How cloud computing changes the game in media and entertainment
A new era for M&E companies
Challenges in today’s media and entertainment industry...

DISRUPTIONS

Advances in technology and consumer behavior are driving a transformation in the way video content is delivered to consumers. The change involves a migration away from traditional broadcasting models and platforms towards digital distribution over the Internet to a widening array of connected devices. This fundamental shift is triggering three major disruptions for broadcasters, each calling for the scalability, cost flexibility and agility of cloud computing.

Consumers now demand more choice than ever in the way they view video content, including on-demand or interactive viewing

Accustomed to using over-the-top (OTT) video providers and Internet services, consumers have come to value a more tailored and interactive viewing experience. As a result, they are demanding more choice, convenience and control over their viewing — whether that means choosing to sit back and watch a network’s scheduled line-up, enjoy a live event, or record favorite content and watch it whenever they want on whatever device they want. Providing this breadth of options requires far more computing power and resources than traditional broadcasting. The resulting strains on traditional physical hardware capacity are driving a growing need for flexible, XaaS (anything-as-a-service) applications and computing power for content processing and distribution. At the same time, the proliferation of devices and channels demands more flexible business models and systems to better engage an increasingly fragmented and demanding audience.

There are now more time pressures in bringing new offerings to market

New OTT providers are entering and disrupting the video distribution marketplace. These entrants are “digital natives” – software solutions-based businesses with a mindset focused on rapid development and roll-out of products, and a readiness to experiment with new services and see which ones take off with consumers. In contrast, broadcasters have traditionally taken a slower, more measured and controlled approach when developing new services and taking them to market. In a world where consumers expect rapid evolution and expansion in their choice of content experiences, broadcasters need to accelerate their solution development and roll-out cycle to keep pace.

Cost pressures on technology sourcing and operations

Factors including rising prices for content rights, intensifying competition from lower-cost agile entrants, and strains on legacy technologies are creating a need to reduce up-front technology investments and align costs more closely with usage and revenues. Accessing cloud infrastructure as a service in line with need can reduce the requirement for physical hardware, servers, and data center capacity, helping to bear down on technology costs across the organization and ensure they flex with workload.
...demand profound change in broadcasters' tech culture and mindset

Disruptive forces require today's established broadcasters not just to adopt a new approach to technology, but to navigate a radical shift in their embedded culture and skillsets. In doing so, they will equip themselves to compete more effectively with the agile OTT entrants.

The challenge for incumbent broadcasters is that they have historically grown up with two distinct technology cultures. The first was a traditional back-office IT culture similar to that seen in many other industries. The second was an engineering-based broadcast operations technology culture, focused unwaveringly on maintaining 24/7 availability, and on avoiding at all costs going to a single second of black screen.

In the latter, the emphasis for broadcasters has generally been on developing specific point solutions in-house, investing time and money in combining hardware and software in bespoke ways to address particular issues. However, given the pressures highlighted above, this approach is now too rigid, slow and expensive to keep pace with the OTT players, who come from a high-paced and agile software development background.

Instead, broadcasters need to move their operations technology culture to a software orientation, with a mindset focused on software engineering and architecture as a way to develop new solutions and capabilities.

Why we’re focusing this paper on companies delivering video content

Media and entertainment is a huge and diverse sector, encompassing video and audio content distribution, publishing, film, music, gaming, social media and more.

However, a common trend across all segments of media and entertainment is the rising importance of video content delivered over the Internet. The growing ubiquity of video is seeing a blurring of the divisions between the formerly distinct media and entertainment – and is also fueling competition between media and entertainment companies and new entrants to the industry, such as communications service providers.

Given this background, we have decided to focus on the delivery of video media to consumers via any channel or device for the purposes of this paper.
Accenture Video Solution: comprehensive, connected video experiences with the option of leveraging cloud components

Accenture Video Solution (AVS) is a modular software platform that manages, delivers and monetizes digital video services in a seamless, easy-to-use experience. The solution operates on managed IPTV set-top boxes and a wide range of unmanaged over-the-top TV (OTTV) devices such as hybrid or pure IP set-top boxes, Internet-enabled TVs, tablets, smartphones, PCs and gaming consoles.

