

The Need for Speed Series

Part 1: In a Changing Media Landscape

We are living in the video era - the staggering statistics on video growth make that abundantly clear. According to Cisco's Visual Networking Index: Forecast and Methodology 2016–2021, video will make up 82 percent of all consumer internet traffic by 2021, an increase from 73 percent in 2016. To put this in perspective, "it would take an individual more than five million years to watch the amount of video that will be crossing global IP networks each month in 2021."

While viral cat videos and homemade YouTube tutorials will always be part of the mix, more and more of this mountain of video will consist of highly produced content created by the global media and entertainment industry. The explosive growth of Streaming Video on Demand (SVOD) services like Netflix, Amazon Video, and Hulu suggest as much.

This video era has also given rise to the "golden age of television," thanks to the proliferation of high-quality scripted dramas available to the video consumer. Linear television is no longer the only place (or even the main place) where people watch this content, but the major broadcast and cable networks remain key drivers in its creation and distribution.

A Decade of Change

In 1996, Bill Gates famously wrote, “We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten.” The changes in the media industry over the past ten years have been truly transformational, but it’s easy to lose sight of this fact when immersed in the industry day to day. It’s eye-opening to take a look in the rearview mirror and review just how far the business has come in the past decade.

Ten years ago, original scripted shows were consumed primarily via traditional television (broadcast, cable, and satellite). This content reappeared in secondary distribution channels such as hotels, planes and packaged media (DVD’s) in the home. But many of today’s popular video platforms were in their infancy (or didn’t even exist). Hulu launched in 2007, while Netflix, still in its “red envelope” DVD rental phase, added a streaming option for a limited selection of titles. Google bought one-year-old YouTube in 2006. At that time, YouTube was already delivering an average of 100 million video views per day. But most of this content was user-generated or pirated. M&E content providers who uploaded videos to YouTube were simply trying to drive consumers to the primary distribution channels.

While Apple launched the first iPhone in 2007, the first commercial phones running Google’s Android did not appear until the following year. And mobile video as a taken-for-granted part of daily life was still years away. As for Amazon Prime? In 2007, it was still just a customer program for receiving free shipping of physical goods. Social media was no different. Even though Facebook launched in 2004, it wasn’t available to the masses until 2006—the same year Twitter was born. And Instagram and Snapchat were only twinkles in the eyes of their founders.

Today’s Transformed Media Landscape

Fast forward to today, and we see a very different media landscape.

We now live in a world where far more video is being created than ever before, and for many different types of devices. As a result, Over the Top (OTT) content providers like Netflix and Amazon have grown considerably. TV-connected devices (which allow people to watch streaming video), mobile video, and video on social media have also exploded.

Some numbers from recent studies illustrate these trends:

- Netflix alone was responsible for 35 percent of all traffic on North American fixed (i.e., non-mobile) networks last year, according to Sandvine’s 2016 Global Internet Phenomena Report. YouTube accounted for 17 percent and Amazon Video for 4 percent.
- The NPD Group’s Q2 2017 Application & Convergence report found that 53 million U.S homes now stream video to their televisions using TV-connected devices (defined as streaming media players, video game consoles, Blu-ray Disc Players, and “smart” TVs connected to the Internet).

- Parks Associates 2017 OTT Video & TV Everywhere: Partners, Alternatives, and Competition report found that 53 percent of U.S. broadband households subscribe to both a pay TV service and at least one OTT video service.
- According to Cisco, mobile today accounts for 7 percent of all global IP data traffic and is projected to grow to 17 percent by 2021. In North America, according to Sandvine, 40 percent of this mobile downstream traffic is video, with YouTube accounting for half of it.
- The NPD Group's Q2 2017 Smartphone and Tablet Usage report, looking at smartphone usage on both fixed (i.e., Wi-Fi) and mobile networks in the U.S., found that streaming video consumption accounted for 78 percent of data consumption on smartphones. YouTube was identified as the dominant mobile video app, with Netflix a distant second.
- Ericsson's TV and Media 2017 report found that 70 percent of consumers now watch TV and other video on their smartphones, making up one fifth of their total video viewing in terms of hours per week watched.
- Social media is a big part of this mobile traffic, with Facebook properties (including Instagram) alone now accounting for almost a quarter of all mobile traffic in North America, according to Sandvine.
- Social media's recent embrace of video, especially live streaming, including live sports, is causing its share of video viewership to rise rapidly—both in terms of user generated content and professionally produced programming. Ericsson's Mobility Report 2016 estimates social media now accounts for 15 percent of all video traffic on mobile networks and is growing fast.

