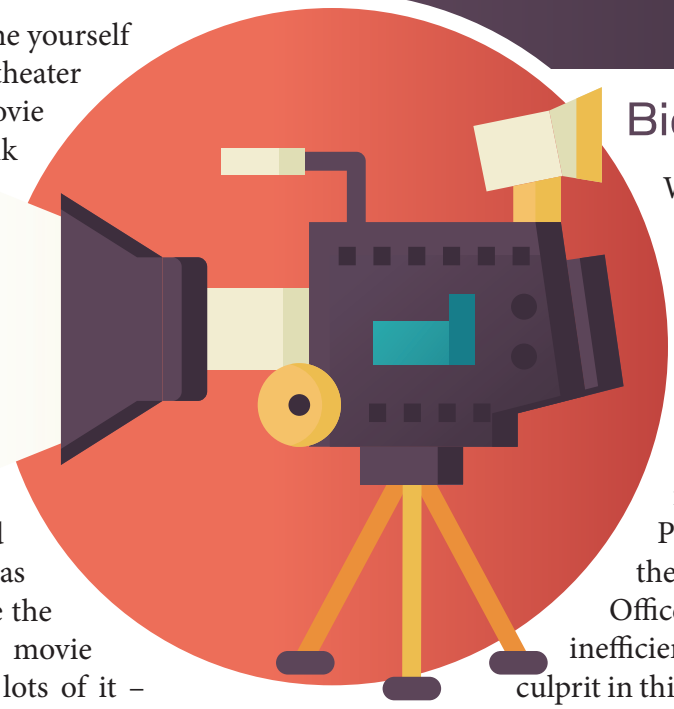
BIG HOLLYWOOD ENERGY SAVINGS

Executive Summary:

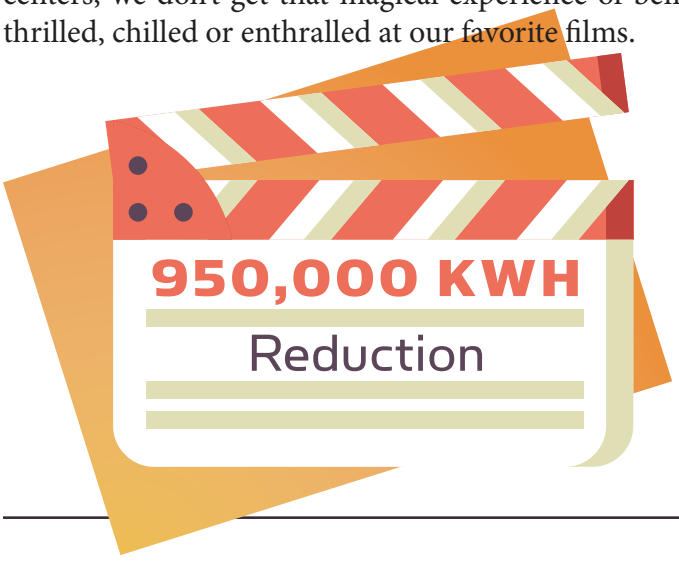
- Major Hollywood studio's data center was running at 2.0 PUE
- Client needed to revamp HVAC system with no downtime
- Client goal: achieve PUE of 1.7 or better
- Instor delivered unconventional solution via heat chimneys
- Client realized 950,000 KWH savings per year

Movie Magic Requires Tons of Data

Close your eyes and imagine yourself sitting in a darkened theater watching your favorite movie of all time. It's hard to think of a more pleasant way to spend an evening: box of popcorn in your lap, images dancing before your eyes, your heart racing at the action on the screen.



For years, this sort of Hollywood magic was made with old-school celluloid and editing rooms where film was meticulously cut to help shape the director's vision. Today, the movie business requires data – and lots of it – to store the endless terabytes of its creative and intellectual property. In other words, without data centers, we don't get that magical experience of being thrilled, chilled or enthralled at our favorite films.

