Top 5 Video Trends in an IP-based World

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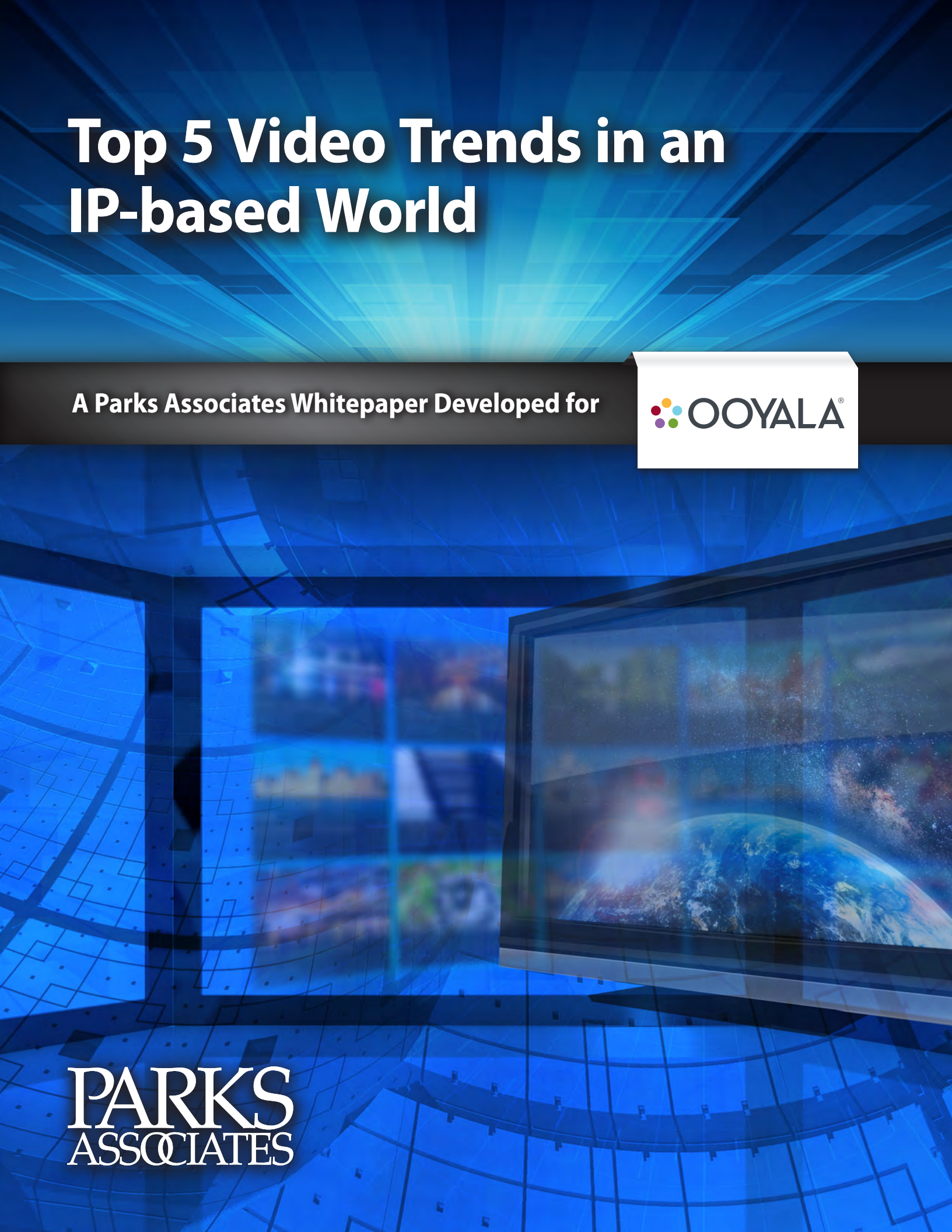

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Top 5 Video Trends in an IP-based World

Today's content producers, broadcasters, distributors, and media companies face a mixed market of opportunities and uncertainties. The impact of increased viewing on connected devices, emerging OTT services, and struggles by traditional players in a new video marketplace is being felt at the content creation headwaters of the value chain. Creators want to experiment with cutting-edge content more quickly, to get content in front of viewers faster, to reach untapped markets and niche audiences across the planet, and to respond swiftly to changing audience preferences and needs.

