The digital interactive landscape is dynamic, fluid and can be confounding, and yet, it presents remarkable opportunities for production companies, content rights holders and brands to build vibrant active and engaged communities, give audiences and consumers the perception of ownership and ensure long and profitable franchises. What better way to explore this ecosystem then the NAB Show®, the world’s largest electronic media show covering filmed entertainment and the development, management and delivery of content across all mediums.

NAB Show is the ultimate marketplace for digital media and entertainment with more than 93,000 Attendees from 156 countries and 1,550+ exhibitors, offering solutions that address processes at every point along the content value chain from creation to distribution to consumption to data. And, this year, StoryTech™ citing the key trends across the industry and putting the NAB Show experience in the context of your business.
The efficiency, speed and smart nature of the Cloud is impacting the content value chain from pre-production to post and distribution: maximizing efficiency and enabling multiplatform anytime, anywhere distribution of content. This is powering an increasingly interactive audience who pulls what they want when they want it and “socializes” that content to build communities. New revenue streams are growing from this behavior including programmatic advertising, content sales, micro transactions, and data analytics.

**TREND #1: VIRTUALLY YOURS: CLOUD BASED SERVICES**

Innovative technology is increasingly allowing media firms to decrease their production timetables, lower their costs and achieve scale at distribution. Coughlin Associates, well known data storage experts, estimate that about 20% of the total storage used in media postproduction may now actually be in the cloud.

Additionally, co-location digital ecosystems, such as those found at Switch SUPERNAP, drive savings by requiring less investment in hardware, software, and upgrades — combined with access to services needed at every point along the production value chain. As costs continue to come down in 2014, look for everyone from Silicon Valley to big studios to Wall Street to start leaning even more heavily on the cloud.

Increasingly, production workflow is moving to the Cloud along with data and content management systems. Secure storage of assets in the cloud maximizes efficiency and access. With more and more cloud services providers coming “on-line” pricing is becoming competitive. Other advantages for content producers and owners, and advertising agencies include Software as a Service (SaaS), which means no more costly on site upgrades and scalability in both storage and bandwidth allowing cost savings.

**SITTING ON CLOUD 9…or 10, 11,12…**

The concept of live event programming is certainly not new. Major news organizations have been doing this for decades. What has changed is the distribution path, and the ability to use internet protocol, cost efficient technology and the cloud giving rise to live streaming. The trend indicates a move away from “heavy” equipment rich microwave trucks to “light weight” tools in the cloud, a laptop and a broadband connection. The result: dramatic reductions in equipment cost, mobility, and the democratization of broadcast. Vendors like iStream Planet, Ustream, Ooyala, Piksel (cloud-based media processing) and connection service providers like AT&T and Verizon are working to provide services such as tiered plans, cross-links from cloud to cloud, and other digital content solutions that deliver on the promise of efficient live streaming across multiple devices. IP delivery also allows for multiple streams of content and data enabling both single and second screen real-time interactive applications that provide supplementary content during live viewing. Perhaps the best example lives in sports programming where hungry fans want multiple angles, real-time stats and integrated social media that enhances the viewing experience.

**STREAMLINED: THE CONTINUED RISE OF LIVE STREAMING**

The average amount of time spent visiting sports sites and accessing sports content on mobile phones in April 2013 increased by double digits compared to 2012.

A survey from Deloitte indicated “that 81% of Americans “almost always” or “always” engage in another activity while watching their home TV, with that figure rising to a high of 88% among 24-29-year-olds.” And that “significant numbers of consumers around the world are indeed using their mobile devices to discuss TV programs on social networks as they watch them.”

Advertising agency McCann Worldgroup, which has relied on more traditional models like Microsoft’s Sharepoint service recently paid for thousands of employees to also use Box, a cloud storage service, “because it made it easier to work on projects in tandem with clients,” said Michel Sergio, executive vice president of global client operations.
“give people what they want, when they want it, in the form they want it in, at a reasonable price, and they’ll more likely pay for it rather than steal it.”

- Kevin Spacey on Netflix

TOPPING UP: OVER THE TOP SERVICES
Recent research from Park’s Associates shows that 45% of U.S. broadband households subscribe to a paid online video service, with younger consumers such as Millennials more likely than older consumers to use OTT services. Over the Top suits this new generation with content in a model that fits their lifestyle. There is a land rush right now as new and old players move to leverage business models in this space. Amazon.com Inc. just announced an Amazon Fire TV, an advertising-supported streaming device that will compete with AppleTV and Google’s Chromecast and provide television, music video, and the photos and videos you have stored in their cloud. This is, a departure from its strategy of linking video to its $99-a-year Prime subscription service. They also plan to offer free music videos with advertising to the people visiting its retail website. Verizon moves in the space: powering not only Redbox kiosks’ $8-a-month cloud-based streaming service, but also announcing a deal in October to acquire upLynk, a company that simplifies uploading and streaming videos. MSOs like Time Warner and Comcast are also likely to make a bigger splash in 2014 with new “TV Everywhere” offerings to help stabilize flagging cable subscription rates. It is not just cable providers pivoting, Dish Network struck a deal with Disney earlier this month for rights to stream Disney content without requiring an underlying pay-TV subscription. DirecTV is seeking a similar agreement with Disney. Apple and Comcast are in talks for a streaming TV service delivered to subscribers over Comcast’s network using Apple’s streaming device.

