hardware to handle the processing requirements locally.

The Watch Player and UI

A key component in the distribution-efficient Watch platform is Anvato's universal player, which cuts distribution costs by enabling use of one adaptive bitrate (ABR) streaming format, Apple's HLS (HTTP Live Streaming), to reach iOS, Android, PCs and other devices. The ABR technology guarantees viewers a rich, TV-caliber playback experience with no interruptions, transitioning between different video bitrates and resolutions to ensure an optimized viewing experience on all devices.

Working in tandem with the Watch middleware and MCP workflow the player supports all the advanced navigation, personalization, monetization and other features that characterize a fully realized broadband pay TV service. Operators can easily configure the player to match the look and feel of their brands, make changes in colors, fonts and other elements and deliver their UIs in languages specific to the target audience.

The Watch UI template provides a highly flexible means of presenting content to subscribers which operators can tailor to suit their sense of how best to present viewing options and features to their subscribers (Figure 4). For example, they may want to have as the initial default view a grid arrangement of programming which, with subscriber interaction, expands to more advanced presentations such as graphically rich arrangements of VOD content that offer access to episodic television and relevant metadata. The UI can be personalized for each user, aggregating favorites, presenting recommendations and activating social media connections.

Figure 4



The Anvato Watch UI template provides a uniform next-generation navigation experience optimized for display on multiple devices.

Monetization

Watch brings into play monetization opportunities that have been beyond the reach of most MVPDs in the multiscreen environment. For example, as operators negotiate new licensing policies they can develop special broadband-only subscription bundles to counter "skinny" bundle offerings from Sling TV, PlayStation Vue, Verizon OnCue and others such as the anticipated Apple OTT service which inevitably will add to competitive pressures against legacy pay TV services.

Where advertising is concerned, Watch provides full support for dynamic ad scheduling and insertion in conjunction with pre-integration with major ad servers such as FreeWheel and Google DFP. The advertising platform reads SCTE markers, GPI triggers and other placement signals to insert ad payload in real time in accordance with targeting criteria set by advertisers. Utilizing the Watch analytics engine, operators can schedule device-level ad targeting based on any combination of criteria, such as time of day, geo-location, audience frequency and control and demographic profiles.

Notably, while supporting client-side ad insertion models, Watch allows operators to implement much less expensive and more rigorous server-side ad insertion, providing much greater frame accuracy and broadcast style, smooth ad transitions.

The platform also provides transcoding support for advertising using sophisticated video analysis to identify mismatches between ads and target device capabilities. With on-the-fly ingestion of ads in need of reformatting into the Watch encoders, operators are able to ensure that ads sold by third parties are properly formatted and seamlessly inserted for each viewing session.

With these capabilities operators can not only support dynamic targeted advertising on their own local avails; they can leverage the Watch platform to develop revenue-share models with national advertisers by offering network affiliates targeted advertising opportunities on both live and on-demand content.

Marketing and Retention Enhancement

Watch also provides support for marketing initiatives, allowing operators to quickly activate and de-activate special offers on the UI and to syndicate promotions into social networks, including Facebook, Twitter and YouTube (Figure 5). For example, through its implementation of the Facebook video API on the Watch platform, Anvato provides operators native video ingest and publishing capabilities, enabling them to create clips from their live TV broadcasts for sharing on Facebook.

Figure 5



Operators can instantly introduce new services, marketing initiatives and features.

IMAGE COURTESY OF BEYONDPX STUDIOS

The “stitching” capabilities reflected in Anvato’s support for advanced advertising can also be applied to prevent rights-related disruptions in OTT delivery of premium content. These mechanisms allow operators to ensure users are always presented programming to view in instances where licensing rights don’t allow a program in a given channel schedule to be accessed based on blackout policies, a change in the viewer’s location or other factors.

For example, a program available for broadcast viewing may not be licensed for OTT. Or a traveling viewer watching a sports event in flight might find access to that event is denied at the destination city. Through Watch, operators can make sure alternative programming is always inserted in such situations to minimize disruption to the viewing experience.

