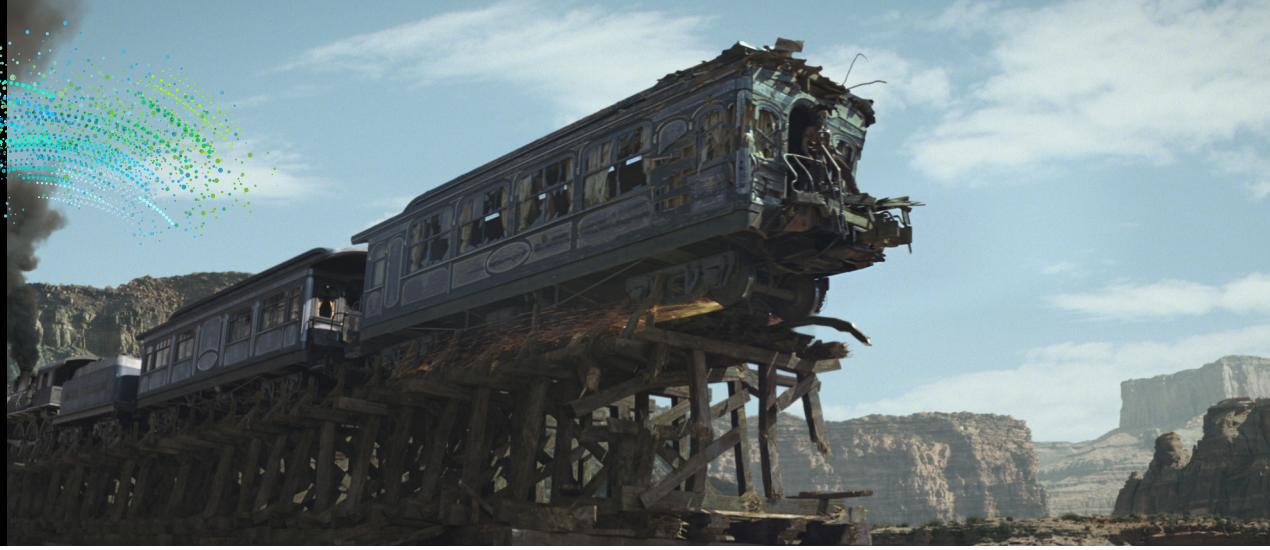
Case Study



Industrial Light & Magic equips creative professionals with full-fidelity remote computing

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KEVIN CLARK
DIRECTOR, INFORMATION TECHNOLOGY
INDUSTRIAL LIGHT & MAGIC, A DIVISION OF LUCASFILM LTD

INDUSTRIAL LIGHT & MAGIC

Industrial Light & Magic, a Lucasfilm Ltd. company, has created visual effects for nearly 300 feature films including 10 of the top 15 box office hits of all time and half of the top 50. ILM has earned 15 Academy Awards® for Best Visual Effects and 23 Scientific and Technical Achievement Awards.

AT A GLANCE

Situation

- Serving motion picture, commercial, and attraction industries
- San Francisco, Singapore, and Vancouver
- 830 Employees

Challenge

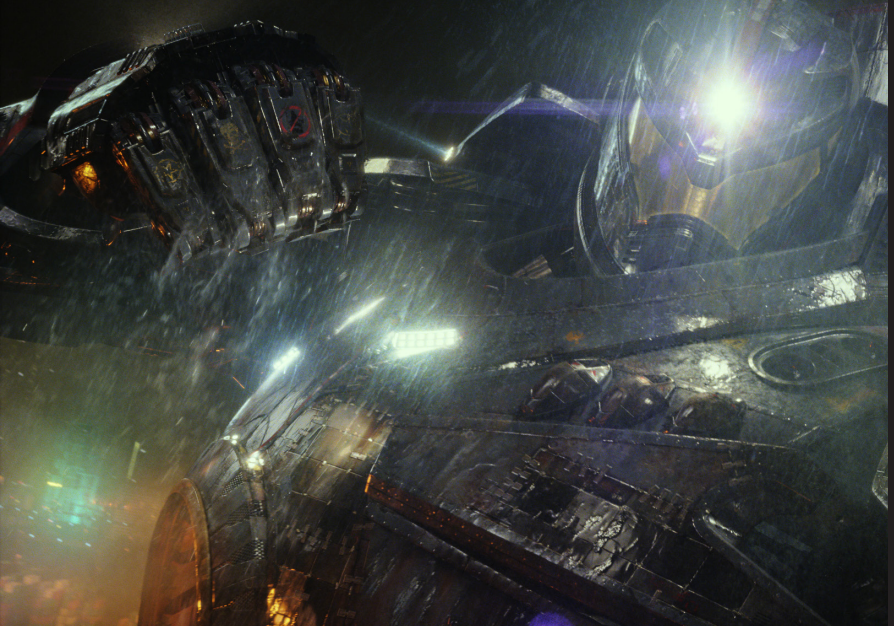
- Real-time review of dailies – anytime, anywhere
- Optimal performance and visual quality
- Rapid set-up of temporary satellite offices