LOOK WHO’S TALKING: THE INTERNET OF THINGS
It is the cloud that will enable the “Internet of Things”-multiple devices that integrate into our lifestyles connected to the Cloud. The Gartner Group recently predicted that more than 25 billion connected devices will make up a $1.9 trillion market in 2020. This is just beginning with the establishment of standards bodies and more and more devices “shaking hands” and exchanging data and “talking to each other” every day. A newly formed coalition of companies called the “All Seen Alliance” — which includes Sharp, Panasonic, and LG Electronics — is looking to accelerate the movement by developing a common language platform that devices can use to communicate with each other. The source code would be open, so anyone can see and make changes to it, much like Google’s Android mobile platform. ATT, Cisco, GE, IBM and Intel have announced the formation of the Industrial Internet Consortium, or IIC, a not-for-profit group that will try to help shape fair ground rules and hasten the trend.

Mark Zuckerberg has just announced the Facebook Connectivity Lab and Internet.org. The initiative is “aimed at using high-altitude long-endurance planes, satellites, and lasers to help connect the rest of the world to the Internet.” The Connectivity Lab will employ a team of scientists from organizations such the National Optical Astronomy Observatory and The Jet Propulsion Laboratory tasked with creating the enabling technology. “He said achieving that goal will mean invention new technologies and said the lab will work with drones, satellites and lasers.”

5 Wall Street Journal, Amazon Considers Streaming Media Service 2014
6 USA TODAY, Quest for nationwide live TV streaming faces hurdles, 2014
7 Huffington Post, Kevin Spacey Speech Urges Broadcast Networks To Adopt Netflix Model, 2013
9 allseenalliance.org
11 Wall Street Journal, Facebook Creates Tea, to ‘Beam’ Internet Everywhere on Earth, 20014
TREND #2: VISUAL STIMULATION: THE CONTENT EVOLUTION

BE IT RESOLVED: IT’S A 4K CONCLUSION

Stunning. That’s what’s being said about the picture quality that 4K resolution delivers. Though not much content has been created to the standard so far and consumers have yet to catch on to its appeal, it won’t be long before both challenges are resolved. Due to the falling prices of both production and display equipment the 4K standard will continue along a rapid adoption curve that will extend across multiple display devices. This faster growth rate is attributed to falling prices for 4K technologies. In fact, the research firm notes that within the next 2-3 years, 4K televisions will reach mass-market pricing.

The growth rate of 4K televisions will have a similar path as HDTVs. Over 82% of U.S. broadband households now own an HDTV, and 4K TVs will reach 80% adoption in the next 10-12 years. - Parks Associates’ special 4K technology research

This faster growth rate is attributed to falling prices for 4K technologies. In fact, the research firm notes that within the next 2-3 years, 4K televisions will reach mass-market pricing. But, filmmakers and content producers don’t need to wait. Quality hardware and software is available and affordable now. One of the advantages of shooting in 4K is the “future proofing” of your content and of course you can down convert for 2K display and have a great looking product. Netflix has offered “House of Cards” in 4K this year and has announced it will do the same with other original content and a handful of nature documentaries. More is coming, from companies such as YouTube, and Amazon who have also announced plans to stream its original content in 4K.

AS I SEE IT: CONSUMER JOURNALISM

Today’s computing power makes smartphones and tablets increasingly relevant in modern IP video newsgathering, video preproduction, production and post production. Not just as a display device for viewing the final product, but also as a critical piece of gear for creating the product itself. They provide many functions in the production pipeline in addition to camera functions. The Apple iPhone 5s features an 8-megapixel sensor, image stabilization, and the ability to record video at 1080p. It also has a pinch-to-zoom 3x optical zoom feature that allows you to highlight a particular area of a scene. Drop down to 720p and you can even shoot at 120 frames per second. The oddly acronymed “ifussss” platform (which stands for “if you see something, share something”) launched in September of 2013, aiming to connect people who take video of breaking news stories with newsrooms. The app joins existing players such as Scoopshot (photography), Newsflare (video) and Demotix (both), which act as platforms for publishers to gather high-value user-generated content for fees. Many offer the additional benefits of pre-filtering the geo-tagged videos and rights clearing, so that newsrooms have access to the breaking news content in seconds. Participation of major media in the mix will layer in “moderation” services allowing for quality newsgathering. The tools for the rapid production of news are literally right in people’s pockets.

