#### White paper

# Deliver personalized experiences with a smarter platform

#### Introducing

### **Smartplay**

by Verizon

#### Our 1 to 1 session management technology

#### **Purpose**

Broadcasters who have successfully evolved into online video service providers have had to transform themselves three times over. The first wave of streaming video focused on how to deliver online; the second wave involved how to deliver quality of experience online. Now, we are experiencing the third wave of streaming video, focusing on how to personalize experiences for every viewer on every device. Knowing how to deliver 1 to 1 experiences at scale is the only way to compete in this rapidly evolving digital world. So what do you need? 1 to 1 session management and an end-to-end online video service platform provider.

#### **Audience**

Technical decision makers | Business decision makers

#### Region

North America



#### **Content**

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#### Introduction

Over the decades, television has established itself as the standard for quality in-home video experiences. Consumers have grown to expect the quality of experience found on their broadcast and pay-TV systems at home. They just turn on the television, tune into their favorite channel, and expect to encounter great picture, hear rich sound and enjoy a satisfying experience.

Replicating this type of reliability and quality of experience online has consumed the industry throughout two waves of the streaming video evolution. The first wave of video streaming was concerned with establishing the technology to deliver video online. The second wave was focused on matching the reliability and quality of the television experience online. We are now entering the third wave of video streaming. In this stage, the goal is to transform the one-size-fits-all television experience into a 1 to 1, personalized online experience.

In many respects, consumers are ahead of us. They exist in a world with services like Facebook and Pandora already delivering customized experiences across all their devices. To win consumer attention in the web-world, broadcasters must join the third wave of video streaming and embrace the delivery of 1 to 1 experiences.

Personalizing online experiences for every viewer requires wading into uncharted waters never found in the traditional broadcasting world. Broadcasters, now evolving into online video service providers, must have the means to understand how, what, where, when and why their viewers are watching. Additionally, broadcasters should be working with an online video service platform that is smart enough to turn these insights into actionable, profitable decisions, without heavy lifting on their part.

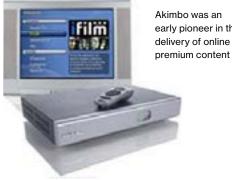
This white paper covers the first two waves of streaming video in depth and tells you what to expect in this current wave, including why you need 1 to 1 session management to successfully deliver personalized experiences at scale. It's the only way to compete in this rapidly evolving and increasingly saturated digital world.



#### The first wave of streaming video

Premium television and movie content first became available online in 2005 with the launch of Akimbo. This service offered a limited library of content through a cable-style set-top-box purchased by consumers. The user selected content he/she wanted to watch, and it was downloaded over slow internet connections to the box for later viewing.<sup>1</sup>

Akimbo was an early pioneer in the



As broadband speeds improved, direct streaming of the content became possible. Cloud-based streaming services began to appear, also with limited libraries of content. For example, Sky Angel moved its faith-based programing from satellite to the internet in 2009.<sup>2</sup> The service required a custom set-top box, and through it users could watch live standard definition channels on their television.



Sky Angel streamed a limited number of channels to custom set-top box

With all services in the first wave of online video, limited libraries meant there was little need to provide customization, search and discovery tools. The need for dedicated set-top boxes and limited library size also meant many of these services did not survive the transition to the second wave of online video. Akimbo shut down in 2008, after only being in market for three years.<sup>3</sup>

Edward C. Baig, On-demand Akimbo shows promise, USA Today, May 4 2005, http://usatoday30.usatoday.com/tech/columnist/edwardbaig/2005-05-04-akimbo\_x.htm (accessed on 12/5/2016)

Nancy Christopher, Christian Satellite TV Provider Plans Major Improvements with Transition to IPTV in the U.S., ChristianNewsWire, June 8 2009, http://www.christiannewswire.com/news/510653358.html (accessed on 12/5/16)

<sup>&</sup>lt;sup>3</sup> Greg Sandoval, Report: Set-top box maker Akimbo shuts down, CNET, May 23 2008 https://www.cnet.com/news/report-set-top-box-maker-akimbo-shuts-down/ (accessed on 12/5/16)



