

SUCCESS STORY | ANIMAL LOGIC

# STREAMLINING PRODUCTION AND TRAINING WITH NVIDIA QUADRO VDWS



Image Courtesy of Warner Bros. Pictures



# VIRTUAL GPU-POWERED VMS OFFER A FLEXIBLE ALTERNATIVE TO PHYSICAL SECONDARY MACHINES



Image Courtesy of Warner Bros. Pictures

## SUMMARY

- > Animal Logic Studios creates visual effects and animation for feature films.
- > Its second studio needed a cost-effective and flexible way to provide users with secondary desktops.
- > The IT team deployed VMs powered by NVIDIA Quadro® Virtual Data Center Workstation (Quadro vDWS) instead of purchasing new \$10,000 workstations.
- > Today NVIDIA vGPU-enabled VMs ensure users can access both Linux- and Windows-based applications from a single machine.
- > A flexible training environment can also be setup and broken down in a matter of minutes.

## INTRODUCTION

Animal Logic is recognized as one of the world's leading independent creative digital studios. For over 25 years, it has produced visual effects and animation for numerous award-winning feature films, including Peter Rabbit, Happy Feet, The Matrix, 300, Moulin Rouge!, and The LEGO Movie. Founded in Sydney, Australia and with offices in Los Angeles, USA, the company expanded in 2015, opening a second creative studio in Vancouver, Canada.

## CHALLENGE STATEMENT

Following the announcement of a three-picture deal with Warner Bros, Animal Logic opened a second creative studio in Vancouver in late 2015. With production for the first film, The LEGO Movie 2: The Second Part scheduled to begin early 2016, Animal Logic had a small window to set up the new studio. This presented many challenges — the biggest being machine inventory. “We started the site from the ground up, purchasing brand-new workstations for about 275 employees,” said Gino del Rosario, Head of Information Technology, Animal Logic Vancouver.

## CUSTOMER PROFILE



**Organization**  
Animal Logic

**Industry**  
Media &  
Entertainment

**Location**  
Sydney, Australia,  
Los Angeles, USA  
and Vancouver,  
Canada

**Founded**  
1991

**Website**  
animallogic.com



Image Courtesy of Warner Bros. Pictures

## SOFTWARE

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**Hypervisor:** VMware vSphere

**Remoting Protocol:** VMware Horizon and Teradici Cloud Access Plus

**Graphics Acceleration:** NVIDIA Quadro Virtual Data Center Workstation

**Operating System:** Windows 10, CentOS 7

**Applications:** Adobe Photoshop, YouTube, Pixologic ZBrush, Autodesk Maya, XSI, Nuke

## HARDWARE

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**Server:** Dell PowerEdge R730

**GPU:** NVIDIA® Tesla® M60

## REASONS FOR QUADRO VDWS

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- > Native workstation performance of graphics-intensive applications and streaming videos
- > Provide Linux users with high performing VMs
- > Perform critical server maintenance 24/7 without end-user disruption or data loss
- > Speedy air gapped access to the internet to protect vendors' intellectual property

The new studio didn't have any older machines to deploy for secondary use and secondary machines are essential to production. Creative staff worked on high-powered physical workstations running on a Linux environment. Yet sometimes they also needed access to Windows machines to work on shared applications like Adobe Photoshop and Pixologic ZBrush. Conversely, production coordinators didn't work on high-powered Linux machines, but they still needed to access a Linux environment to use apps like RV, as well as pipeline tools like Autodesk Maya, XSI, and Foundry's Nuke.

Training was another important use case. "We have a multi-purpose room, which we use for both trainings and meetings. We didn't want to buy 20 high-powered workstations that would just sit in the room and depreciate. Instead, we wanted a flexible pool of training machines that could be reassigned and redeployed whenever our use case changed," said del Rosario. "Basically, we wanted a cost-effective and flexible way of deploying high performance virtual machines (VMs) to be used as secondary desktops."

