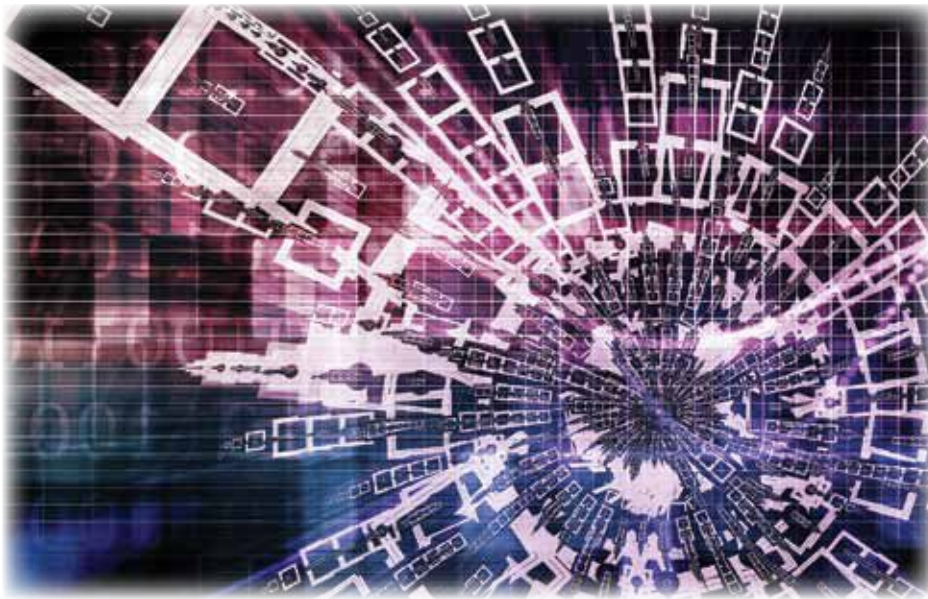


The New Economics of International Content Distribution

File-based content delivery systems are the only way to respond to today's demand for speed and cost efficiency in our dynamic, international media world.

By Rick Clarkson, VP of Product Management, Signiant



Out of these complexities is emerging a single, golden truth: traditional tape-based methods of content distribution simply can't cut it in our increasingly digital, file-based, multi-platform and multiformat, and highly dynamic world. In this article, we'll take a look at the economic realities of today's international content distribution – including all the ways in which the tried-and-true processes of shipping physical media can bog down the operation and drive up costs.

Collapsing distribution windows and costly delays

Throughout the content lifecycle, a title will be distributed and redistributed many times through many different international channels – including the initial international theatrical release, and then later to mobile and IPTV content providers as well as domestic primary syndication to outlets such as hotels

and in-flight entertainment services, and then down the road for home release, video on demand, and fee-based content services such as iTunes, Netflix, and Hulu. Eventually, the movie will be released for linear broadcast and archiving to video libraries.

Each of these channels require distributors to go to market as quickly as possible and distribute all necessary formats and languages within a select and finite period. The value of such content is at its highest in the initial 24 to 72 hours after the premier, and it diminishes quickly over time – therefore, any delays in getting the movie out to all possible audiences will result in lost revenue and diminished profits.

In the face of these severe time constraints, consider that the average time to deliver a tape, from dub to ingest, is 24 to 48 hours (and that's if the tape isn't hung up in customs), whereas a file can be delivered electronically in no more than a few hours – and sometimes just minutes. In addition to lost revenues and increased piracy risk from missed windows are costly delays in production and post production.

Hard costs of tape distribution

Time-to-market considerations aside, the hard costs of physical media are an enormous motivator to adopt a file-based distribution system. Industry studies show that the average total cost of delivery of a tape or hard disk is \$200 with a range from \$100 to \$800 – covering duplication, shipping, tracking and delivery, and ingest. Of course, international shipments and the use of courier services can cost significantly

One customer realized complete ROI in just a month.

more. And if the tape turns out to be a bad dub, or is otherwise damaged in some way, the distributor is not only looking at a potential missed deadline but up to \$800 to replace and re-ship the tape. The costs can be mind-boggling for a large international distributor that ships many thousands of tapes (as case in point, one customer was formerly shipping more than 65,000 tapes each year to its 564 international licensing partners).