POWER TO THE PEOPLE: THE RISE OF THE INFLUENCER

It wasn’t that long ago when YouTube — seeking to become a stronger player in original content to support its pre-roll video ad business — created $100M budget for big studios, celebrities, and everyone in between to create a raft of new channels. The result: the professionals saw middling results overall, while a strong subset of amateurs broke through in a very big way. Now these ‘amateurs’ are viewed right alongside high-end productions on OTT boxes, connected TV’s and on a variety of apps and channels. Drafting off the democratization of video is the rise of niche content channels and highly interactive and valuable communities. Targeted advertising and sponsorship opportunities are available for pioneering brands. The rise of multichannel networks (MCN’s), such as DECA and Maker Studios, that house these next generation of “stars” will continue as they build huge audiences and drive ad dollars. The recent acquisition of Maker by Disney evidences big media’s conversion to the value of MCN’s and “YouTube” stars, and millennial audiences. Not to be left out, Yahoo has begun luring YouTube ‘professionals’ to its network as it plots its own streaming service. Yahoo hopes to offer a more financially lucrative partnership and monetize those influencers through it’s own advertisers.

Felix Arvid Ulf Kjellberg (a.k.a. PewDiePie) hit 25 million YouTube subscribers worldwide online this winter (Source: YouTube). A brand built from the bottom up; he is a case study for the future of celebrity and content. He recently has spoken about scaling back his production schedule to keep his content real.
TREND #3: TAKING IT PERSONALLY: BIG DATA

You’ve no doubt heard of Big Data. Parsed and analyzed it empowers a customized and personalized world. No one is an island. The flow of data and content is now part of everyone’s lives — impacting relationships, consumption and purchase behaviors, and ultimately our culture. In a future where data and content will increasingly come to define and augment our very existence, the question becomes how content makers, storytellers, and brand advertisers gather, analyze and use this data to authentically enable and become a useful part of their customer’s lives. Data analytics that break down user behavior into information that can be used to target audiences, make content more relevant and integrate into viewers’ lifestyles. It helps answer that what, where, when and who of content production and distribution. And as mentioned above, even informs content development,

“...The data gleaned from the way people use, move from and behave with their devices will provide valuable lifestyle insights. The ownership and value of data is likely to be an issue perhaps resulting in “data wars.”

- StoryTech TechBrief™

BANKING ON GOOD BEHAVIOR:
DATA DRIVEN DECISION MAKING

There is not a studio, network, streamer or brand that isn’t culling data from programming in real time or after the fact. IP distributed programming produces audience behavioral data relative to content and each other in ways that focus groups and viewing logs never ever could. This has led to the nascent but rising trend of data driven programming. Amazon Prime has combined its retail and video business and is using customer/viewer feedback to inform the content development process. Netflix analyses the viewing behavior of its audience segments to develop and target original programming. Is data the new oil? Does it have value once it’s refined to drive the content engine?

The trend will shift to have data in the mix before pen is put to paper. Insights provided by the analysis of data will inform content development, advertiser participation, and distribution and on-going storytelling. Traditional “ratings” will now be broken down into multiple analytical areas that include “sharing quotients,” “sentiment indexing” and “lifestyle movement” in addition to numbers of viewers and time spent.

LESS THAN ZERO?
CONSUMPTION PATTERNS

“Zero-TV” is a term Nielsen coined this year for the category of US homes that neither subscribe to cable or satellite. This was part of an effort to uncover the truth around the much-hyped data around cord cutting, or users cancelling traditional television services in favor of less expensive options such as Internet TV. And yet, per Nielsen, the number of Zero-TV homes in the United States grew from two million households in 2007 to over five million in 2012. And while Over the Top (OTT) provider Roku officially positions its product as more of a complementary service to traditional broadcast viewing options, its tent pole channel Netflix can rightly be credited with upending large chunks of the media industry through the production of original programming and by enabling the new consumer pattern of immediate “binge-watching” upon the release of a series. This changes traditional models of seasonal debuts, reruns, syndication, windowing and even international sales. We can count on the continued evolution of content consumption patterns especially with more and more video available on mobile devices. At the opposite end of the content display device spectrum is television, which is increasingly becoming about a theater experience with leaps in sight and sound.

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13 Nielsen’s Zero TV Homes Study
14 Nielsen's Zero Homes Study
FLEXIBLE means the ability to deliver content in multiple iterations and many different ways. This requires an end-to-end content development and delivery system that is equally flexible, sophisticated and interoperable. Data, production elements and media must be managed carefully and efficiently. The technology response to those needs is evolutionary and visible at the 2014 NAB Show represented by end-to-end content management systems and workflow solutions that are feature rich, more integrated and comprehensive.