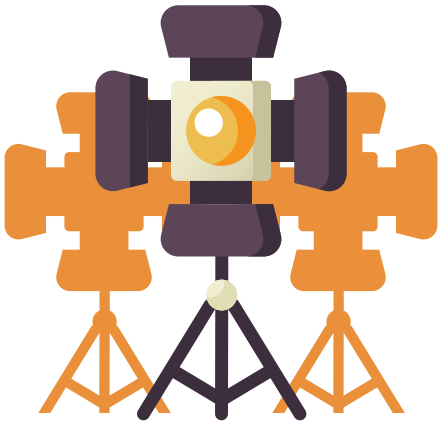


Big Budget Goals

When a major motion picture studio found itself needing to increase energy efficiency while reducing operating costs, it turned to a team of pros experienced in solving outside-of-the-box problems. The 5,000 square-foot facility was pushing a PUE of more than 2.0 and the studio's Chief Information Officer rightfully suspected the inefficient cooling system as the culprit in this real-life mystery. Wanting to revamp its HVAC system while maintaining 100 percent uptime 24/7, the client reached out to Instor to help deliver blockbuster results.

Never known for thinking small, the Hollywood team had lofty goals for its data center. First, it was aiming for a PUE of 1.7 or better. With a raised floor and two server rooms (one high- and one medium-density), the client's data center featured a cooling system that relied on 13 perimeter CRAC units blowing cool air through perforated tiles. Although the floor tiles brought cool air to the servers, there was no airflow containment in place to keep hot server exhaust from recirculating.

The ask: CRAC modifications, hot and cold aisles and updates to the existing cooling tower.



Lights, Camera, Efficiency!

The Instor team took a trip to Hollywood to check out the situation firsthand. Upon visiting the client's data center, the Instor team put their heads together and offered up a solution the client wasn't yet aware of. If it worked, it would save the client hundreds of thousands of KWHs in power and help it achieve the 1.7 PUE goal in short order.

Sometimes in Hollywood and in business, the best solution isn't the one you assume it is.

Often, it takes a fresh set of eyes to identify the heart of the matter. That's exactly what the Instor team did when it suggested the client turn to an active heat containment chimney system. Originally, the studio hoped to use a mix of hard and soft containment, but the uneven rows and variety of server rack types made curtain installations both difficult and aesthetically unpleasing.

Agreeing on Instor's approach, the client gave the green light to go with Geist's Opengate heat-capturing chimneys which were custom sized to the kW load of each cabinet or row of cabinets. With the heat contained, the system expels it into the overhead drop ceiling plenum, which is connected back to the perimeter CRAC units through pre-existing sheet metal collars. Temperature and pressure sensors intelligently control fan speeds and exhaust hot air through the chimneys at an optimal, efficient rate.

As this Hollywood classic tale of innovative thinking reached its climax, Instor installed Geist's Opengate environmental monitoring software to maximize the containment solution and give the client's IT managers the ability to measure results and monitor the data center in real-time for temperature and humidity trends. This would prove to be a very wise move.

Happily Ever After

The movie industry has a way of telling tales that neatly come together in the end, and this one is no exception. The results were so measurable that after the new system was installed, technicians noticed a number of chimneys hard at work. In fact, they were working harder than normal. Using the Opengate monitoring software, the team pinpointed a single CRAC unit that was not pushing out the standard CFM for its model and another that was oversaturating the room with moisture. Thanks to the monitoring software, these issues were quickly resolved.

In the end, the client achieved its 1.7 PUE goal and has reduced its power load by 950,000 KWH per year.

Film Your Own Perfect Ending

With the Instor team at your side, you can realize savings the way our Hollywood client did. Whether it's coming up with an innovative solution or simply helping you find the best deal on your next buildout, fitup or containment project, we're here to help you achieve your business goals. Give us a call or visit us online today to learn more.

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