In this environment, content producers are evaluating and planning for their changing future, including the potential benefits that IP-based technologies can provide for storytelling, user experience, and control over the content creation and delivery process.

While each geographic market has its own nuances that impact long-term success, several macro trends will shape the future of the global video marketplace. Video industry players should consider these areas as they assess their future technology and strategy options.

Top Five Trends

Users expect opportunities to interact with their content.

Global, IP-based video services will be the next big revenue pool for content makers.

Live TV is not dying; it is shifting to connected devices.

Consumers will demand new, diverse types of content.

Artificial Intelligence (AI) will play a key role in the success of video services.

Key Trend 1

Users expect opportunities to interact with their content.

The youngest generation is growing up in a world where they can easily interact, state opinions, and express views. They are accustomed to a digital world that is "clickable" – responsive to input and filled with opportunities for participation and immersion.

The apps available from many sports teams and stadiums provide a current day example.

- Fans at University of Nebraska games can select from among several camera angles.
- The New England Patriots app provides curated video clips from other games as well as galleries of photos of the team, game, or cheerleaders.
- The Dallas Cowboys/AT&T Stadium includes check-in options for social media, the ability to post selfies for display on the stadium big screen, and augmented reality features related to the stadium and game.

Users also want to impact content creation itself. Viewers of the live video game streaming service Twitch often connect with live video game bloggers during the live broadcast, allowing the host to comment or change the direction of the broadcast based on user input. Netflix is introducing new originals that allow viewers to choose what happens in the show's plot, similar to "Choose Your Own Adventure" books that were popular in the 1980s and 1990s. *Puss in Book: Trapped in an Epic Tale* was released in June 2017, the first of several of Netflix's viewer-guided programs that are available on smart TVs, game consoles, iOS devices and Roku – all IP-connected platforms.

As a result, advertising will become more content driven, with brands offering interesting content and experiences that draw consumers in and retain their attention. In return, advertisers will receive an abundance of information about their audiences and achieve higher response rates among the consumers that they seek to target.

CURRENT CHALLENGE:
This level of interaction requires great flexibility, responsiveness, and control from the IP-based systems that will support service delivery for user-directed features. In addition, the areas of interaction offered to consumers must be intuitive and purpose-driven in order to move beyond short-term gimmicks and into regular, recurring use.

FUTURE OPPORTUNITY:
Dynamic, two-way interactivity among audiences and producers will provide deep immersion for the viewer and new monetization opportunities for video services.

Key Trend 2

Global, IP-based video services will be the next big revenue pool for content makers.

While OTT video services such as Netflix, Crunchyroll, and CuriosityStream have expanded worldwide, traditional content producers are following suit. Recognized brands have an advantage in a global marketplace. Popular sports leagues such as the NFL and the NBA are producing short-form content for distribution partners around the world, addressing consumer and advertiser demand for near-real-time clips of highlights or analyst commentary.

> In June 2017, pop star Katy Perry streamed 96 hours of her life on tour via YouTube to promote her newest album, Witness, reaching 49 million views across 190 countries.

Though most content producers have long distributed content globally, new IP-based technologies make global distribution and localization easier than ever, particularly for short-form content and in markets where TV carriage opportunities are limited. As consumers look to online sources first for global content, international revenues will comprise an increasing share of producer revenues as all content producers are able to more easily "go global" with partners or directly to consumers.

CURRENT CHALLENGE:

Achieving global scale is more than just geographic reach; everything about delivery becomes massive in sheer volume and complexity. Beyond technical delivery challenges and global competition, management of localization and rights / legal restrictions among diverse global markets are thorny, but critical, issues.

FUTURE OPPORTUNITY:

A global marketplace allows content producers to achieve greater volumes of viewers by aggregating interested audiences across global markets. Even niche segments can gain notable scale on a global basis. This aggregation provides a greater base over which producers can spread development costs and derive revenues.