Current State of Play

This new media landscape for distributing video has created huge challenges—as well as opportunities—for the media and entertainment industry.

Ten years ago, the big technological transformations affecting the television supply chain were primarily the move to end-to-end file-based workflows and the migration to HD. Today both transitions are largely complete—from acquisition all the way through distribution.

But new changes keep coming, including the move to even larger sized file formats. HD is in the process of being supplanted by 4K video, with 8K not far behind. NHK in Japan recently announced plans to launch the world's first 8K channel next year. And a whole array of completely new video categories—360-degree video, VR, AR, MR, HDR, WCG—is entering the mainstream media industry.

Supporting new distribution platforms and adapting to new video formats are only part of the technological transformation story within M&E. For example, content producers and aggregators are increasingly looking to IP technology for data transport within their facilities. More broadly, the evolution of the cloud has had a massive impact on how media companies of all types operate today. Big data analytics and AI provide deeper insights into customers' viewing habits. And data security has become an important aspect of almost all technology decisions.

All these technological changes, combined with the ever more globalized content supply chains, have radically altered how media companies approach content creation and distribution—specifically the infrastructure and processes needed to support them.

What will the landscape look like a decade from now? We can follow the trends and make predictions, but only time will tell.

Part 2: Operational Speed – An Essential Element of Success

A decade ago, most large video content providers were deploying monolithic, complex, on-premises systems designed to process large amounts of media content targeted at a single distribution platform: typically traditional linear television. End-to-end file-based workflows were just becoming mainstream. Although the promise of eliminating the use of videotape was compelling, file-based infrastructure was far from a panacea.

Such systems required large financial investments (tens of millions of dollars for the largest). Due to their complexity, the systems typically needed many months, sometimes years, to fully implement. In addition, these systems...

- Required significant ongoing maintenance and management
- Frustrated users trying to learn the system
- Frequently relied on custom and often inflexible integrations between components from different vendors
- Accommodated peak anticipated future load, which resulted in costly low utilization

So long as the volume of content processed by these systems did not substantially change from the models on which they were based—and so long as the target platforms and associated deliverables, timelines, and process requirements remained largely unaltered—they worked great, for the most part.

Edge case demands could always be accommodated by building additional smaller one-off solutions, or maybe even by tweaking the workflows. Many such platforms are still in place today.

The problem?

These solutions are fundamentally ill-suited to meet the complex, fragmented demands of today's content providers and the radically transformed media landscape in which we all live.

So Where to From Here?

The cloud has enabled massive changes on the demand side of the media equation, but it has also enabled completely new approaches on the supply side.

As consumers embrace service models for accessing the content they want to watch, so too do M&E companies see significant advantages in buying technology as services that can be quickly spun up as required, and then taken back down again when no longer needed.

“Quickly” is the operative word. And that's exactly what these cloud-based services offer.

Faster deployment, simplicity, flexibility, pay-as-you-go OPEX economics, and scalability all make this an attractive model for an increasing number of use cases.

Such an approach can help businesses avoid the lost opportunity costs from building systems that take too long to deploy or that no longer support the workflows needed to rapidly process and distribute content.

The Digital Production Partnership (DPP) industry group summed up today's realities for M&E companies in their NAB 2017 The Need for Speed report: “There are strong creative, financial and operational arguments for the move to IP production and cloud services. But the most compelling reason of all may simply be that audience behaviors will now require any content provider to be able to turn on a dime.”

Turning on a Dime is the New Reality

With so much competition for the attention of consumers, video content increasingly needs to be produced using systems flexible and simple enough to support whatever new distribution platforms or markets gain audience traction. The ability of content companies to operate and adapt at speed has become key to survival and success in this consumer-driven and cloud-enabled media landscape.

Operational speed in this context covers a wide range of needs and capabilities. These include the ability to do the following, **at speed**:

- Accommodated peak anticipated future load, which resulted in costly low utilization
- Create, process, and deliver more content across multiple supply chains under tight deadlines.
- Purchase and deploy solutions for enabling fast creation and distribution of content.
- Maintain and manage critical infrastructure for evolving content workflows.
- Leverage cloud storage and other services where appropriate, but also support on-premises tools and infrastructure.
- Easily onboard and train users on tools for content creation and management.
- Support new use cases and global workflows.
- Scale out systems to meet peak demand and scale them back again as demand drops.
- Adapt to new content formats, markets, and distribution platforms as these emerge.
- Support the seamless addition of new customers, partners, suppliers, projects, and locations as needed.
- Take advantage of automation where applicable.

Collectively, such capabilities provide media businesses with the speed and flexibility they need to rapidly deliver on existing content commitments, as well as pursue new opportunities.

