Managing Content Distribution Workflow in a Time of Flux

Content originators and owners increasingly find their content distribution workflows being siloed as they prepare content for a diverse array of delivery platforms.

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The supply chain for television programs and movies is experiencing intense strain as the number of ways and places consumers access content skyrockets.

By Phil Kurz

Every time a content originator or owner signs a new distribution deal, they must reprocess their libraries for a new endpoint," says Telestream Marketing Director Ken Haren. "Unfortunately, these organizations aren't allocating additional resources to meet this burgeoning demand."

A few facts help to underscore the magnitude of the problem. Consider Apple iTunes, which as of January 2017 offered some 25,000 TV shows and 65,000 movies for sale or rent for a variety of devices, according to company stats revealed at an Apple keynote.

Or consider Netflix, the biggest streaming subscription video-on-demand (SVOD) service worldwide. As of 2018, Netflix offered its US customers nearly 5,600 TV shows and movies, says Netflix search engine Flixable, with availability on devices ranging from 4K/UHD smart TVs to smartphones.

Multichannel video programming distributors (MVPDs), like cable TV and IPTV providers, also offer VOD services. According to ratings service Nielsen, nearly 75 million US consumers in 2018 could access VOD content from their MVPDs, which commonly have vastly different content requirements for ad and promo insertion, ad skipping, and many other criteria.

Even content destined for international distribution must be localized to conform to a wide range of requirements specific to each locale.

For organizations that originate content, all of this results in stretched staffs and resources, an unwieldy collection of solutions and services to satisfy the panoply of distribution requirements, and internal siloed workflows dedicated to prepping and delivering content for each distribution platform.

"Content owners and originators are getting tasked with these crazy and frequent bursts of activity [to reprocess their content catalogs for new distributors]," says Haren. "They must

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Director of Marketing, Telestream

Telestream Meets the Distribution Challenge

Telestream traditionally has been heavily involved in production workflows, offering solutions from ingest to archive, playout, and overall interoperability for broadcasters, post houses, and traditional M&E businesses, says Ken Haren, the company's director of marketing.

Similarly, it has developed an important presence in IT for media, deploying solutions that network providers and pay TV operators use to monitor and measure transport stream and adaptive bit-rate streaming parameters.

"We're really big on the monitoring side," he says. "We have great transcoding solutions; we have very good live streaming encoding solutions, awesome workflow capabilities, and tons of ecosystem integrations to enable teams that produce assets," says Haren.

However, the company's robust portfolio of solutions addressing the complexities of content preparation and supply chain management for content distribution across a diverse range of platforms is less recognized. These Telestream offerings meet the diverse requirements of valued partners, including direct-to-consumer and OTT providers, cable syndication, digital distribution platforms, electronic sell-through websites, and international markets, Haren says.

These Telestream solutions offer a way forward for content owners and originators to realize dramatically more efficient content prep and supply chain management workflows, he says, by collapsing the existing silos that have organically arisen to fulfill a seemingly endless torrent of new distribution agreements.

"Our services and solutions constitute an entire end-to-end supply chain for all of the endpoints content owners must reach," says Haren. "Telestream addresses the entire gamut of distribution, supporting comprehensive ecosystem of preparing content for different distribution partners."

grapple with unpredictable workloads that are very hard to manage through the supply chain."

DIFFERENT STROKES

While the content distributed via these various platforms is the same, the requirements for each platform—things like adaptive bit rate (ABR) optimized for specific devices, dynamic ad insertion, closed captioning, sidecar content, supported video and loudness standards, and many other specifications—are not.

As a result, organizations frequently set up workflows for each distribution destination. Many are reluctant to change the approach they've already adopted because the turnaround times given to staff to prep content and manage it throughout the supply chain are collapsing.

"There is this mindset that, 'I have to get to this endpoint. What are the technologies and services I can use to do that?'" explains Haren. "And then, 'Now I have that problem solved. Move on to the next.'"

"What happens," says Haren, "is they have a different set of technology partners and a different set of services they end up using for different content distributors. So then there is a third set and a fourth set."

