

QUBE CINEMA TAKES MOVIES FROM STAGE TO SCREEN FASTER ON AWS

Bringing Movies to Market Quicker via Digital File Delivery

Qube Cinema, Inc is a provider of end-to-end digital cinema technology and solutions. Among its extensive product portfolio is a self-service, single-window system for global theatrical distribution called Qube Wire. Built on Amazon Web Services (AWS), Qube Wire is used to send movie files via electronic transfer from distributors to theaters in 133 countries.

Enabling Global Day-and-Date Releases in as Little as 12 Hours

In the past five years, day-and-date releases—wherein globally coordinated movie releases occur on the same day—have become a standard for Hollywood studios. This has succeeded in combatting piracy as movies are legitimately available in foreign markets at the same time as Hollywood, thus reducing the incentive and demand for pirated versions online.

Based in India, Qube has its roots in the domestic film industry. The company was the first among its peers to enable global day-and-date capabilities for producers in India, so audiences abroad could enjoy same-day Bollywood releases. After achieving dominance in the Indian industry, Qube expanded to Hollywood, where it now serves most major film distributors.

Hard drive delivery takes an average of two days, often longer with multiple stops needed to reach theaters



Compared to the prior industry standard of digital media content saved on secure hard drives and delivered by mail to theaters, Qube Wire substantially reduces the time and logistical complexity of releasing movies to theater chain partners. Electronic transfer via Qube Wire on AWS also saves costs, simplifies the transfer process, and reduces the carbon footprint for transporting digital movie files.

Day-and-date releases previously required physical infrastructure in multiple countries and the involvement of numerous middlemen, including delivery drivers and shipping personnel. But Qube Wire has changed that with AWS. “Using AWS has made global day-and-date releases a lot more affordable with a lot less infrastructure,” says Mark Waterston, senior vice president at Qube Wire.

in smaller markets. Planning deliveries is also more challenging when dealing with various shipping intermediaries and their unpredictable schedules. But with Qube Wire, movies can ship direct from distributors to theaters in as little as 12 hours. “By connecting theaters to AWS, we can deliver movie files directly to customers globally and avoid regional shipping hubs or hops. This has been invaluable to our customers as they take advantage of

increasingly shorter delivery timelines,” Waterston says.

Saving the Environment While Preserving Film Quality

The positive impact on the environment is huge, as electronic file transfer eliminates the carbon emissions generated in the delivery of hard drives via airplanes and road vehicles. Many theaters still opt to receive films via hard drives, but even in that scenario Qube can send electronic files over Qube Wire to a local agent, shortening the distance to deliver the drives.

Theaters no longer have to store bulky hard disks, and there’s a corresponding reduction in non-biodegradable waste—a topic that has garnered substantial discussion and criticism in the film industry in recent years. Theaters receiving electronic movie files directly also save at least 1–2 hours of work per film, as their employees don’t need to receive, load, and transfer hard drives onto local servers. Less human interaction leads to fewer errors during processing, less risk of file corruption, and little to no risk of files going missing during transfers or shipping.

Cutting Costs by 80% with Archival on AWS

Qube benefits from a substantial decrease in cost for storing and archiving films on AWS. Movies are large digital assets with average file sizes of around 150 GB. Considering that most movies are archived for dozens of years, if not forever, the industry has immense storage requirements. To keep costs down while satisfying long-term storage needs, Qube is using Amazon Simple Storage Service (Amazon S3) Glacier and Amazon S3 Glacier Deep Archive. These services offer fast file retrieval options for efficient access to current movies or those archived in years past.

After a movie is uploaded to

Qube Wire, it stays in Amazon S3 for 45 days. This covers the initial delivery period and ensures content is readily available if it needs to be resent or sent to new locations added later in a movie’s release cycle. Then, the film is transitioned to Amazon S3 Glacier for archival. With Amazon S3 Glacier and Amazon S3 Glacier Deep Archive, Qube saves 80 percent in storage costs. The company currently stores 2.4 PB of files in Amazon S3 Glacier Deep Archive and 107 TB in Amazon S3

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Mark Waterston
Senior Vice President, Qube Wire

Glacier. For each file sent end-to-end electronically, Qube saves about \$125 on the physical hard drive and protective packaging in addition to shipping costs.

“Amazon S3 Lifecycle policies transition content from Amazon S3 Glacier to Amazon S3 Glacier Deep Archive after 45 days, which saves cost and frees us from having to develop and maintain this logic in our services. This has turned out to be a perfect solution for theatrical content that sees a lot of use around its release and then is rarely sent again,” Waterston says.

Archival digital movie content on Amazon S3 Glacier and Amazon S3 Glacier Deep Archive is also superior to hard drives or tape to maintain data integrity, as the latter entails a higher degree of risk from damage to physical

equipment. Waterston says, “The durability offered by Amazon S3 enables us to provide solid guarantees to our customers who are relying on us to store their high-value content.”

Securing High-Value Content during Storage and Transfer

Qube uses Amazon CloudFront for electronic file transfer of dynamic movie and ad content from Amazon S3 to theater locations. With Amazon CloudFront, Qube and its customers benefit from advanced security capabilities, including field-level encryption and protection against DDoS and other types of attacks.

To further streamline security, the business leverages AWS Certificate Manager for efficient administration of Transport Layer Security (TLS) certificates, which are used to deliver web content securely between distributors and theaters. Qube uses AWS Identity and Access Management (IAM) and AWS Single Sign-On (SSO) to maintain fine-grained access control to its infrastructure and stored content.

Expanding and Experimenting without Barriers

Qube continues to build on its product offering, taking advantage of the AWS pay-per-use pricing model to experiment with new services on AWS that could enhance theatrical content delivery. The company has expanded its reach into the Middle East and Asia Pacific region, without barriers to scalability or cost-effectiveness.

“As we contemplate expanding our services into a new region, AWS Global Cloud Infrastructure enables us to proceed with little or no concern about having to build out the backend infrastructure. This has been a significant factor in our successful expansion into traditionally challenging regions like the Middle East and Asia Pacific,” concludes Waterston. ■