Key Trend 3

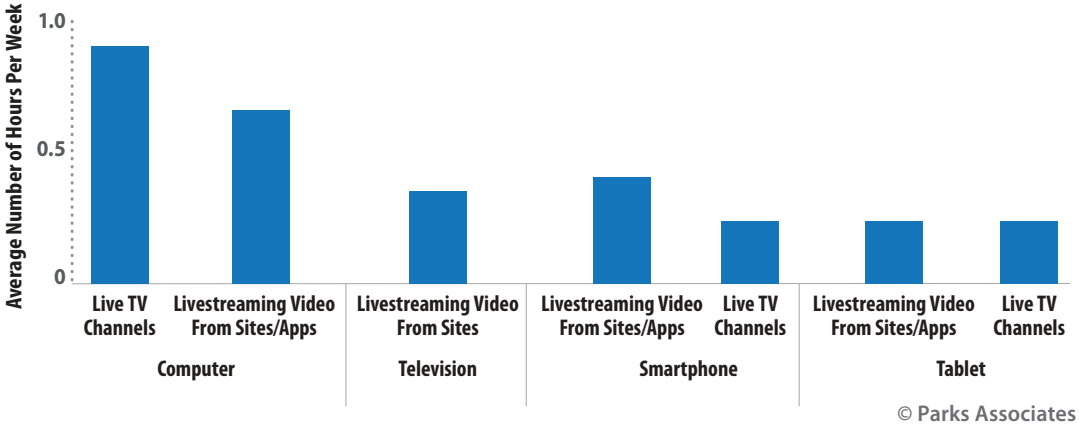
Live TV is not dying; it is shifting to connected devices.

Internet-based live content is experiencing a renaissance. The rise of Periscope, Facebook Live, and other live streaming apps has raised consumer awareness of and appetite for live content on connected devices. Several companies have joined DISH Network, AT&T, Sky, and Sony in offering online pay-TV services.

Virtual MVPDs believe that IP-based access to live TV will appeal to the current, cord-cutting generation of consumers.

Average Weekly Numbers of Hours Watching Types of Video

U.S. Broadband Households



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However, live, IP-based content reaches well beyond pay TV. In addition to Katy Perry's global live stream, Twitter has signed recent deals to live stream the Wimbledon tennis tournament and the Comic-Con exhibition. Twitter has also announced plans to live stream concerts from popular artists, including Train and Marian Hill, through a partnership with Live Nation. Fox Sports has announced plans to live stream upcoming 2017-2018 UEFA Champions League matches in the U.S. via Fox Sports' Facebook page.

This shift in consumption to online sources for live content will continue into the future. IP-based delivery allows people to watch live news, sports, and other programming with the same freedom that they watch video on-demand today. The shift will be particularly significant in countries with limited infrastructure, where mobile networks will be the primary alternative for live content other than over-the-air or satellite-based broadcasting.

CURRENT CHALLENGE: Live at scale remains a challenge for many of today's OTT video services, particularly for major events that spike viewership. In addition, the majority of live production is centered upon TV-based broadcasting and leverages equipment designed for this approach rather than IP-based live broadcasting.

FUTURE OPPORTUNITY: Live programming can be extremely valuable to producers, distributors and consumers, driving uniquely high volumes of use. As consumers become accustomed to accessing live content anywhere, the volume of consumption for high-profile live events will reach well beyond the audience sizes that are achieved today.

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Key Trend 4

Consumers will demand new, diverse types of content.

Though revenues have evolved around traditional TV and movies, consumer viewing is shifting. New types of content are capturing an increasing share of viewing.

Content producers are already exploring new content format options.

Late night talk-show television programs, including *Jimmy Kimmel Live*, *The Tonight Show Starring Jimmy Fallon*, and *The Late Late Show with James Corden*, are producing short-form scripted comedic segments in their live TV broadcasts and quickly releasing them on YouTube for consumers to watch again, comment on, and forward to friends.

Major producers including Viacom, NBC Universal, Discovery, BBC, and Vice Media are creating original content or re-editing existing programming for distribution on Snapchat, creating clips of five minutes or less in an effort to reach viewers that may be disconnected from traditional broadcast or pay TV.

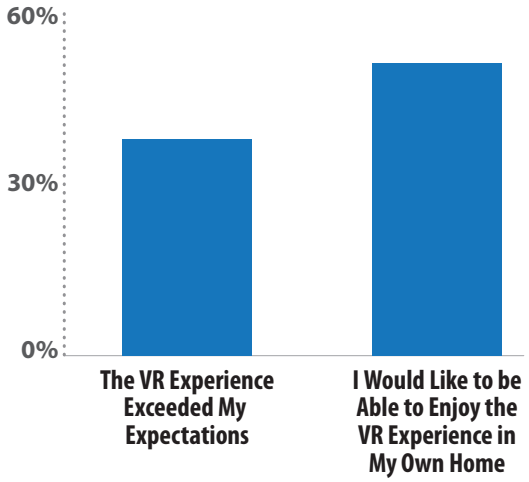
Producers and distributors are experimenting with content length, vertical screen formats, and monetization models to take advantage of growing smartphone video consumption. User-generated formats are becoming more widely accepted as "professional" content by the industry, advertisers, and viewers.