#### The second wave of streaming video

The onset of the second wave of streaming video was marked by the start of streaming services by Netflix in 2007.<sup>4</sup> Although the first subscription video-on-demand (SVOD) service launched with a limited library and standard-definition content, the number of titles expanded rapidly, and quality improved as broadband speeds grew. Crucially, the service didn't require a dedicated set-top box. It ran on devices customers already had at home, like the ubiquitous PC, or the Xbox game console, and later cheap streaming media set-top boxes like Roku.

Today, there are over 100 SVOD providers in the U.S. market, and 62 percent of U.S. consumers use them.<sup>5</sup>

Many of these services provide subscribers with thousands of titles from which to choose. This has led to an arms race of features to help consumers get to the content they seek more quickly. Services like Netflix and Hulu provide their subscribers with features, such as:

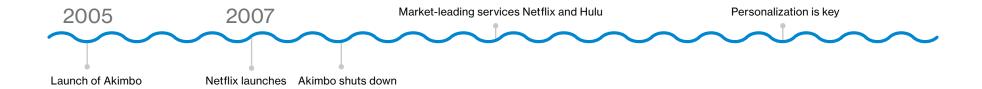
- Personalized recommendations
- Genre-based listings
- Binge-viewing features, such as auto-play of the next show episode
- · Scrolling carousel listings of content

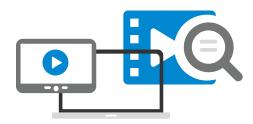
The SVOD market is now crowded, and it is difficult for new entrants to garner any attention, particularly against market-leading services like Netflix and Hulu. For example, Canadian service Shomi launched in 2014 with an excellent set of content, easy-to-use interface and competitive set of discovery tools. These were not enough. The service closed in November 2016 after attracting only 500,000 subscribers. To be successful against the biggest SVOD providers, new entrants need to differentiate themselves with features. In other words, they need to deliver services leveraging the third wave of streaming video technology.

<sup>&</sup>lt;sup>4</sup> Nate Anderson, Netflix offers streaming movies to subscribers, Ars Technica, Jan 16 2007, http://arstechnica.com/uncategorized/2007/01/8627/

<sup>&</sup>lt;sup>5</sup> Digitalsmiths, Q3 2016 Video Trends Report, TiVo, Nov 2016

<sup>&</sup>lt;sup>6</sup> Colin Dixon, nScreenNoise – CW OTT free, Shomi failure, Machinima Radio, nScreenMedia, Sep 29 2016, http://www.nscreenmedia.com/nscreennoise-cw-ott-free-shomi-failure-machinima-radio/ (accessed on 12/05/16)





Content providers need to stop focusing on re-creating the traditional TV experience online. They need to start improving upon that experience. This is what the third wave of streaming video is really about.

#### The third wave of streaming video is here

In many respects, the first and second waves of streaming video were about duplicating the "lean back and watch" television experience online. Matching the quality, reliability, immediacy and breadth of content of broadcast and pay television has entirely occupied the online video industry for the last decade or more.

#### The third wave is all about leveraging the unique technology infrastructure to create the next-generation of "television."

Traditional television has never been very good at providing a personalized viewing experience. After all, broadcasting is, by its very nature, a massmarket medium. But, personalization is a capability that differentiates the online world from traditional television.

#### Personalization of content is a crucial differentiator of third-wave video services.

Consumers have come to expect uniquely tailored online experiences. Whether it's Facebook or news on Reddit viewers will purposefully dive into tailored content among the ocean of information available to them.

Interestingly, the delivery of 1 to 1 experiences is now a trend that has begun to reshape expectations of television too. Two-thirds of pay-TV customers sometimes or always get frustrated when trying to watch something on television, and nearly half of them have or would like content recommended to them by their operator.