Solution

- Teradici® PCoIP® Remote Workstation cards
- PCoIP Zero Clients
- PCoIP Management Console

Results

- **Flexibility and mobility:** Remote viewing of dailies speeds reviews and lets distributed teams collaborate from anywhere.
- **Security:** Consolidating file servers, render farms, and storage arrays in the datacenter gives IT the ability to maintain control of creative assets, without restricting artists' work.
- **Performance:** PCoIP remote display protocol compresses, encodes, and delivers the entire workstation experience from the datacenter to the end user in full fidelity (full frame rate and access to 3D/HD media).
- **Simplicity:** Reduce heat and noise with easy-to-deploy PCoIP Zero Clients.



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A short clip of raw motion picture footage can exceed 100 Gb. Creative teams at Industrial Light & Magic, a division of Lucasfilm Ltd., must be able to handle high-resolution digital renders to produce the award-winning special effects that their clients demand. In 2009, Industrial Light & Magic set out to make daily reviews more efficient for distributed teams. In particular, contracted graphic artists in Los Angeles needed to get up and running fast, with real-time access to "dailies" from their desktops. This meant overcoming several challenges.

- Rapid provisioning: Aggressive schedules make every day of delay a major problem.
- Full-fidelity experience: The remote Southern California creative professionals needed the same user experience as the rest of the project team in San Francisco.
- Instantaneous access: High-resolution displays are standard tools of the trade for digital artists. The raw data files that drive visual displays can take hours to transfer to remote workstations, and severely slow the review process and overall productivity.
- Strict IT controls: Securing big data assets is paramount in the motion picture industry, along with the ability to fully support remote workstations and applications

IT needed to find a flexible, secure, high-performance solution for remote access to centralized assets. Industrial Light & Magic began to investigate leading-edge infrastructure solutions. At the heart of the technical challenge was the local display of a remotely rendered digital imaging data. Traditional viewing was limited by WAN bandwidth, and also posed security risks since large amounts of data would be transferred to the remote site. Most encoding and compression alternatives were impractical due to the unique nature of high-resolution film data. To complicate matters, Industrial Light & Magic relied heavily on Linux systems.

The investigation into remote workstation solutions led to one solution that could meet all of the artists' and IT requirements. Industrial Light & Magic became an early adopter of Teradici PCoIP technology, which gave them a revolutionary multi-codec compression scheme tailored for the type of content being transmitted.

Products used

PCoIP Remote Workstation

"The Teradici PCoIP Remote Workstation Solution gave the artists and creative professionals in the Los Angeles office the ability to view our centrally stored dailies with the same visual quality that the San Francisco team enjoys," said Kevin Clark, Director, Information Technology, Industrial Light & Magic.

"They got the performance they needed to view footage on high-resolution displays since the Teradici protocol automatically adjusted compression rates to deal with network congestion. The remote team was happy with the consistent, real-time viewing experiences, and we were very happy with the security since the data never leaves the servers. The solution sends only pixel streams to remote users."