AVS helps broadcasters to launch IPTV and OTTV services at speed with reduced IT and infrastructure set-up costs. The solution is optimized to allow dynamic adjustments in line with rapidly changing consumer demands, while simultaneously reducing IT and infrastructure set-up costs.

One of the main benefits of AVS is flexible and scalable deployment using the cloud. The solution is designed to help broadcasters realize economies of scale and reduce operational and capital expenditure (capex) costs by moving various services to the cloud, should they choose to do so. To help enable companies to take this option, AVS provides both on-premises and also multi-tenant cloud-based capabilities, all scalable to millions of users.
To help navigate this shift in culture, some broadcasters are merging their broadcast engineering and IT functions. However, different companies and geographies are at very different stages in the journey. At the same time, as Figure 1 shows, broadcasters are responding to industry change by refocusing their technology spending on multi-platform delivery, together with other priorities such as file-based or tapeless workflows and IP networking and content delivery.

As the chart also indicates, cloud spending is increasing, with more than a third of industry respondents voicing plans to purchase cloud solutions. While cloud use is becoming increasingly pervasive across the video media creation and delivery value chain, Accenture’s experience shows that most cloud initiatives by broadcasters have involved private cloud solutions, reflecting the embedded culture of controlling their technology in-house, and concerns over security of core content and customer data. However, a combination of intensifying cost considerations, the need for scalability, and ongoing improvements in cloud security is seeing a shift towards hybrid models. These models incorporate some public cloud services, while keeping more sensitive data in private clouds, and increasingly use encryption and anonymization of data in public clouds.

As cloud use increases, an important trend is the greater use of transcoding in the cloud, repurposing content for different devices. As devices proliferate and mobile video consumption rises, cloud is proving particularly effective in handling transcoding and improving system interoperability. A further driver of cloud in broadcasting is that the latest generation of industry software platforms such as Accenture Video Solutions (see information panel) can leverage cloud seamlessly as part of the overall solution.

Figure 1: Technology purchasing plans of the broadcast industry (% of respondents)

<table>
<thead>
<tr>
<th>Technology Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-platform content delivery (broadcast, web, mobile etc.)</td>
<td>98%</td>
</tr>
<tr>
<td>IP networking and content delivery</td>
<td>97%</td>
</tr>
<tr>
<td>File-based/tapeless workflows</td>
<td>94%</td>
</tr>
<tr>
<td>4K/UHD</td>
<td>91%</td>
</tr>
<tr>
<td>Cloud computing/cloud-based services</td>
<td>89%</td>
</tr>
<tr>
<td>Transition to HDTV operations</td>
<td>87%</td>
</tr>
<tr>
<td>Improvements in video compression efficiency</td>
<td>86%</td>
</tr>
<tr>
<td>Video on demand</td>
<td>83%</td>
</tr>
<tr>
<td>Move to automated workflows</td>
<td>82%</td>
</tr>
<tr>
<td>Targeted advertising</td>
<td>78%</td>
</tr>
<tr>
<td>Remote production</td>
<td>77%</td>
</tr>
<tr>
<td>Centralized operations (playout, transmission etc.)</td>
<td>76%</td>
</tr>
<tr>
<td>Analog switch-off</td>
<td>76%</td>
</tr>
<tr>
<td>Transition to 3Gbps (1080i) operations</td>
<td>74%</td>
</tr>
<tr>
<td>Transition to 5.1 channel audio</td>
<td>73%</td>
</tr>
<tr>
<td>Outsourced operations (playout, transmission etc.)</td>
<td>72%</td>
</tr>
<tr>
<td>3D TV</td>
<td>72%</td>
</tr>
<tr>
<td>Reduction in carbon emissions/other green initiatives</td>
<td>70%</td>
</tr>
</tbody>
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How cloud enables broadcasters to change the game

POTENTIAL BENEFITS

As we’ve described, the entry of agile, software-based OTT competitors into the video delivery industry has changed the game for incumbent broadcasters. It is imperative that they take steps to respond and keep pace with this change, or risk getting left behind. Cloud solutions enable broadcasters to stay abreast of industry developments and compete with OTT providers by helping them to realize four potential benefits.