But, consumers aren't the only ones to benefit from personalized video experiences. Content providers will benefit greatly from the direct monetary impact on their business. For example, ad skipping is a huge problem both on traditional television, through a DVR, and online, thanks to ad-blocking apps, such as AdBlock. An effective way to encourage ad consumption is to make the ads more relevant to the viewer.

say their top reason for viewing an ad

say they would uninstall their ad blocker if the ads were more relevant.7

<sup>&</sup>lt;sup>7</sup> Teads, Why People Block Ads, Teads.TV, Jan 2016, pages 30 and 31, http://info.teads.tv/ad-blockers-en (accessed on 12/5/16)

#### **Delivering 1 to 1 experiences is a challenge**

Consumer engagement data is the lifeblood of thirdwave video streaming services. For broadcasters, getting usage data is a big challenge. Traditionally, broadcasters have relied upon multi-video program providers (MVPDs) like Comcast and Sky to distribute their content. In this arrangement, the operator, not the broadcaster, owns the relationship with the viewer and the resulting insights into customer engagement.

More transparency into viewer usage resulted from the advent of TV Everywhere (TVE) services requiring viewers to log in with their pay-TV operator credentials to receive authentication to watch. For example, during the Summer Olympics, NBC viewers went online to catch extended coverage of the games using their MVPD credentials to log in. However, fewer than one in seven U.S. pay-TV households had TVE access. As a result, programmers wishing to scale their reach have launched over-the-top (OTT) services targeted directly at consumer audiences. One example is CBS's All Access OTT application, Launched in 2014, the television network launched a D2C (direct-to-consumer) streaming service, handling all user management, subscription and billing.

According to PwC, 78 percent of U.S. consumers subscribe to at least one OTT service, and this number is expected to rise.8 This type of direct access to audiences has given broadcasters the opportunity to regain control of viewer usage data.

Regardless of approach, broadcasters require data to create the individual, unique experiences viewers demand to stay engaged. It is one thing to have the data, and quite another to use it when creating a 1 to 1 experience. In order to leverage valuable viewer insights, a broadcaster must have access to every aspect of the video workflow and viewer experience. This is the only way to guarantee that viewers enjoy a customized experience every time they interact with their OTT service.

Delivering that level of viewer intimacy requires working with a video platform, featuring 1 to 1 session management.

<sup>8</sup> PwC Industry Perspective: 2016 Entertainment Media Trends

## 1 to 1 session management platform technology will transform broadcasting forever

An OTT video service provider knows a lot about its viewers from their content preferences, to what devices they stream on, and the networks they frequent. To ensure that a viewer receives a truly exceptional experience, the service provider, and your viewers must apply all this information to control the video viewing session in real time. And that requires 1 to 1 session management.

1 to 1 session management starts at the very beginning of the video life cycle and only ends once the viewer closes the OTT application. It is the "golden thread" that binds viewers and all their personal information and viewing data together to enable a truly personalized viewing experience. Only by spanning the entire video life cycle in this way can a service provider leverage the actionable information necessary to deliver a true third-wave video experience. This new capability will transform the way that broadcasters will reach their audiences in the online world.



# The benefits of 1 to 1 session management

1 to 1 session management has not been fully realized yet as few video platforms can fully support this fundamental technology. Here are just some of the benefits service providers and their viewers can expect with 1 to 1 session management.

#### **Consumer benefits**

- · Smarter delivery
- · Smarter advertising
- · Smarter discovery

#### **Broadcaster/OTT video service provider benefits**

- · Smarter insights
- · Smarter programming
- Smarter protection





#### **Smarter delivery**

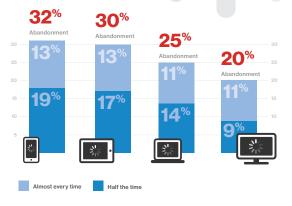
Streaming video quality is improved with 1 to 1 session management. Minimizing problems, such as buffering, latency and poor video resolution has a huge effect on how long a viewer watches. A quarter of people that watch premium video say they frequently abandon viewing sessions (half the time or more) due to poor-quality experiences when viewing on the PC. 13 percent of mobile viewers and 11 percent of computer and connected-TV users say they give up trying to view at least one poor-quality video almost every time they watch online!9