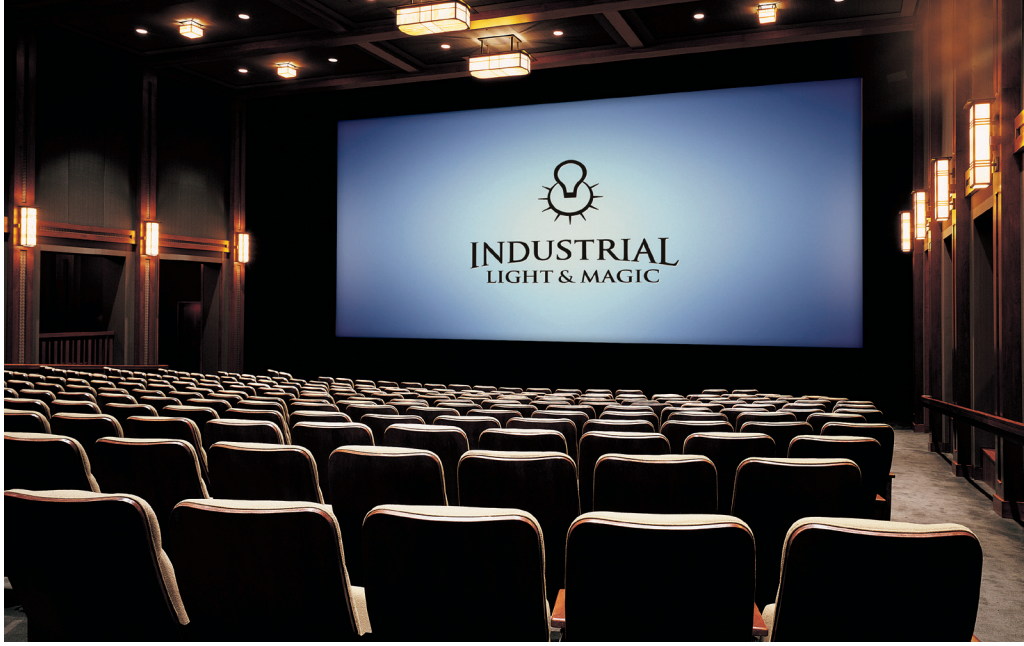
The solution also allowed IT to remotely cycle power on the workstations in the datacenter. This feature was a priority due to the behavior of the applications used by the creative teams. The large databases hosting the creative assets would often freeze the applications, and remote power cycling helped IT rapidly respond to any resulting Help Desk calls.

Industrial Light & Magic embarked on a full transition to flexible remote computing with the Teradici PCoIP Remote Workstation Solution. Under-the-desk workstations in the San Francisco offices, or in the main data center, can now drive full-frame-rate high-resolution media to remote users anywhere. The PCoIP remote display protocol encodes, compresses, and transmits only pixel data – not the source files – over a standard IP network. Employees using stateless zero client devices or software clients on laptops can achieve true mobility.

With Teradici Remote Workstation solutions, IT was able to cost-effectively ramp up the Los Angeles site in record time. Since then, authorized users have instant access to dailies and other project files, networks, and digital sources from approximately 350 PCoIP zero clients across all of the company's sites. Remote viewing also lets producers and executives at the major film studios easily review work in progress at Industrial Light & Magic.

"Teradici's PCoIP technology has made it easier and faster for our very dynamic, distributed team to work together," said Clark. "Our business depends on idea sharing and being able to quickly shape and adjust creative plans. The PCoIP Remote Workstation Solution enables very effective communications, and also helps us get the best possible high-resolution media viewing results every step of the way. Because the Teradici innovations focus on pixel-level transmissions, our artists can achieve 100-percent color matching and take advantage of full-HD, lossless imaging over affordable IP networks."

The streamlined centralized environment created with PCoIP Remote Workstation technology has also improved security and meets regulatory audits by the Motion Picture Association of America (MPAA).



Dailies are no longer distributed to various sites. The real-time viewing from anywhere has accelerated every phase from initial production planning through to final edits.

"We have a 'zero' game now – zero clients mean zero uploads and zero downtime for remote viewing," concluded Clark.

Recent enhancements to their deployment have streamlined from-home access to creative applications and assets. Remote workers get the same experience from home compared to their in-office work. More data has been centralized in the data center thanks to the efficient remote capabilities enabled by Teradici PCoIP technology. Next, Industrial Light & Magic plans to support similar remote viewing capabilities from special Wacom tablet devices used by creative teams. IT is working closely with Teradici to enable this capability in a coming release.

"The inherent efficiency of the PCoIP protocol will similarly benefit the display of high-resolution content on truly mobile devices such as the special tablets used by creative professionals in our industry," said Clark. "Teradici has been great about working with us to continually enhance our end-users' experience."

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