A closer look at what these distributors demand reveals why resource-strapped content originators are reluctant to rock the boat—even if it means living with multiple siloed workflows, Haren adds.

For example, in order to deliver content for direct-to-consumer/OTT distribution, content owners need to know all of the different devices supported so they can deliver the ABR variants that will render best on each. Then, each ABR variant must be conditioned to support branding, promotion, and advertising requirements. Workflows must be able to identify and propagate program boundaries for ad insertions, regional viewing policies, and other factors.

Content owners also may desire to use CMAF/CENC (Common Media Application Format /MPEG Common Encryption) encryption and a just-in-time packaging (JITP) solution to make decisions about how best to package and wrap a digital rights management (DRM) structure around media to be played back on any given device.

The ability to monitor and measure the Quality of Experience (QoE) customers are having as they stream content to their devices complicates matters still further.

"For the first time as a programmer, I'm sending content directly to my audience, not through a third party," explains Haren.

While these organizations don't own the bandwidth or any of the other infrastructure to reach customers like a cable company can, they do have a direct relationship with customers that's not unlike the consumer-cable company relationship, explains Haren. "Therefore, it's incumbent upon them to measure, analyze, and take action off the total viewer quality of experience," he says.

Direct-to-consumer/OTT distribution, however, is by no means the only form of distribution with many and varied requirements, says Haren.

When it comes to cable syndication, content owners and originators must contend with a whole new set of requirements, which can vary widely from those of cable systems, he explains.

For example, some cable operators have deployed sophisticated VOD platforms, while others have much more rudimentary deployments. Some VOD platforms enable dynamic ad insertion (DAI), and others require program delivery with ad content and promos already baked in.

"One cable company might say: 'I need 30 seconds of slate at the beginning, followed by two seconds of black, followed by the content, and if you have ad breaks, I need a minimum of two seconds of black inserted for every ad break.'

Another company may say, 'I don't want any slate; I want this or that,' and have different requirements for how the content needs to be trimmed, composited, and decorated," says Haren.

Accommodating different ad loads based, for example, on whether content will be viewed within the Nielsen C3 accreditation window, is another factor that will vary not only from one system to the next but also within content prepared for the same cable operator based on when VOD content is being accessed by viewers.

KEY TAKEAWAYS:

1. Workflows deployed to prepare and manage content distribution typically are siloed to address the needs of different distributors, creating operational inefficiencies for content originators and owners.
2. While new distribution agreements enhance the revenue of content owners and originators, there hasn't been a corresponding allocation of resources to fulfill these agreements.
3. A new approach to content prep and supply chain management workflow is needed so organizations can continue to meet the demands of newly signed distribution deals.
4. Breaking down existing siloed workflows will enable organizations to address commonalities across distribution platforms enabling content owners to maximize the efficiency of their personnel.
5. Organizations that leverage cloud-based solutions can scale painlessly to bursts in content prep activity.

Regardless of the specifics, however, a content prep workflow that supports Nielsen watermarking is essential, as is one that can recognize whether content is a C3 asset linked with a Nielsen watermark. This workflow must be able to determine whether there also needs to be a clean version of the content without the national ads that originally aired with the program and know that the content is destined for a specific cable syndicator so it can get wrapped in the correct dynamic ad insertion package.

This workflow must also be able to inform the syndicator that the content should reside on the VOD system for a certain period of time and instruct the operator to remove the content from the VOD system upon expiration, Haren adds.

DIGITAL AND INTERNATIONAL DISTRIBUTION

Distributors like Google Play Store, Amazon Prime, and Apple iTunes give content owners and originators yet another avenue to distribute their TV programs, movies, and videos.

However, like the cable syndicators and direct-to-consumer/OTT, these venues for digital distribution and electronic sell-through also have their own sets of unique requirements.

Workflows needed to prep content for these distributors should support advanced mezzanine formats like IMF, which provides for much richer contextualization of assets and makes it much easier to create and manage multiple versions of the same content, as well as content compliance/QC reporting and delivery of a variety of sidecar content.