The average viewing session across all devices fell, on average, by 77 percent when viewers experienced a significant reduction in video quality. If OTT video service providers are able to overcome quality-ofexperience issues, viewers would watch as much as 80 percent more than they do today.9

Eliminating all of the viewing problems not only makes for happier viewers, but also for happier operators. Ad-supported services would see an increase in ad revenue of 25 percent by providing the highest-quality viewing experiences. Subscription VOD providers would also see a drop in churn of 10 percent or more.9

#### Viewers are still not able to stream quality experiences on all their devices.

Mobile and tablet lead the pack in viewers abandonment due to poor-quality experiences.9



<sup>&</sup>lt;sup>9</sup> Quality matters. Video Streaming Quality Report 2016, Verizon Digital Media Services, June 21 2016, https://www.verizondigitalmedia.com/qm-report/ (accessed 1/4/17)

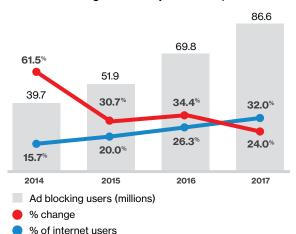


#### **Smarter advertising**

1 to 1 session management can enable personalized programming channels based on viewer insights; it also uses these insights to build a personalized ad playlist. This allows the broadcaster to segment and manage his/her OTT streaming audience to sell targeted ad spots online, which are far more valuable to advertisers because they enable better targeting and accountability. Targeted ads are also more likely to be watched by online viewers, since they speak more directly to their interests. This is how smarter advertising leverages the true power of 1 to 1 session management.

In addition to better targeting, there is one other important aspect to smarter advertising. Over a quarter of U.S. internet users employ an ad blocker, and this is set to reach almost a third in 2017. Ad blockers can be devastating to an OTT video service provider relying on ads for revenue. Smartplay by Verizon, Verizon Digital Media Services' 1 to 1 session management platform technology, employs serverside ad insertion, which cannot be blocked by the majority of current ad blockers.

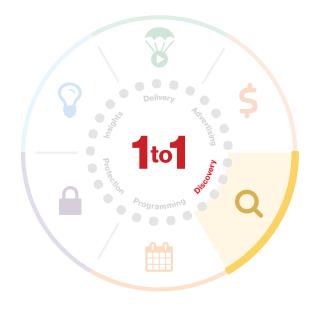
#### U.S. ad blocking users and penetration, 2014-2017



NOTE: Internet users of any age who access the internet at least once per month via any device (including a mobile device) with an ad blocker enabled

SOURCE eMarketer, June 201610

<sup>&</sup>lt;sup>10</sup> eMarketer, US Ad Blocking to Jump by Double Digits This Year, eMarketer, 21 June 2016, https://www.emarketer.com/Article/US-Ad-Blocking-Jump-by-Double-Digits-This-Year/1014111 (accessed on 12/15/16)



#### **Smarter discovery**

What do viewers want most from an online video service: To get to the content they want as fast as possible. Leveraging consumer preference information to make the discovery of content more efficient is critical. Neil Hunt, chief product officer at Netflix, calls the time it takes to find that piece of content "the moment of truth", and summarizes the challenge like this:

"The moment of truth is when someone sits down in front of the television. The research I have done suggests we have between 30 and 60 seconds, maybe 90, to capture your interests. One or two screens worth of possibilities, possibly 2 or 4 in depth (screens), and then you're going to make a choice. That's a hard problem to whittle down the thousands of possibilities into 20 choices that you can put on a screen that will capture your interest." 11

Shorter times spent browsing content and longer times spent watching, keep viewers on a video website longer, and ensures they return frequently. 1 to 1 session management can log customer viewing history and interface with a recommendation engine to surface better recommendations and improve discovery.