Another important cost factor for each international shipment to Europe is the value-added tax (VAT). The VAT for a single \$20 Digi BetaCam tape is 20 percent of the tape stock value, or \$4 – not an insignificant amount when you’re shipping thousands of tapes. But add in the VAT that’s now being charged on the “intellectual content” of the shipment, currently 20 percent of the estimated revenue to be generated by the title. For content with revenue potential of \$100,000, the VAT is \$20,000.

One customer is a global content distributor that was sending 150,000 tapes every year to 100 locations, to the tune of more than \$13 million in total annual costs associated with tape movement. With a gradual phase-out of tape, the company expects to reap savings of more than \$15 million over the next three years – which means it will recoup its investment in Signiant software, hardware, maintenance and implementation, and bandwidth costs in only four months.

Another customer, a large and well-known music television channel, was spending so much money on FedEx tape shipments between New York and Miami that it purchased its own fleet of panel trucks to handle the deliveries. Although this strategy yielded marginal cost savings, the company was still spending \$284,000 per month to ferry 16,000 tapes between the two locations – a figure that added \$44,000 in transportation costs to the \$240,000 cost of the tapes (Figure 1). By installing Signiant for electronic content distribution management, the company has wiped these costs away – realizing a complete return on its investment in the new technology in just over a month.

The high cost of manual processes

Not only are manual processes expensive, but they don’t scale – and they present too many opportunities for errors that can result in even costlier delays and missed deadlines. These costs will only continue to multiply with the addition of more distribution outlets, more flavors of content formats, and the growing complexity of the creative process – with such factors as increasingly detailed special effects driving the need for more processing of the content.

By adopting file-based workflows that automate many manual processing tasks, media companies are able to scale their business while controlling costs – thereby making more efficient use of their current labor pool and building the basis for a highly productive “content factory.” One large cable entertainment network documented five key points in its workflow in which removal of tape-based manual processes would deliver value. First is the delivery of dailies from New York to Los Angeles for editing into promos, followed by numerous tape exchanges between the headquarters and a secondary site for editing and QC as well as tagging and playout of the promos on the network. Third, the content is manually transcoded to different formats and dubbed onto more tape for distribution to points four and five, which include other outlets for cross channel promotion and then digital syndication to other services such as Hulu.

By moving away from tape and to a file-based content distribution system, this network will be able to realize significant value across all five points – amounting to an estimated annual savings of more than a million dollars (See figure 2 on next page).



For over 20 years, Rick’s strategic vision and customer focus has enabled him to bring innovative products to market. As the Vice President of Product Management, Rick is responsible for driving development of Signiant’s market-leading products in the Media and Entertainment industry. Prior to joining Signiant, he was one of the visionaries behind the surveillance and Physical Security Information Management (PSIM) software platform at VidSys.

| Investment: Content Distribution Management | |
|---|------------------|
| Bandwidth (155Mb/s x2) | \$20,000/ Month |
| Hardware | \$12,000 |
| Software / Maintenance Yr1 | \$100,000 |
| Implementation | \$50,000 |
| Total Fixed Investment | \$162,000 |

| Marginal Cost Savings Physical Media Shipment | |
|---|------------------|
| Tapes Shipped Per Month between 2 locations | 16,000 |
| Truck Trips / Month | 16 |
| Cost Per Month Trucks | \$44,000 |
| Cost Per Month Tapes | \$240,000 |
| Total Cost Per Month | \$284,000 |

| Payback Period | |
|--|-------------------|
| Marginal Cost Savings Monthly – Physical Media Shipments | \$284,000 |
| Increment Month Expenses Bandwidth | \$20,000 |
| Monthly Savings | \$264,000 |
| Fixed Investment | \$162,000 |
| Payback Period | 0.6 Months |

Figure 1: Here is the math for a large and well-known music television channel that was spending almost \$300,000 per month on tape shipments between New York and Miami. With an investment of \$162,000 they ended up saving \$264,000 per month.