Companies are also trying new approaches in advertising. Fox Networks Group recently announced its plans for six-second ads, with an emphasis on use in digital and on-demand platforms.

Looking ahead, **VR and 360-degree content will be more widely produced and accepted as awareness and headset adoption increase.** In addition, higher resolutions will become more common as 4K gains wider adoption and the format battles around HDR are overcome.

VR Experience Reactions

Consumers Who Own or Have Used a VR Headset (15% of U.S. Broadband Households)



CURRENT CHALLENGE: Those distributing new types of content will need to effectively monitor and control content throughout its journey from creation to consumption in order to move beyond experimentation to effective monetization.

FUTURE OPPORTUNITY: With the broad experimentation going on in content production, no company has become the clear innovation leader in these new format areas. Thus, any company with vision and capability could emerge as a leader in defining the future of the medium.

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Key Trend 5

Artificial Intelligence (AI) will play a key role in the success of video services.

Today's video services are just scratching the surface in the use of artificial intelligence and machine learning. While Netflix and others are leveraging AI for search and recommendations, the scope of benefits can extend into content production and enhancement.

Innovative AI Applications

In June 2017, the English band Muse released a dynamic music video that changes daily, using AI algorithms to compile current video clips from the Internet related to the song's lyrics.

U.K. band Shaking Chains introduced a similar video in March 2017 that changed each time a user presses play.

New AI tools can identify objects and people within videos to automatically create metadata without the need for human interaction, allowing easier use and discovery of user-generated content and identification of clips within a larger video file.

Looking ahead, AI technologies will be increasingly used to improve all aspects of video content and services.

AI tools will provide deeper levels of personalization, adapting service features and the UI to meet the unique needs of each viewer.

They will also enable systems to identify users, provide biometric authentication, and facilitate voice-based interaction, allowing users' content rights to follow them regardless of location, network or device.

AI-enabled systems will also be increasingly used in content creation decisions, revealing topical areas or genre-related trends that have previously gone unnoticed in the noise of big data. Using these tools will allow producers and distributors to better predict and fund content that will draw audiences.

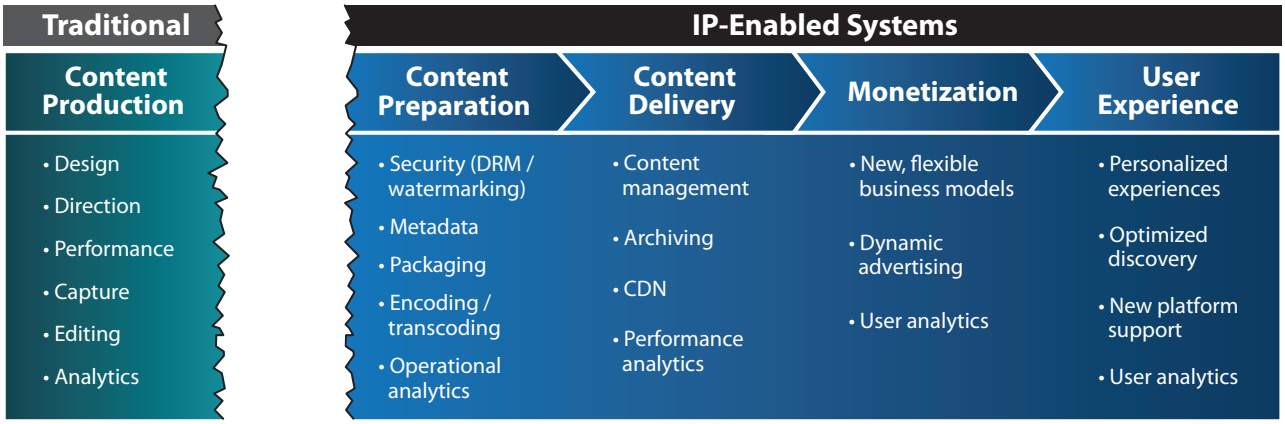
CURRENT CHALLENGE: Though AI's use in discovery and metadata extraction is now used by IP-delivered video services, its use in other feature areas or in content-related decision making remains nascent. Content producers will need to migrate AI-based capabilities from this initial stage of use to become a must-have aspect of content creation and service delivery.