If less time, effort, and money can be devoted to building and operating the systems needed for creating and distributing content, those resources can be used instead to create more and better content—and to take advantage of all the new advances in technology and changes in consumer behavior.

Part 3: Media Shuttle – Signiant’s Answer to Today’s Need for Speed

Speed is in Signiant’s DNA. Our proprietary [file transfer acceleration technology](#)—capable of moving files up to 200 times faster than TCP-based alternatives (such as FTP and HTTP)—is at the core of our on-premises and SaaS solutions. Signiant software helps most of the world’s top content creators and distributors ensure fast and secure delivery of large files over public and private IP networks.

[Media Shuttle](#)—our cloud-native SaaS solution for quickly and securely transferring any size file anywhere in the world—is the fastest, easiest, and most reliable way for users to send and share large files. Used by hundreds of thousands of media professionals around the world, and by businesses large and small, Media Shuttle is the de facto standard for person-initiated transfer of large files.

Every month, Media Shuttle customers collectively move the equivalent of half a million one-hour shows in HD from Netflix. We’re talking over 1.5 petabytes of data.

Accelerated file transfers is only part of Media Shuttle’s appeal to customers. Designed from the ground up to easily deploy, maintain, and use, the solution supports the need for operational speed in the following ways:

- **Speed of file delivery.** Signiant’s file acceleration technology, relative to TCP-based mechanisms, moves files even faster as file sizes, distances, and bandwidth all increase (check out our [File Transfer Calculator](#) to see how much faster). So no matter how large your files, how far you are sending them, or over what type of network, Media Shuttle will always provide quicker delivery.
- **Speed of provisioning.** As a subscription-based SaaS solution, Media Shuttle is quick and easy to buy. Deployment is just as simple. Most customers are up and running within days after purchase. The web-based user interfaces, file transfer logistics, client updates, usage data collection, and email notifications are always delivered as a SaaS from servers hosted and managed by Signiant in the cloud.
- **Speed of updates.** As a multi-tenant cloud-native solution, updates for most of the software components are automated and applied centrally and transparently for all customers with no downtime needed. Customers always have the latest release of the software.
- **Speed of management.** Managing Media Shuttle is simple, thanks to its [role-based access](#) model in which technical staff are able to delegate administration of non-technical aspects of the web-based portals to media operations and project managers. This removes operational bottlenecks by avoiding the need to involve busy technical staff in tasks such as branding portals, adding users, or changing access rights.

- **Speed to the cloud.** Media Shuttle customers are always able to rapidly take advantage of cloud storage and services where appropriate, or keep content on-premises when not. [Storage “independence”](#)—the freedom to use the most appropriate storage for content—is a key principle within Media Shuttle. Not only can customers choose between on-premises or cloud storage (Amazon Web Service S3 and Azure Blob storage currently supported), they are also free to choose different types of storage for different portals, all within a single subscription. Switching between storage types—including between cloud platforms—is as simple as reconfiguring where the individual portals “point to” for the content.
- **Speed to end-user adoption.** Ease of use is crucial to achieving operational speed. We’ve designed Media Shuttle’s intuitive web-based interfaces to keep complexity to a minimum. The drag-and-drop operations and clutter free layout make it so easy that most new users never require any training at all. Within minutes, they can simply start sending, sharing, and receiving files using Media Shuttle’s built-in acceleration to speed delivery.
- **Speed to adapt to changing workflows.** New format and content types, new tools, new distribution platforms, and new partners or customers inevitably lead to requirements for changed or completely new media workflows. With legacy fixed systems, such changes—even seemingly trivial ones—could create major challenges for the technical teams and vendors responsible for supporting the new requirements.
- With Media Shuttle, incorporating new or changed workflows is simple, thanks to [three different types of web portals](#). Each portal type presents end users with a slightly different web interface optimized to support the standard modalities by which businesses need to move their content between people:
 - Send portals allow for the rapid sending of files between people.
 - Share portals make it easy for multiple users to upload and download files within designated folders.
 - Submit portals provide an onramp for users to submit files into automated workflows.
- Collectively, the three portal types can support virtually any standard media use case, including project collaboration, review and approval, delivery of assets along a process or supply chain, content aggregation, distribution of the same content to multiple end points, exchange of new work orders, and finished deliverables between customers and service providers.
- **Speed to scale.** One of the biggest challenges with many legacy on-premises systems is scalability. For this reason, many media businesses built out their core infrastructure, often at great expense, so that it was large enough to support peak anticipated future load. However, this frequently resulted in costly low utilization. Cloud services address scaling issues and underutilization.