Colin Dixon, 4 Ways Netflix data is used to improve service, nScreenMedia, May 25 2015, http://www.nscreenmedia.com/4-ways-netflix-data-is-used-to-improve-service/ (accessed on 12/15/16)



## Broadcaster/OTT video service provider benefits

#### **Smarter insights**

The third wave of OTT streaming services are built on insights derived from big data and analytics; 1 to 1 session management provides much more. It gives broadcasters comprehensive information on OTT viewing sessions for every viewer. This data is typically spread out across multiple platforms and systems, which has made its collection difficult in the past.

Verizon Digital Media Services is unique because it combines both the online video platform content workflow with a global content delivery network (CDN) in an end-to-end platform. As a cloud-based provider, it can centralize data from ingest to playout across millions of concurrent

users. This data, combined with the CRM, billing and account information where available, can be used to build actionable information that allows for deeper engagement with viewers beyond simple recommendations and toward programmatic content curation, such as a virtual linear TV channel for each and every viewer.



#### **Smarter programming**

As with traditional TV broadcasting, online delivery allows broadcasters to reach millions of viewers with linear channels. However, viewers are increasingly watching on their personal devices rather than their big screens at home so they are looking for a more customized experience, making the traditional, linear, TV-broadcast approach unappealing. That is where 1 to 1 session management technology, comes in. It allows broadcasters to uniquely tailor the linear experience to an audience of one, while simultaneously scaling to millions of concurrent viewers.

The original broadcast channel can be delivered with some, or all, of the ads replaced with targeted ads based on each viewer's preference. If a football game is blacked out online, it can be replaced seamlessly with another game or show to ensure that the viewer is never left with a black slate or screen. The broadcaster can even construct a completely custom channel targeted at each individual viewer, just like Pandora creates personalized playlists.

With 1 to 1 session management, broadcasters can now leverage their direct relationship with viewers. The session helps combine real-time usage data, viewer preference information, and other external data to build a comprehensive picture of the audience at an individual level. This multifaceted data is critical to making smart decisions about what content to provide and where to provide it. We have seen how popular social media services have used their insights to launch highly successful video services.

Facebook is the second most popular online video website after YouTube, attracting more than 81 million monthly unique visitors in the U.S. alone. According to Matthew Corbin, global product marketing at Facebook, the company's uniquely personal view of its users allows it to target people, rather than demographics. And that delivers a lot of value to both its viewers, and its advertisers.

"Because of all the signals we have, the relevancy we can bring both in advertising and media is incredibly powerful." 13

#### **Mathew Corbin**

**Global Product Marketing, Facebook** 

<sup>&</sup>lt;sup>12</sup> comScore, comScore Releases February 2016 U.S. Desktop Online Video Rankings, comScore Video Metrix, March 21 2016, https://www.comscore.com/Insights/Rankings/comScore-Releases-February 2016-US-Desktop-Online-Video-Rankings (accessed on 12/15/16)

Colin Dixon, nScreenNoise - Facebook leading with Live, nScreenMedia, Nov 17 2016, http://www.nscreenmedia.com/facebook-live-leading-social-video-explosion/ (accessed on 12/15/16)



#### **Smarter protection**

The threat of piracy in the online world of video delivery is very real. The most popular programming will attract unwanted (non-paying) eyes. For example, "The Wars to Come" episode of "Game of Thrones" was downloaded 13 million times from torrent sites. 14 Premium content must be protected from the moment it is ingested into the OTT streaming platform, to the moment the viewer watches it.

Verizon Digital Media Services' Uplynk Video Streaming service protects premium content from the moment it leaves a broadcast facility in several ways. The Uplynk Video Streaming service encrypts each video segment as it is uploaded from the Slicer to Verizon's cloud encoding infrastructure. On the playback side, the Uplynk Video Streaming service uses tokenization, DRM or some combination of the two, to express digital rights and playback

authorization. Combined with 1 to 1 session management, broadcasters can control content playback down to the IP address level. The Uplynk Video Streaming service further protects content across devices by using the widely accepted HLS or MPEG-DASH video format wrapped in industry-standard, studio-approved content protection.

