



Founded in 1995 with a single movie theatre in Mexico City, Cinemex has grown into the second largest cinema chain in Mexico and the sixth largest in the world. The chain now operates 2,861 screens in 332 complexes located throughout Mexico, and as of 2017, the United States. From the outset Cinemex built all of its auditoriums with stadium seating and has since continued to improve upon their amenities by adding luxury recliners, gourmet in-theatre dining, VIP screens, 3D projection and 4D motion seating, CineMá, and alternative content. The circuit has also excelled at offering event cinema such as opera, ballet and Champion League football matches, as well as arthouse releases through its Casa de Arte program.

Cinemex plans to continue developing its international footprint by moving into the European Union and continuing to expand in the U.S. through its CMX brand; a chain of upscale, luxury cinemas. A team of more than 14,000 employees oversees the company's daily operations.



By October of 2013 Cinemex, along with the rest of the exhibition industry, had converted all of its 35mm screens to digital projection. The new technology was meant to make distributing content more efficient and less expensive, while allowing for a crisp sharp picture, uncompressed audio and 3D images. However, the industry-wide specifications and interoperability standards adopted to enable such features, came with a complicated security architecture that put in place an impregnable digital rights management scheme to prevent the illegal replication of content.

As is the case with most security systems, complexity is antithetical to ease-of-use. With its mandate for encrypted content and keys tied to specific playback devices, such is the case with digital cinema.

For an exhibitor like Cinemex, this means keeping track of digital cinema equipment throughout its circuit. Most often there are two playback devices, a server and a projector, for every screen. In November 2017, Cinemex was keeping track of model numbers, serial numbers, software versions and, most importantly, security certificates, for 5234 playback devices (2,695 servers and 2,539 projectors) across its network of 2,821 screens in 327 sites.

This information was being maintained manually through text documents, Microsoft Excel spreadsheets and similar methods by multiple Cinemex personnel. If a playback device was removed for a theatre or new equipment brought in, records would need to be manually updated and sometimes there was uncertainty about which version of the device list was the most recent. As many theatre operators have discovered in the age of digital cinema, this can become a problem when content service providers request this information to make keys for upcoming releases being sent to theatres. Cinemex received such requests on a routine basis and would distribute their device list as a spreadsheet.

Sometimes the wrong key would get delivered to one of the company's multiplexes when equipment had to be moved after the trusted device list had been distributed; a common occurrence in modern day cinemas. When such incidents occur it can be frustrating for everyone in the distribution chain; the distributor, the content service provider and most of all Cinemex. Such instances are why service providers have begun requesting machine-generated Extended Facility List Messages, as standardized in SMPTE ST 430-16, to be transmitted to them using the FLM-x protocol standardized by SMPTE ST 430-15. The days of cinema chains such as Cinemex sending out Excel spreadsheets listing their digital cinema devices are quickly coming to an end. Thus, Cinemex needed a cost-effective way to compile and distribute an accurate FLM for its entire circuit and publish it to multiple service providers through a single FLM-x feed.

In addition, when content and keys were delivered to a Cinemex theatre, they arrived via hard drive and email respectively. There was no way for a service provider to track or automatically confirm delivery and no way for Cinemex to manage the keys within a complex throughout the playback period. What's more, keys were being delivered to the individual email addresses of specific theatres. There was no way for Cinemex personnel to recover a key should it go missing and the original email be unavailable other than identifying and contacting the appropriate service provider to request a replacement key.

Naturally, cinema operators around the globe have discovered that receiving and managing keys on a theatre-by-theatre basis is an inefficient method prone to disorganization and errors. Thus, Cinemex required a solution that would centralize the receipt and management of its keys.



Though the stringent security requirements that digital cinema demands may have made the delivery and playback of content less straight forward than the industry had hoped, there are now systems available that help exhibitors avoid the complications and pitfalls experienced by most operators on a routine basis. By implementing its Qube Wire solution, Qube Cinema was able to help Cinemex untangle and normalize its device lists while simultaneously providing the chain with a publishable FLM-x feed for third-party service providers. As an added bonus, Cinemex was able to use Qube Wire to solve its key management issues.