FUTURE OPPORTUNITY: Artificial intelligence will ultimately be a key to unlock the next stage in the evolution of the personalized user experience and in decision making for content producers. The new capabilities available via AI will allow enhanced monetization and a differentiated user experience, making today's services seem static by comparison.

Content Producers Making the Leap

Many content producers have observed these trends and are assessing their path forward as industry roles and goals are changing. Most perceive the need for the industry to embrace the future of video; they also see the new opportunities available via IP-based production, management, and content delivery. Yet change doesn't come easily.

Content Creation: The Gap between Traditional and IP-based Systems



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The ecosystem and tools for IP-based delivery have evolved substantially over the past few years, driven by a voracious consumer appetite for video on connected devices. As a result, the key elements of moving content effectively from producer to consumer, monetizing it, and offering a compelling service experience are in place today.

However, for many content producers, there exists a gap between the traditional process of professional content production and this IP-based service delivery ecosystem. This gap exists due to content creators' traditional role in the ecosystem and their roots in creating compelling content.

Until recently, many content producers allowed distributors and service providers to own the consumer relationship. Upsetting the traditional approach meant putting the primary revenues of pay TV at risk. HBO, a premium cable channel, was one of the first to launch a direct-to-consumer OTT service, risking ire from pay-TV providers. Today, Warner Bros., A+E Networks, Showtime, Starz, Scripps, and Turner are among traditional cable networks offering subscription OTT video services.

As these content producers undertake distribution, they must build expertise in control and management of service delivery or partner with trusted third parties in order to effectively compete in the marketplace.

Traditional TV- and movie-oriented production equipment and processes have not fit easily into an IP-based world. Content producers have billions of dollars invested in the current equipment and tools necessary to produce great content, particularly for TV and movies. Beyond cameras, the change includes everything from new cabling to new editing software. While newer venues and global events often have the infrastructure and systems to support IP-based production, older stadiums, auditoriums, and smaller on-site live events often have wiring that cannot support high resolution data streams.

New systems, software, and processes for digital, IP-based systems require either training costs or hiring new personnel. While software systems can be adapted to minimize training, current employees will have to come up to speed or change roles in order to leverage new features and capabilities. Retraining or adding new people can meet with internal resistance. For example, Fox Sports' ongoing shift to premium video content has resulted in hiring of new video-oriented production employees and layoffs among its writing staff.

Content creators have largely focused on storytelling over new formats and related technologies. In a 2012 interview with The Hollywood Reporter, film director Quentin Tarantino stated, "…I can't stand all of this digital stuff," stating his reluctance to shift to new technologies in film-oriented storytelling.[1]

Like Tarantino, many creators have honed their craft in storytelling for television or theater screens and have come to rely on known systems and trusted processes to generate the final product that they envision. Their familiarity with known approaches allows them to focus on the nuances of creation rather than the technical particulars. Even as cinema has gone digital, certain high-profile creators in the film space have held on to legacy or proprietary formats, opting to shoot on film (35mm or 70mm IMAX) rather than capturing video digitally.

Despite the challenges, studios realize that the future of storytelling is changing, and IP-based production provides new options and opportunities for creators to relate their vision and connect with audiences. IP-based technologies allow producers to create digital copies in a variety of formats within minutes rather than hours or days, a particular benefit for live news, sports, and other content that has maximum appeal nearest the live broadcast time. Doing so allows content producers to leverage social media to generate buzz and grow audiences.

For these content producers, an all-IP-based approach requires new workflows that provide the flexibility, scale, and rapid response time necessary for rapid, global, multiplatform distribution. Not only does live broadcasting via IP become easier, but it also enables a level of end-to-end control that can result in a better, more feature-rich experience for viewers. New types of video for IP-connected devices can be supported, and delivered effectively, as demand among consumers shifts to new platforms and habits.

Rather than ceding control over the viewer relationship to distribution partners, content producers can leverage new tools and features, such as AI and interactivity, to provide immersive experiences and build strong ties to audiences.