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**“Users were surprised at how efficient the VMs were when loading certain scenes. Both the Windows and Linux users found that they could rely on the NVIDIA vGPU performance when working with more intense applications such as ZBrush, Maya, and XSI.”**

Matt Braunstein  
Systems Engineer,  
Animal Logic

## **SOLUTION STATEMENT**

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The IT team began the project by setting up a test server provided by Dell with NVIDIA Tesla M60 cards. The VDI infrastructure ran VMware Horizon on VMware vSphere, with NVIDIA Quadro vDWS software and Teradici Cloud Access Plus. “Initially, our goal was to develop a detailed matrix to compare performance. We had to figure out if we were deploying a physical machine, what the equivalent would be for a VM running on NVIDIA virtualization technology,” said del Rosario.

During testing, application workflows were examined. One test featured Adobe Photoshop and YouTube: Photoshop load, save, and export times, and playback of YouTube video content for reference. The IT team discovered that an NVIDIA virtual GPU (vGPU) M60-2Q profile with 2GB of VRAM delivered VM performance that was almost identical to a physical machine. Photoshop application time-to-open was five seconds, opening a PSD took four seconds, saving a PSD seven seconds, and exporting a PSD twenty seconds. “When we saw the numbers, we were confident that VMs powered by NVIDIA would be a great solution,” said del Rosario.

Once the project was approved, the IT team purchased two Dell PowerEdge R730 servers, installing two NVIDIA Tesla M60 cards per server. With plans to share VMs between a small group of approximately 50 staff members, 30 NVIDIA Quadro vDWS licenses were purchased. Two vGPU profiles were configured: users who needed access to Microsoft Office and Photoshop were allocated a 1GB profile, while Linux users were assigned a 2GB profile. After launch, staff were impressed by VM performance. “Users were surprised at how efficient the VMs were when loading certain scenes. Both the Windows and Linux users found that they could rely on the NVIDIA vGPU performance when using more intense applications such as ZBrush, Maya, and XSI.” said Matt Braunstein, Systems Engineer. Some users who needed to edit with high image fidelity and lossless visualization were given virtual workstations powered by Quadro vDWS using the Teradici Cloud Access Plus which also provided added encryption.





Image Courtesy of Warner Bros. Pictures

## RESULT STATEMENT

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Virtualized secondary machines make it easy for users to switch between environments — apps in Linux or Windows are quickly accessed by simply logging in; there's no need to move to another physical machine. Plus, training can be accomplished without much planning or setup. "At some point, everyone needs training. We can start up a training environment and break it down in a matter of minutes. Our flexible, high performance VMs powered by NVIDIA vGPUs ensure every app from Photoshop to streaming videos runs smoothly. It doesn't matter if the apps are in Linux or Windows. And when training VMs aren't needed, we can redeploy them because they're not committed," said del Rosario.

Another benefit is improved mobility. Staff occasionally travel to Los Angeles, and when they do login to Vancouver's Linux environment it is simplified. Said del Rosario, "Our whole pipeline and application stack is very closely tied to our Linux deployment. So, if staff want access to all our pipeline tools they need to be on a Linux machine. With NVIDIA, Linux runs smoothly even in a virtualized environment. Users who are on-the-go simply connect back to our environment on their laptops without us having to deploy much."

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**“NVIDIA virtual GPU is definitely going to be part of our suite of solutions moving forward. It has proven it’s both reliable and flexible.”**

Gino del Rosario  
Head of Information Technology,  
Animal Logic Vancouver

From the IT team’s perspective, NVIDIA support for VMware vMotion technology is invaluable. “Server maintenance is a priority. We use Live Migration all the time to patch and maintain our servers. Also, Live Migration helps us manage performance. Our whole VDI cluster is the NVIDIA vGPU-powered cluster. If there are resource issues or resource contention, Live Migration enables us to move stuff around so that users don’t experience delays,” said del Rosario.



To learn more about NVIDIA virtual GPU solutions, visit: [www.nvidia.com/virtualgpu](http://www.nvidia.com/virtualgpu)  
[www.nvidia.com](http://www.nvidia.com)

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