<sup>&</sup>lt;sup>14</sup> James Hibberd, Game of Thrones piracy hits record high despite HBO's stand-alone service, Entertainment Weekly, April 22 2015, http://www.ew.com/article/2015/04/21/game-thrones-piracy-record (accessed on 12/16/16)

# **Smartplay** by Verizon

# The elements of Smartplay, Verizon's 1 to 1 session management technology

As you have read, having a direct connection to your viewers and having the ability to personalize content and experience will benefit both you, the service provider, and your viewers. This is essential as we move into the third wave of streaming video services where viewers expect both technical aptitude and experiences tailored to their preferences. Smartplay, Verizon Digital Media Services' 1 to 1 session management technology, is integrated with many parts of our award-winning digital media platform.

#### The brains of Smartplay: The session manager

The session manager acts as the centralized engine that combines multifaceted insights and feedback from the user and implements the decisions made by other components of the Smartplay ecosystem.

When viewers press "play", the Smartplay session manager establishes a direct connection with each and every viewer and delivers a manifest that describes what content segments to download and play back. During the session, the session manager is constantly re-writing the manifest (playlist), in increments as small as four seconds of content. This constant, real-time updating allows for changes in content and experience at a very granular level, optimized for each viewer.



#### **Content management system**

The CMS is the gatekeeper of our digital media platform. It stores metadata, enforces business rules, checks content usage rights (blackouts), verifies and validates a viewer's credentials, and connects to subscription and billing systems, amongst other things. Greater intelligence comes when the CMS taps into a huge pool of data to select the best content to stream at the right time. This data includes metadata (data about the shows and movies), and business rules and policies.

In addition, it can integrate with recommendation engines (like ContentWise or MediaHound), richer sources of metadata (like IMDb), and even genre and mood classifications of content. This deeper classification of content helps broadcasters build a unique, personalized streaming experience that is much more likely to engage the viewer than any traditional broadcast TV channel that is based on a TV listing schedule.



#### **Content delivery network**

No aspect of the video chain of delivery can impact the viewing experience more than the content delivery network (CDN). It needs to deliver the best-quality video that is optimized to the viewer's connected device, while overcoming any bandwidth constraints. TV-like quality streaming can only be ensured when real-time adaptive bit-rate adjustments work in conjunction with a globally distributed CDN that delivers content to the edge and close to the viewer.

Verizon Digital Media Services' Edgecast Content Delivery Network, is built on a next-generation architecture, which integrates with Smartplay. Every part of our CDN, from our routing algorithms to the hardware and storage, is optimized to reduce latency and improve quality. The Edgecast CDN is purpose-built to deliver TV-like quality, individualized experiences to millions of simultaneous users on every screen.



#### Ad decisioning system

When it comes to making smarter decisions about what ads to display to viewers, the ad decisioning system plays an important role. For every viewer, it receives the personalized data that Smartplay collects – device type, geography, user ID – and maps it to available pre-sold inventory or goes out to auction on a programmatic exchange. The corresponding ads and creatives are then stitched into the video stream by the session manager.

The Verizon Digital Media Services platform is pre-integrated with leading industry ad servers and ad-decisioning systems to deliver personalized experiences to viewers. Our advanced capabilities allow for sales rights management, audience guarantees, competitive exclusions, frequency capping and many more – all of which add up to higher revenue for our customers and a great experience for their viewers.



#### **Player and SDKs**

The video player is the final touch point between your viewer and your content. It is essential that the player and corresponding SDKs load quickly and render video unobtrusively. Behind the scenes, the player performs a crucial function in communicating with the session manager to deliver needed data, interpret the manifest file, interact with plug-ins and capture essential information from the viewer.

Our player libraries are lightweight and designed to be implemented in our customer's apps and websites in a matter of hours, not days. Updating player libraries and adapting the codebase for different playback devices and operating systems is a job done by the Verizon Digital Media Services team. New devices are opportunities to reach new viewers, not another costly integration for your team.