"They can also provide audio files for dialog in different languages, report audio normalization, and convey subtitles and even metadata that describe the package and how it was created," says Haren.

Working with international distributors creates yet another set of demands, most of which revolve around localizing programs and movies.

On the most fundamental level, content bound for international distribution must conform to the TV standard used where the content will be distributed. Beyond that, it must abide by local standards for everything from loudness to high or standard dynamic range (HDR or SDR) and the right color space.

Still other local content requirements are put in place to conform with regulatory requirements, such as rules covering flashing video that are aimed at preventing epileptic seizures.

Some international distributors even require that branding be removed. "Increasingly, content is no longer simply a regional production," says Haren.

"It's international in scope, the product of a collaboration between different international producers," he says. "Depending on where the content came from and is going to, managing branding to remove it for different countries may be necessary."

FADE TO BLACK

While the siloes that have sprung up to manage and prep content for different distribution platforms are meeting today's workloads, it's hard to see how this approach can continue to meet the needs of content owners and originators.

Each new distribution deal creates greater demands on workflows that are already at the breaking point. However, there is a solution on the horizon that can dramatically improve efficiencies and position staffs to succeed going forward, says Haren.

"What's happening is that these siloes are in the process of collapsing," he says. Despite all of the unique demands that each distribution platform places on content owners and originators, there are smart workflow solutions that are built to solve the unique challenges of each distribution strategy and adapt to meet those challenges programmatically.

For example, instructions can be encoded into a context-aware, shared workflow identifying the unique compositing, branding, and assembly rules a program and endpoint require. Such a workflow can also reduce the operational overhead required to meet the delivery schedules across all distribution strategies.

Context-aware workflows can assemble, conform, validate, and finish video deliverables to reduce a matrix of potential outcomes to the specific combination required for a given program and target destination. Codifying things like video encoding settings, standards conversions options, rights management, windowing rules, content assembly instructions, graphics and branding elements, subtitle/caption requirements, and video QC and compliance reports into a workflow that can generate compliant deliverables programmatically is now doable.

In other words, rather than reinventing the wheel as new distribution agreements are inked, it's possible to leverage content-aware workflows that can collapse the requirements of the siloed media delivery paths that exist today. These new workflows scale resources to meet the burgeoning demands placed upon those responsible for prepping content, says Haren.

"And in the process of breaking down those silos ensure that the unified workflow processing centers can seamlessly leverage on-premise and cloud-provisioned resources to the greatest degree possible, dynamically scaling in/out to handle bursts of activity instantly and on demand," says Haren.

"A video distribution supply chain that's flexible enough to consolidate all delivery projects into a common processing center and that automatically scales capacity on demand while also seamlessly following the content libraries as they migrate between on-premise, private, and public cloud repositories," says Haren, "is exactly what the marketplace is asking for and what Telestream delivers."

ABOUT TELESTREAM

Telestream provides world-class live and on-demand digital video tools, workflow solutions and quality monitoring capabilities that allow consumers and businesses to transform video on the desktop and across the enterprise. Many of the world's most demanding media and entertainment companies, and service providers, as well as a growing number of users in a broad range of business environments, rely on Telestream products to streamline operations, reach broader audiences, generate more revenue from and ensure the quality of their media. Telestream products span the entire digital media lifecycle, including video capture and ingest; live and on-demand encoding and transcoding; captioning; playback and inspection, delivery, and live streaming; automation and orchestration; with its iQ product line, Telestream enables the monitoring and management of quality service and experience over any network.

Telestream corporate headquarters are located in Nevada City, California. The company is privately held. For company and product information, visit **www.telestream.net.**

ABOUT THE AUTHOR

Phil Kurz is a contributing editor for TV Technology. Over his 30-plus year career covering the broadcast and non-broadcast video industry, he has served as editor of three magazines as well as multiple niche e-newsletters. In that time, Kurz has written more than a thousand articles, columns and editorials on technology-related topics.

More information on Telestream's Distribution Solutions is available at **www.telestream.net/distribution**

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