Cloud DVR

The availability of a highly flexible, easy-to-implement cloud DVR solution is becoming essential as operators seek to extend the convenience of traditional home-based DVR to all devices. Moreover, providing DVR support in the cloud opens new advertising opportunities through use of dynamic advertising mechanisms to insert ads as viewers access time-shifted content.

Anvato has made it possible for operators who take advantage of Anvato Watch to use the Cloud DVR extension of the platform as the foundation for offering network DVR and other time-shift services. As a self-sufficient service with no third-party vendor or CDN dependencies, the Anvato Cloud DVR solution allows operators to pre-record whatever content they want to make available for time-shift access to subscribers over a given period of time.

The platform then enables time-shifted access to those programs from any device with tie-ins to all relevant metadata and full support for dynamic ad insertion. Rather than requiring users to specifically order personal recordings, the platform allows them to scroll back in their TV guide and choose whatever shows the operator has flagged for time-shifted access.

The Shared Cloud Service Option

With implementation of Watch, Anvato has also made available a turnkey cloud platform that can be deployed as a service enabling multiple operators to deliver next-generation broadband TV from a single cloud headend. By combining the customizable and highly scalable multiscreen Watch solution with end-to-end distribution to support individually branded live TV and VOD services, a shared cloud service provider can put even the smallest operators on the same playing field with Tier 1 companies in their efforts to break free of outmoded pay TV infrastructures.

Conclusion

Mid-tier and smaller Pay TV providers, just like their larger coun-

terparts, face major challenges in efforts to sustain the appeal of their premium services amid major shifts in consumer behavior and growing competition from OTT suppliers. But, unlike larger operators, they do not have the wherewithal to develop in-house solutions in their pursuit of new IP-based offerings to subscribers. Whether the requirement is to extend an existing offering, adding TV Everywhere/OTT branded experiences, or thwarting the emerging threat of competitive services like SlingTV - Anvato is providing the tools operators need to chart their course and own the opportunity.

Anvato through its Watch platform has created a turnkey cloud-based solution that satisfies all requirements for establishing a cost-effective approach to delivering compelling multiscreen services. Critically, this is a solution built on Anvato technology that is enabling major broadcasters to stream TV content to millions of viewers worldwide.

Consequently, pay TV operators utilizing Anvato’s Watch can move into the next-generation broadband TV arena with full assurance that the platform is sufficiently flexible and robust to accommodate their needs, including the ability to incorporate local programming into the broadband service mix utilizing local implementations of Watch on commodity hardware. Now even the smallest operators can deliver a fully personalized navigation experience providing subscribers access to a far richer aggregation of live and on-demand programming than they can get from other OTT sources.

Along with supporting far more compelling user-friendly multiscreen services than operators have been able to offer through traditional approaches to TV Everywhere, Anvato Watch creates new opportunities for monetization through support for TV-caliber advanced advertising, development of broadband-only subscription bundles and innovative marketing promotions. The cost-saving benefits also extend to support for a new approach to delivering cloud DVR and the opportunity to create a shared cloud service capable of supporting multiple OTT initiatives.

With the emergence of Anvato Watch-based services, Tier 2 and 3 MVPDs are no longer barred from competing effectively in the fast-evolving OTT premium video marketplace. Indeed, they now have the ability to deliver services every bit as compelling, if not more so than what’s been seen so far at the Tier 1 level. <

1 ScreenPlays Magazine, “Mid-Market MSOs’ Pay TV Angst Triggers Plans for Radical Action,” December 2014

2 Rapid TV News, “Pay TV to Inch Upwards while OTT Rockets,” April 2015

3 Ooyala, *Q4 2014 Global Video Index*, March 2015

4 Parks Associates, *Mobile Research*, February 2014

5 Parks Associates, *press release*, January 2015

6 comScore, *The U.S. Total Video Report*, October 2014

7 FreeWheel, *Video Monetization Report*, February 2015

8 Parks Associates, *press release*, April 2015

9 The Diffusion Group, *Pay TV Refugees*, October 2014

10 Rapid TV News, “OTT Streaming to Hit 100 MN Subs,” April 2015