#### Real-world example of Smartplay

#### How a broadcaster can manage content licensing and blackout rules

Broadcast station groups routinely live stream news content they produce over the top using the Uplynk Video Streaming service. But what happens when their over-the-air broadcast content is not cleared for streaming? Whether live sports or a sitcom, it is very common for portions of the broadcast day not to be cleared. Smartplay allows these stations to not only honor blackout rules, but to actually replace the restricted content with content that is cleared for streaming, essentially creating a virtual channel. This prevents the viewer from getting a slate with the dreaded "Sorry, playback will resume shortly." Instead, the viewer gets alternate programmed content for a seamless, TV-like quality experience, which increases viewing engagement and monetization. And since content licensing is complicated, Smartplay gives the broadcaster the ability to blackout and replace content within certain geographies to remain compliant.

#### How a broadcaster can optimize content monetization

A large broadcast network customer of Verizon Digital Media Services uses Smartplay to maximize its streaming revenue. This customer has a very popular mobile app that handles content from multiple owned and affiliated local stations. Rather than forcing the viewer to select the closest station. the app automatically does it for them. Not only can the viewer easily access their local news, but the app also allows the broadcast network and local stations to target local consumers. The station and network are able to sell local ads in addition to national ads, thus increasing their revenue opportunities. Since the app is registered to each viewer's device, information about that viewer enables more accurate ad targeting. It is Smartplay that ties the viewer's location to the most relevant ad for a unique, individualized session relationship with each viewer. Viewers enjoy a truly customized experience. Broadcasters benefit from expanded monetization opportunities with both national and local advertising.

#### **Conclusion**

With OTT services firmly established in over half of American homes, it is safe to declare the first wave of streaming video as over and done. And although some work remains, the fact that Netflix has over 86 million subscribers in the U.S. alone (as of October 2016) shows the second wave of streaming video (to match the reliability and quality of the television experience online) has largely been achieved. The third wave of video streaming is now here, and this time the focus is on how to improve upon the television experience by moving beyond the one-to-many paradigm of broadcast entertainment, toward a 1 to 1 personalized experience.

The transition to deliver third-wave streaming video services is not an easy one for broadcasters. Simply taking a broadcast channel and simulcasting it online doesn't unlock the real potential of OTT services. Linear channels need to become more personalized, leveraging intimate knowledge of individual viewer's habits to present better content and targeted ads. That level of precise video delivery requires a great deal of control over every aspect of the online video life cycle. And that can only be achieved with Smartplay.

Smartplay, Verizon's 1 to 1 session management technology, is the key to gaining the insights, intelligence and control needed to build a successful and profitable third-wave streaming video service.



Smartplay is a platform technology that is the foundation that encompasses all the video workflow functions necessary to create a 1 to 1, live, linear and on-demand content experience:

- Smarter delivery integrated into the video platform ensures TV-like quality, individualized streams for every viewer and on every screen
- Smarter advertising talks to ad decisioning systems to enable the insertion of targeted ads into a viewer's individual video stream, while ensuring the ads can't be blocked
- Smarter discovery enables personalization and recommendations based on mountains of viewer data, content metadata and business rules
- Smarter insights capture every aspect of each 1 to 1 streaming session and provides actionable data to help make better decisions
- Smarter programming means that content replacement (blackout management) and personalized linear TV channels can be presented to individual viewers
- Smarter protection ties the individual video stream to the IP address and device to ensure the video cannot be stolen anywhere in the video life cycle

#### **Contact us**

Connect with your representative today. info@verizondigitalmedia.com 1.877.334.3236 verizondigitalmedia.com

Verizon Digital Media Services' next-generation platform brings together world-class technologies to prepare, deliver, display and monetize digital content so viewers can watch and enjoy on their terms. Built on one of the world's largest networks, Verizon Digital Media Services empowers content providers to deliver great viewer experiences for any content on every screen.

For more information on Verizon Digital Media Services, please visit verizondigitalmedia.com.

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