1. Faster speed to market closes the gap on the faster service delivery cycle of the OTT entrants

In the era of internet and OTT delivery, broadcasters’ traditional engineering culture and focus on in-house hardware and bespoke software solutions is not only expensive, but is also a slow and cumbersome way to bring new services to market. As broadcasters face up to the challenge from cloud-enabled competitors from a software and solutions background, they need to emulate the ability of these competitors to roll out new services in weeks or months rather than years. Cloud-enabled offerings such as AVS (see information panel on page 4) can help broadcasters achieve this faster service delivery cycle.

2. Scalability to handle spikes in workload, including live events, and surges in the popularity of new services

Today’s environment of unpredictable and volatile demand for video experiences plays directly to the pay-per-use pricing of cloud solutions, together with the ability to dial them up and down in line with need. These attributes of flexibility and scalability make the cloud an increasingly vital resource for any broadcaster, whether handling peaks in viewership during the normal daily cycle or preparing for the uncertain pace of take-up for a new consumer service.

The same qualities effectively make the cloud imperative for providers delivering video coverage of live events over the Internet, who can see their online audience leap from minute to millions within minutes. Given such needs, the traditional approach of building sufficient system and server capacity in-house to handle peaks requires heavy capital expenditure (capex) based on forecasts that may well turn out to be inaccurate, and is no longer justifiable in cost terms. The cloud enables a shift to usage-based operating expenditure (opex), while also reducing the risks of constrained capacity that can result when a service’s popularity exceeds expectations. In terms of live events delivered online, the capabilities brought by cloud are having a transformational effect on the type and reach of events being covered – effectively ‘democratizing’ the market beyond top-level professional sport. It does this by making it economically viable to stream second- and third-tier sports and amateur events to select, highly engaged audiences of enthusiasts, families and friends.
The ability to collect, store and conduct analytics on vast amounts of data, generating insights to drive personalization, service development, customer experience and one-to-one relationships

In the increasingly competitive world of disruptive OTT content services, it is vital for broadcasters to be able to meet consumers' demands for choice over what, when and where they consume. To create and sustain engagement and revenues, this means creating an experience that helps the consumer to easily find and choose the content they want, and then enjoy a positive viewing experience over their chosen device or devices. Tailored content recommendations based on previous viewing and shared customer data are an increasingly important component of this experience. In this context, cloud solutions' access to effectively infinite computing resources and processing power opens up new vistas of opportunity for broadcasters in harnessing and leveraging data in cost-effective and value-creating ways. Data analytics and mining can be used to test out hypotheses and refine the customer experience down to the individual level. At the same time, consumers' concerns over privacy can be allayed by applying opt-in consent processes and using data with the personally identifiable components stripped out.

Driving ongoing service innovation through agile development, constant iterative experimentation and a culture of “fail fast and fail cheap – then move on”

Cloud computing helps broadcasters to pilot, trial and experiment with different types of services to test their potential to engage consumers and drive revenues, without putting significant investment at risk. If managed correctly, this approach means incumbent broadcasters can emulate the “fail fast” culture of start-ups and accelerate the speed, agility and effectiveness of their service innovation efforts – putting them ahead of the curve relative to their peers. The ability to achieve this change depends on the need highlighted earlier for broadcasters to transform their technology culture from traditional broadcast engineering to a software orientation. Through the one-to-one customer relationships facilitated by the cloud, broadcasters can also involve their audiences in product development and innovation through ongoing feedback and input.
Getting BT Sport’s live football service up and running in just six months using Accenture Video Solution^3

In late 2013, Accenture delivered an end-to-end video solution spanning live streaming, video-on-demand, mobile app development and cloud services to one of the UK’s newest broadcast ventures, BT Sport. Within a tight project timeline of just six months, the multi-platform, broadband-based TV channel was launched on August 1, 2013, ahead of the Barclays Premier League football season. The launch of BT Sport followed BT’s acquisition of live broadcast rights to 38 Barclays Premier League football games for three seasons.