**LOOK WHAT I CAN DO!**

**THE DEMOCRATIZATION OF TOOLS**

Democratization of video content creation equipment and techniques is taking place. Prices have dropped, bringing cutting-edge technology and techniques into the hands of more content creators than ever before. 4K capture was once only available in cameras priced at over $100,000. This year you can find good 4K cameras at the $10,000 price point and even a few under $1,000. You’ll also find accessible and affordable options for fancy dolly shots, steadicam work and even aerial photography. Never before have so many people had so many high-end shooting options for so little money. Previously, there was a sharp divide between the kind of shots you could achieve on a Hollywood feature film budget and those you could achieve on any other budget. Aerial shots, jib shots, cranes, sliders, slow motion were once techniques confined to Hollywood blockbusters and exclusive film schools. Now independent filmmakers, enterprise video creators and online video pioneers have access to the tools they need to create content of high production value.

An iPhone or Android phone with different Apps can control cameras, frame shots using the live preview function, playback, store videos and share them instantly. Aerial photography once required the hiring of a pilot, helicopter rental, an aerial rig with gyroscope and a very experienced shooting team. Costs could run to tens of thousands of dollars. Even feature films and prime time television shows often had difficulty justifying the expense in their budgets. Now, multiple propeller drones can be paired with a lightweight camera and a tiny gyroscope and capture aerial footage for a mere fraction of the cost.
NOW, WHERE DID I PUT THAT?
MEDIA AND ASSET MANAGEMENT

Technology is evolving to enable more and more aspects of production to be automated. Whether you call it DAM (Digital Asset Management), PAM (Production Asset Management) or thank you MAM (Media Asset Management) making money from your video content requires the flexibility to repurpose and rapidly redeliver it to any number of platforms. DAM solutions address the metadata processing that needs to accompany your video, as well as digital rights management, content library management and of course distribution to multiple platforms and regions. New solutions are streamlining asset management right into the workflow.

Manual logging and transcription are not only time-consuming and prohibitively expensive, but they also yield limited detail and increased latency. However, in these new systems, once video files are “ingested” into the system, they can be “tagged” with metadata that provides important information in a text format. The data can consist of keywords, tags, titles and information that may include but not be limited to format, the subject of the video, the talent, transcripts of conversations, scene descriptions, and rights management information.

Some of the approaches to the ‘tagging’ include Image recognition, which reveals who’s pictured, but not what they’re saying. Speech-to-text has had insufficient performance and accuracy to be useful even on the clearest speech. Dialog, on the other hand, provides more detailed, precise media description than any other metadata. New, automated, phonetic-based dialog search is rising, as it’s accurate, lightning-fast, affordable, and can integrate with existing MAM systems and editing applications. It also applies broadly to any industry that creates, owns, or distributes content. There are challenges with a variety of approaches and automation will be key to success in media management.

STRIKE UP THE BANDWIDTH.
COMPRESSION EVOLVES

New delivery formats also mean new video compression techniques. Previously most of deliveries were based on the H.264 format, best known as being one of the video encoding standards for Blu-ray Discs; all Blu-ray Disc players must be able to decode H.264. It is also widely used by streaming internet sources, such as videos from Vimeo, YouTube, and the iTunes Store, web software such as the Adobe Flash Player and Microsoft Silverlight, and also various HDTV broadcasts over terrestrial. However the trend toward greater video resolution coupled with the need for lower bandwidth requirements have led to a new video standard—H.265. The movement towards H.265 also known as High Efficiency Video Codec or HEVC has become an important trend in video delivery.

While H.264 is great for Standard Definition and High Definition Video, it simply can’t handle the high color depth, the high frame rates, the very high resolution, and the staggering amount of sheer data encompassed by 4K. H.264 simply doesn’t squish those files down small enough to be played back in any kind of practical or economical fashion. That is why the members of the ISO have been hard at work on a new video compression standard called H.265 also known as High Efficiency Video Codec or HEVC. This new codec lives up to its name—supporting the high resolution of 4K and even 8K video while at the same time cutting the required bit rate which is the number of bits processed per second, in half. This technology can be used not only to make delivery of 4K video and above financially feasible, but also to deliver twice as many 2K or HD streams than ever before. Not surprisingly, HEVC encoding takes quite a bit more computational power than its predecessor. Generally H.265 takes either twice the processing power or twice the time to encode. However, processors are improving faster than bandwidth is increasing, so more powerful compression is the way to go. H.265 adoption will be slow until mass hardware support is behind it, which seems to be at least 18 months away.
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