As a multi-tenant cloud-native SaaS solution, Media Shuttle fully leverages the elasticity of public cloud platforms. Customers can instantly add users anywhere in the world, and for cloud storage deployments the cloud VMs and associated software are provided by Signiant on an auto-scaling basis. Even very rapid changes in data load can be seamlessly supported by automatically spinning up more cloud resources as load increases, and then releasing them as soon as demand drops.

For customers with portals using on-premises storage, there is the option, at no extra charge, to download and install additional server instances attached to their storage to handle higher volume of transfers.

- **Speed to expanding solution reach.** Once operational staff has been given administrative control over a particular portal, they can easily add and remove users while assigning appropriate access. Signiant sells subscriptions as floating licenses based on the number of “active users” (defined as someone who sends at least one file, or receives three or more files, in a given month). So portals can have as many members as the customer wants, and the simplest way to expand access to content is to add more users to a portal.
- But media businesses often need to send, receive, or exchange specific subsets of content with other businesses, partners, customers, or suppliers. For these situations, it’s often better to have dedicated portals used only for these projects or relationships. Media Shuttle makes it quick and easy to create additional portals that are accessible only to the parties involved in the exchange of that specific content. Moreover, portals can be branded with customer or project-related images and logos. Customizing the look and feel of portals is just as fast and requires no technical expertise. As part of the base subscription, customers can create as many portals (of all types) as they want.
- A final way in which Media Shuttle supports rapid expansion of reach is by enabling customers to add new storage locations—whether in the cloud or in remote offices in other parts of the world. To do this, all the customer needs to do is add a new cloud tenancy and configure Media Shuttle to use that for one or more new portals. If using on-premises storage, the customer simply needs to download and install additional Media Shuttle software on a server adjacent to that storage. Again, the process is quick and easy, and there are no extra charges.
- **Speed through automation.** Reducing labor-intensive tasks through automation has become a key method to increasing operational speed and lowering costs. Media Shuttle offers advanced capabilities to help automate repetitive tasks:
 - **Auto Delivery** enables users to configure specific folders for unattended upload or download, thereby eliminating the need to manually check for new content or streamlining distribution of the same content to multiple partners.
 - **CloudSpeX** validates file format compliance prior to delivery, thereby lowering rejection rates associated with the receipt of improperly formatted files or incorrect file types. CloudSpeX matches file types and metadata against a cloud-based directory of published specifications to ensure that digital assets comply with customer-defined delivery format requirements. This patented technology saves significant time and resources and helps to manage the volume and complexity of today’s multiplatform delivery specifications.

- **Metadata entry** allows end users to populate predefined fields with information describing the file they are about to share. The experience is fully customizable, offering system administrators the ability to define fields for any parameter to ensure that all of the necessary information is captured. The metadata remains associated with the file, making it easy for a person or process to take action upon receipt.
- **SAML-based web SSO** enables enterprises to easily and securely onboard and manage large numbers of users. Enabling the use of a corporate directory for user authentication has benefits for both administrators and end users. Administrators can easily provision large user groups, and individual employees can simply log into Media Shuttle with their corporate account credentials.
- **Media Shuttle provides two APIs** for customers who want to implement automated computer control of certain Media Shuttle functions. The administration API enables automation of repetitive tasks like portal creation, storage assignment, and user creation. A second API for 'system to person' automation enables the creation of simple, automated 'click here to download' workflows from their in-house and commercial DAM and MAM systems.

“Turn on a Dime” with Media Shuttle

Speed takes many forms. At Signiant, our ability to accelerate the transfer of large files over IP networks is core to all our products. But for our M&E customers, the ability to “turn on a dime” covers many other aspects of their overall media operations. Speed, in all its aspects, is always on our minds as we innovate and enhance our products so that they address as many of these needs for operational speed as possible.

ABOUT SIGNIANT



Signiant is changing the way businesses move large, high-value digital assets around the world and into the cloud. Their on-premises software products were originally adopted by Media & Entertainment enterprises, pioneers in the electronic transport of large files. Over the last decade, Signiant has embraced cloud technology to create next-generation SaaS file transfer and cloud upload solutions with scalable, reliable, cost effective, and easy to deploy capabilities.

Today, Media & Entertainment are no longer alone in the need to move massive files, and Signiant's rapidly growing customer base includes companies with digital assets ranging from satellite imagery and big data analytics to genome sequences and biotech research. Signiant's technologies work for every size company to provide: accelerated file delivery up to 200 times faster than standard internet transfers; enterprise-class security along with full visibility and control of transfers and storage; and simple user-friendly tools. **Find out more at www.signiant.com.**