Accenture’s delivery approach was based on the Accenture Video Solution (AVS), one of the most comprehensive, feature-rich video software platforms available today. AVS is now delivering a high-quality user experience to BT Sport subscribers across multiple devices, including smartphones, tablets and computers. The service also leverages AVS specialized managed services to provide multi-platform live digital broadcasts 24/7 at scale, including all the encoding and publishing of live streams.

“Given the complexities of launching a channel across a number of platforms, it was good to have a partner like Accenture,” said Greg McCall, Chief Operating Officer for television and content at BT. “Accenture brought delivery experts as well as the latest technology in digital video, live events, cloud and mobility. So not only did we have access to the innovation we needed to craft the solution, but Accenture provided the predictability required to deliver against such an important and inflexible launch date. Their ‘one team’ ethos was a major factor in our success.”
Next steps into the cloud

We believe the use of cloud solutions will progress on several fronts in the coming years as they become ever more prevalent in video delivery operating models.

Consumer cloud solutions will continue to advance

Cloud will play an increasingly pivotal role in the delivery of content-rich services to multiple devices, whether on an ad-funded or subscription basis. Companies are using the cloud to reach and engage consumers in ways not previously thought of, and these efforts will intensify as consumers’ use of cloud services continues to rise rapidly over the coming years. A recent report from Juniper Research forecasts that over 3.6 billion people worldwide – half the global population – will be accessing cloud-based consumer services by 2018, up by 50% from 2013.

Cloud will be increasingly used to underpin video content delivery, including catch-up services

Broadcasters are making growing use of cloud solutions – including public cloud – to power offerings such as catch-up services, with metadata relayed directly from the cloud when a consumer clicks on a particular date or piece of content. Cloud is also used for “bursting” capacity and processing at peak workloads. These trends will likely continue, with directly sourced cloud solutions and managed services that leverage the cloud playing an increasingly central role throughout the industry, delivering rising economies of scale and performance – often with “price drop” clauses built into contracts.

Cloud will complete the positive business case for “digital end-to-end” tapeless workflow from production to delivery

In recent years, Accenture has helped Warner Bros. Entertainment build a completely digital supply chain termed “digital end-to-end (DETE).” To date, broadcasters’ efforts to create their own tapeless and digitally integrated workflows using traditional components in-house have struggled because of the huge costs and server requirements involved. But cloud is now creating a robust business case to make fully digital workflow a reality through its inherent cost and scalability benefits and advances such as transcoding in the cloud. A vital area still to be addressed is the need for massive post-production storage. This currently tends to be expensive and proprietary to post-production solution providers. A cloud offering tailored to broadcasters’ post-production needs would be a big step towards digitization of their entire workflow, unleashing its full potential for the industry.

Access to video coverage of live events will become ever more democratized, global and social

Consumers worldwide want access to live events wherever and whenever they are taking place, and rights holders are determined to monetize their content by expanding their reach across borders. As opportunities for cost-effective streaming of events at different levels of quality, latency and reach continue to grow, rights holders will increasingly select and blend different types of cloud solution to achieve the appropriate balance for their content and audience at low risk. At the same time, providers will increasingly mine social media streams in the cloud to integrate with their live coverage, harvesting event information, statistics and social messages that they can then pair and match with the video feed.

The resulting small but highly engaged audiences will be a valuable source of subscription and advertising revenues.

Video distribution may cease to be an industry in its own right and become a function across industries

In many markets, “hyper-convergence” is under way as players in previously distinct sectors move into the online video distribution space from different starting points. For example, in the UK Sky TV began competing in BT’s core territory by selling broadband subscriptions, and BT has now bought rights to Premier League football to compete with Sky on content, while also protecting its broadband base by bundling live access to games. With cloud solutions continuing to lower the barriers to entry, the stage is set for more strong brands, ranging from retailers to consumer goods, to move into video distribution. Red Bull TV is an early manifestation of this trend. The result could be the emergence of a wider ecosystem where video delivery is a function rather than an industry.
In 2013, seven years on from its launch, the BBC’s online catch-up service iPlayer had built up an audience of over seven million viewers per day on four screens and over 1,000 devices and platforms. However, its infrastructure was aging and needed replacement. So, BBC Online switched from its original On Demand Production Service (ODPS) to a new cloud-based Video Factory.