[1] Galloway, Stephen and Belloni, Matthew, "Director Roundtable: 6 Auteurs on Tantrums, Crazy Actors, and Quitting While They're Ahead", The Hollywood Reporter, November 28, 2012. (http://www.hollywoodreporter.com/news/ben-affleck-quentin-tarantino-4-394576?page=2)

Benefits beyond Delivery

In a video future where consumption of video is steadily shifting to Internet-connected, interactive, data-driven devices and mobile apps, several factors will be important for content creators' long-term success:

Content producers must control their connection to audiences.
In a strategic sense, the connection to the end-consumer will be of critical value. To thrive, content creators will need to use every tool available to cultivate and strengthen these connections, providing valuable data for decisions and a ready base of viewers.

Content producers can realize new efficiencies and revenue opportunities in the new IP-based content world.
In addition to an enhanced user experience, the shift to IP allows content producers to rapidly create multiple versions and renditions of the same video, including short form derivatives. As a result, they can accommodate television and mobile viewers as well as those watching on older devices or slower networks (such as 3G). The availability of original or derivative short form content also provides content producers with additional assets that can be licensed, allowing them to engage in additional distribution partnerships.

The video race is still up for grabs.
Given the ongoing disruption within the video industry, the final story of the global video industry is yet to be written. Though Netflix, Amazon, and others lead in global coverage and subscriber volumes, opportunities remain for a variety of competitors to take their own place on the world's stage alongside current giants. Because of their creative control over the content, creators can connect with audiences in unique ways, providing them with an important advantage in a market where differentiation will be the key to long-term success.

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The company's expertise includes the Internet of Things (IoT), digital media and platforms, entertainment and gaming, home networks, Internet and television services, digital health, mobile applications and services, support services, consumer apps, advanced advertising, consumer electronics, energy management, and home control systems and security.

For more information, visit **parksassociates.com** or contact us at **972.490.1113** / **info@parksassociates.com**

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As a senior director of research at Parks Associates, 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 18 years in the industry as an analyst, executive manager, and entrepreneur. Brett 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.

INDUSTRY EXPERTISE: International Digital Living Trends, Television Services (IPTV, cable, satellite/DTH, terrestrial/DTT), Broadband Services, Multiscreen Services, Value-added Services, Cloud-based Consumer Services, Set-top Boxes, Residential Gateways, Electronic Program Guides, Video Search and Recommendation, Video Metadata, Middleware, Technical Support Services

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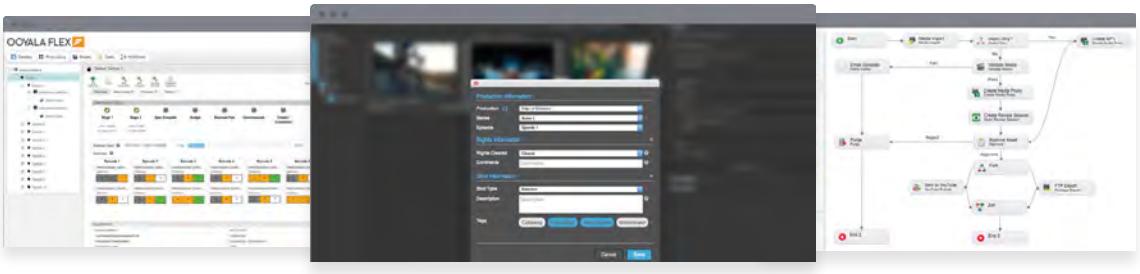
Ooyala + Microsoft Azure

Ooyala's Integrated Video Platform (IVP) solutions backed by the scale and security of Microsoft's Azure Media Services

The Ooyala comprehensive suite of IVP solutions include online video workflow, publishing, audience measurement and monetization products. Combined with the scale and security of Azure Media Services, Ooyala and Microsoft help you go over-the-top with confidence, grow with your audience and adapt to the fast-paced changes in the market.

Ooyala Flex, a media logistics platform that streamlines video production and distribution, allows you to take control of your operations. With asset and metadata management, workflow orchestration, and full operational control in the cloud, Ooyala Flex eliminates your media operations inefficiencies so you can scale your business and grow your revenue. In addition to being fully deployed on Azure Media Services, Ooyala Flex will soon be integrated with Video Indexer, a part of Microsoft Cognitive Analytics Services, to simplify metadata capture by extracting transcripts, detecting faces within videos, and analyzing text to detect key topics.

Video delivery—Video monetization—Award winning analytics—Personalized recommendations



MAM—Metadata management—Workflow orchestration—Monitoring and analytics

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