Head in the clouds: what the future of cloud computing means for media

By Sergey Bludov 2 days ago Cloud services

Local storage is being overtaken by the cloud

Would it surprise you to hear that 73% of companies run at least one application in the cloud? Maybe the only surprise is that the percentage isn't higher.

This is especially true for media and entertainment companies in segments such as publishing, broadcasting, music, and sports. The amount of content we now produce, stream, watch online or download to our devices is mind-blowing. Each day, 2.5 quintillion bytes of data are generated in the digital sphere.

For example, every minute in 2017, Spotify added 13 new songs, Wikipedia users published 600 new page edits, Instagram users posted 46,740 pictures, Netflix viewers streamed 69,444 hours of video, and YouTube users watched 4,146,600 videos. In the increasingly digitized era of growing connectivity, cloud data storage and cloud computing is arguably the only way to keep up with the times and competition.

Agility, flexibility and speed-to-market

Although the media and entertainment (M&E) sector has been one of the first to feel the disruptive power of digitalization, long-established media businesses keep many 'legacy' workflows. This is one of the reasons why these businesses have been slow to switch from traditional linear models of content delivery to OTT, streaming, and other direct-to-consumer offerings. Meanwhile, empowered by the rise of mobile devices and increasing connectivity, consumers have become more demanding, and digital audiences have become more fragmented. With that in mind, digital publishing, music, sports, and other media industries are investing in

technologies to help cultivate digital audiences while supporting agile, evolving business models. Cloud computing is right at the core of this colossal undertaking.

The main benefits of moving to cloud services versus keeping in-house infrastructure and traditional data centers are flexibility, scalability, and speed-to-market. In the cloud, businesses can configure their IT infrastructure to accommodate any workload and reconfigure quickly and efficiently when market demands change. Modern cloud systems are capable of maintaining almost infinitely scalable operations and infrastructure based on virtual machines, docker, or kubernetes, allowing companies to adjust resources on-demand, in real time, and benefit from the best speed-to-market capabilities.

How does this relate to media and entertainment companies?

The implications are profound on both the internal and customer-facing sides of the media business. On one hand, the M&E sector depends on the creative work of highly distributed teams, often involving individuals or vendors in different locations, sometimes all over the world. On the other hand, M&E companies also have to deal with growing demand for increasingly higher quality audio and video formats, live data streams and rapidly changing consumer demands, consequently facing frequent turnaround of complex projects and hosting many tens of petabytes of digital asset storage.

Cloud computing is helping media companies to significantly reduce storage costs, eliminate the need to move assets between locations and organize seamless internal and external workflows, complete with robust network security, data encryption, and access management. Additionally, all the segments of a media operation – production, distribution, finance and marketing, to name a few – can be enhanced with a wide selection of integrated tools such as email, social media, push notifications to the company app, and more.

Cloud leaders streamline innovation

With cloud computing, media companies in digital publishing, TV and filmed entertainment, music, sports, and other industries are developing new and better ways to deliver new services to market and better content to fine-tuned targeted consumers. Cloud market leaders are offering a whole suite of cutting-edge machine learning, AI and cognitive services that include native language processing, image recognition, computer vision and more.
For instance, Amazon Machine Learning services, Azure Machine Learning, Google Cloud AI, and IBM Watson are four leading cloud MLaaS services thatcover data pre-processing, model training, evaluation, and predictive analytics. With these capabilities, media companies can generate insights to drive audience segmentation, custom recommendations and personalized customer experience, which is crucial in the competitive media landscape.

What's next in the cloud?

There's no doubt that the cloud market has been in hypergrowth for some years. In 2014, Forrester expected the market to reach $191 billion by 2020. Recent figures by Gartner are even more optimistic as the market is projected to climb up to $206.2 billion in 2019, with half of global enterprises currently operating in the cloud going all-in on it by 2021.
Behind the scenes, cloud technology itself is evolving. With the rise of containers such as Docker and Kubernetes, developers can move their workloads between environments quicker and more efficiently and create new cloud-native applications that are based on microservices. Containers are also framework agnostic and faster to deploy than traditional virtual machines;

you can set up a container environment pretty much anywhere with minimal investment and a shallow learning curve.

Following the ongoing success of the containers, major cloud providers are taking it a step further, reengineering the public cloud to utilize a so-called serverless approach. The idea behind serverless computing is to fully automate server management and infrastructure maintenance by cloud service providers, releasing client developers for more meaningful work. In a nutshell, serverless computing, also known as Function-as-a-Service (FaaS), allows you to build and run applications without thinking about infrastructure at all, which leads to a dramatic increase in development speed.

Serverless technology is still relatively new, but its adoption rate is growing rapidly. For instance, a recent study titled "[The State of Modern Applications & DevSecOps in the Cloud](#)" by Sumo Logic indicates that AWS Lambda, the first serverless platform, has seen adoption rise to 29% in 2018, up from 24 percent in 2017 and just 12 percent in 2016.
Technology leaders such as Google, IBM, and Microsoft are all investing in the development of their serverless platforms as well. Looking further into the future, "[Predictions 2019: Cloud Computing](#)" report by [Forrester](#) stipulates that "serverless and event-driven services will form the foundation for modernizing core business apps for the next decade."

Are you ready for the cloud?

After working with media and entertainment companies for over a decade, I can say there is no universal decision on where to store data and run applications. The choice doesn't have to be either cloud or in-house; in some cases, the best solution is a combination of both (hybrid). However, there is no way to avoid cloud services moving forward, as they have become an integral part of software development. The challenge is to select the right vendors and services that will maximize the ROI from your cloud budget.

My advice is to look at various providers and identify a reliable technology partner that can help you choose the best fit. Don't be content with just one vendor; the notion of vendor lock-in is thoroughly outdated. According to RightScale's "[State of the Cloud Report](#)," 81% of enterprises have a multi-cloud strategy.
Public clouds are the easiest and fastest way to launch new applications instantaneously in a cost-effective manner. Many providers, such as AWS, offer a free tier that gives limited access to almost all services free of cost. For smaller companies or new experimental services, a free tier may cover all requirements, so launching the service might require close to no investment. On the other hand, migrating complex systems will require a more careful and fine-tuned approach. Don't try to take it all on at once. Remember, Netflix took six years to move to the cloud entirely!

Open source cloud frameworks and tools are abundant on the market and may in some instances prove an excellent alternative to the major providers. For example, the DataArt team once saved a media client thousands of dollars in infrastructure costs per month by migrating a part of their solution to Apache Spark.

Finally, modernizing your business to become cloud-native is about more than just technology. It means cultivating an agile mindset in all of your business strategies as well as in your employees and company culture.

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