With millions of viewers relying on BBC iPlayer to catch up on their favorite programs, the BBC received complaints when programs took too long to become available. Live programs were particularly challenging because of the need to handle the online processing after the broadcast was completed. This usage pattern was ideally suited for cloud computing, so the BBC’s new Video Factory solution moved live processing into the cloud.

Marina Kalkanis, Core Services Head, BBC Future Media, Programmes and On-Demand, commented: “Cloud computing is computing services sold on demand, on the internet, typically by the minute or the hour; it is elastic – a user can have as much or as little of a service as they want at any given time. This means we will have the flexibility to scale (up or down) and only pay for what we use.

“The other advantage of using cloud services is we don’t have a fixed amount of storage so we no longer have to limit the hours of content we can process. Nor do we have to limit the hours of HD content we can handle. And because it is easier to add in new services, our system is much more flexible in creating content for new devices.”

“The Digital End-to-End system has revolutionized the way we service our customers by increasing the velocity by which we can distribute our content. Whereas in the conventional tape workflow it used to take days to create and deliver an alternate language version of a film, it now takes only hours.”

Annette Bouso, Executive Vice President, Warner Bros. Worldwide
CONCLUSION: A CRITICAL ENABLER OF M&E TRANSFORMATION

For the broadcasting industry, cloud computing isn’t a game-changer in itself. But, just as the cloud is now powering new entrants to the industry, so will it play a vital role in helping broadcasters to keep pace with the disruptive and game-changing advances taking place all around them.

Without the cloud, it would be extremely difficult to achieve the blend of low costs, high scalability, constant experimentation and speed-to-market required to compete in the digitally disrupted world.

Put simply, video content is the future of media and entertainment – and the cloud is the future of video. It’s time to embrace it.

References


5 RedBull.TV website, accessed 03 June 2014 at http://www.redbull.tv/Redbulltv

Biographies

Gavin Mann
Gavin is the global Broadcasting and Entertainment lead within Accenture’s Media and Entertainment group. Mann has been at Accenture for most of the last 21 years, the last 16 of which have been dedicated to digital media.

Youssef Tuma
Sef is a Managing Director in Accenture’s CMT UKI practice where he is the strategy lead in Accenture’s Digital Video business service. He has over 18 years experience leading and delivering large innovative technology programs and driving associated business strategies.

Francesco Venturini
Francesco Venturini is the Global Media and Entertainment lead of Accenture’s Communications, Media & Technology (CMT) industry group. From content creation to distribution, he helps clients develop strategies for digitally convergent products and services. Francesco has played a pivotal role in the development of the award-winning Accenture Video Solution (AVS). AVS is a cross-industry service offering designed to deliver digital video over broadband in a seamless, fully convergent and personalized user experience on devices such as set-top boxes, connected TVs, tablets, smartphones and PCs. A market proven platform, AVS has helped position Accenture as a leader in Over-the-top-TV.

C. David Wolf
David Wolf is a managing director in Accenture Digital where he is responsible for leading Accenture’s North America Communication, Media & Technology digital practice. He has over 24 years of experience leading and delivering large innovative technology programs. David has been responsible for leading engagements that pioneered new technologies or applied existing technologies in new and innovative ways, including helping a leading global entertainment company define its vision for becoming a high performance media company in the new digital age, deliver leading edge digital content services capabilities for content creation through distribution, helping a leading interactive entertainment company launch a new interactive gaming business, and helping a startup technology company pioneer eCommerce.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 293,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$28.6 billion for the fiscal year ended Aug. 31, 2013. Its home page is www.accenture.com.

About Accenture Cloud

Accenture is uniquely positioned to help organizations use the cloud for competitive advantage within a complex digital marketplace. With a full range of cloud services, from strategy and implementation to migration and a cloud brokerage, we help clients plan for, integrate and manage in a hybrid world where cloud and legacy systems co-exist. We combine those insights with our industry knowledge, delivery experience and diverse ecosystem to drive innovation and transform complex environments into high-performing digital businesses. Accenture has worked on more than 8,000 cloud computing projects for clients, including nearly 70 percent of the Fortune Global 100, and has more than 10,000 professionals trained in cloud computing.

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