Qube Cinema began working with Cinemex in November of 2017. Cinemex first provided Qube with their multiple facility device lists so that they could be cross referenced against the global trusted device list Qube has been maintaining for over a decade; the one which is now found in Qube Wire. Once all of Cinemex's devices were confirmed within Qube Wire and assigned to the chain within the system, an FLM-x feed for the entire circuit was automatically created. This feed could then be shared via secure URL for real time updates or downloaded as an CSV file which could be emailed to content service providers.

As a quality control measure, Qube validated the Qube Wire FLM-x feed with service providers such as Deluxe to ensure it could be received and consumed properly. This entire process was completed in less than 12 days. Moving forward, all that Cinemex employees need to do to keep their FLM-x feed current is to provide incremental updates when devices within an auditorium change or if a new theatre comes online. This can be done through a secure web user interface accessed with password protected accounts overseen by an administrator within Cinemex.



In a perfect world, the theatre management system (TMS) at each multiplex would recognize new devices or those that have changed auditoriums and update Qube Wire directly without human intervention, however this is not a feature most TMS applications offer. Qube Cinema is working with TMS developers to expedite such functionality.

Once Qube Wire was up and running at Cinemex, the exhibitor instructed content service providers and distributors to send keys, also known as key delivery messages (KDMs), to a single email address, dropbox@qubewire.com. When keys are sent to this address, Qube Wire receives the key, parses it and directs it to the right theatre based on the email stored in the Qube Wire database.

As well, Qube Wire stores all the keys sent to Cinemex for any future use in a Universal Inbox. Cinemex employees with the proper administrative permissions can view the status of booked content, the delivery status of content, download keys and even choose to automatically forward any key issued either from Qube Wire or any third-party KDM provider directly to the theatre's KDM delivery email address, all through the Universal Inbox interface.



## The Results

By the end of January 2018 Cinemex had fully implemented the FLM-x and key management features of Qube Wire. The company was no longer having multiple employees maintain separate and conflicting versions of their trusted device lists.

As Aldo Sánchez González, the Manager of Projection for all Cinemex locations explains, "Using an online platform means that our TDL can be updated by any approved Cinemex personnel with access to the Qube Wire system. This reduces the time of response and increases the accuracy of our TDL. Now, that it is easier and faster to update, the information is more reliable and always available.

According to Sánchez González, "It used to take almost a month to have our TDL updated depending on the number of servers that changed and if the person in charge of the updating received the emails informing them of the changes. As a result, the information most of the time wasn't available and the TDL was not fully reliable. Now with Qube Wire the update is done within an hour or less of the notification of a server change."

In fact, rather than sending distributors and content service providers multiple versions of Excel spreadsheets listing out their thousands of digital cinema devices, Cinemex now publishes an industry standard FLM-x feed. For those entities that cannot receive or import an FLM-x feed through a URL, Cinemex can email the latest version of their TDL in the standardized FLM-x format at a moment's notice.

Cinemex is counting on the accurate FLM-x feed being produced by Qube Wire "to reduce the time of obtaining a KDM when a server is changed out due to failure or maintenance." The ultimate goal is to have the right key for all their servers at all times, reducing the number of missed shows and increasing profitability.

"We are having fewer wrong keys and faster delivery of new ones when a server is changed," says Sánchez González who reports Cinemex is updating its TDL faster than some of the content service providers sending them KDMs each week.

Because these distributors and service providers have only one email address to remember when sending keys, more of them are arriving in the proper TMS. "So far the Universal Inbox is solving the problem we have with keys coming in from some distributors when the emails containing the KDM doesn't go directly to the TMS," Sánchez González says. "Using the Qube Wire user interface is helping us receive the keys into the TMS automatically."

And when a key does go missing, for whatever reason, it can always be found in Qube Wire's Universal Inbox. No more searching through emails for the proper key.

Cinemex is also now able to request a key for any content that is sent through Qube Wire. Meaning, if a content service provider delivers content through Qube Wire and the key for a specific auditorium goes missing, a duplicate can easily be requested through the system without the need for a phone call. At the same time, distributors sending keys to Cinemex through Qube Wire, now have the option of seeing whether they have actually arrived at a specific cinema location.

Assisting Cinemex through the roll-out process and beyond has been Qube Cinema, which spent years developing and testing Qube Wire. "It has been a very good experience," states Sánchez González. "The Qube Wire support team is always available and willing to help. The platform is quite simple and easy to use."