CONTENT DELIVERY

| Value Points | | | | |
|---|--------------------------------|---|---|--|
| | Process | Current | Savings Opportunity (Annually) | Implementation |
| 1 | Digital Dailies | \$480,000 (96 Episodes Annually at \$5000 per Episode) | \$240,000 | File Based Content Transfer between Post and "site1" |
| 2 | Promo Editing Play-Out Process | \$1,200,000 (8,000 tapes moved annually @ \$150 / tape) | \$900,000 | File Based Content Transfer between "site1" and "site2" plus automated workflows |
| 3 | Transcoding Operations | \$50,000 (12 hours per week) | \$45,000 | Implement automated workflows to reduce transcoding costs |
| 4 | Cross Channel Promotion | \$400,000 (2000 tapes moved annually @ \$200 / tape) | To Be Determined but could be up to \$300,000 | File Based Content Delivery |
| 5 | Digital Syndication | Various Process to Transcode, Package and Deliver Content to Syndication Partners | To Be Determined - further analysis needed | Standard Automated Transcoding, Packaging and Delivery of Files |
| Saving Opportunities for Value Points 1-3 | | | \$1,185,000 | |

Figure 2: By adopting file-based workflows across all five points while using an electronic content distribution system, media companies are able to scale their business while controlling costs. In this case the resulting savings was over a \$1 million per year.

Environmental considerations

At every step in its life, a videotape is an ecological nightmare – from the energy consumed and the pollution and waste material produced during its manufacture and packaging, and the energy used and carbon emitted for its shipping and delivery to the end user, to the energy required to run tape machines and the heavy metal pollution generated by tape heads running across the metal oxide tape. On the distribution side is all of the energy required to fuel boats, planes, and trucks in shipping (and the resulting carbon emissions), the packaging waste produced, and then more heavy metal pollution created with the tapes are ingested on the receiving end.

Consider a media company that ships 130K tapes every year. If you were to stack those tapes one atop the other, you'd have a tower more than 10,000 feet tall. That's a staggering amount of plastic destined for the landfill at the end of its useful life.

What about satellite delivery?

As an alternative to physical media, some media companies are using satellite links for global content distribution. Without a doubt, satellite is a superb means of transmitting a signal such as a live broadcast to large numbers of media outlets, but the costs for a 1:1 file transfer are up to 100 times more than a terrestrial content distribution system like Signiant's. These costs are on the rise with the proliferation of bandwidth-hungry signals like HD and 3D, and the greater numbers of distribution outlets.

One customer is delivering 15 GB of movie content every day via satellite to 1,000 business subscribers at an annual cost of almost \$3 million just for transmission – with teleport costs and remote site maintenance adding another \$653,000. As this company moves to HD distribution, these costs are expected to at least double. With a digital content distribution, the company expects to reduce those costs by two thirds.

Electronic content distribution: bandwidth considerations

As we've seen, the industry is increasingly being shaped by ever more varied – and larger – file formats such as 1080p 50/60, and 3D. Demand for these large formats puts great strain on the content supply chain, since globally moving files that are two to 10 times the size of SD is no easy task using today's networks.

Therefore, once a media organization makes the commitment to adopt file-based workflows, the ability to move extremely large files quickly, reliably, efficiently, and securely over a wide-area network becomes a mission-critical requirement. It's a tall order for a conventional open internet delivery mechanism like TCP, which delivers bandwidth efficiency of only 10 percent across a long distance. That means a 100 meg per second link is only capable of delivering 10 meg per second throughput, a severe performance hit – in fact, it might actually be faster to ship the content on tape! All of this translates into real economic impact through overpayment for bandwidth, lost productivity, and costly delays in delivering content.

WAN acceleration can deliver an immediate ROI through reductions in monthly bandwidth costs, increased productivity, and speedier content delivery. As a properly conceived solution for internal content supply chain management, the Signiant system uses accelerated content transport techniques to move files up to 1TB over the public Internet with unparalleled bandwidth efficiency. With the same 100 meg per second link, an acceleration protocol can fill the pipe and deliver up to 95 megs per second in throughput. In other words, that large content package that might have taken up to 12 hours to deliver now takes under an hour.

The digital difference

In conclusion, a digital content supply chain management system is the ideal antidote to the exorbitant costs, delays, and inefficient manual processes of physical media for international content distribution and digital syndication. Not only is electronic distribution ten times less expensive than tape and 80 times less expensive than satellite transmissions, but enterprises can expect at least 50 percent greater productivity through process automation. Plus, WAN acceleration guarantees a 90 percent increase in network bandwidth efficiency with speeds up to 200 times faster than a conventional TCP network. As the basis for the new digital media business, this is the ideal platform to enable today's billion-dollar digital and international media enterprises. ■