

Case study

Guru Studio

Netflix Original creator leverages HP Z Workstations for GPU rendering



Industry

Media & Entertainment

Objective

Provide studio artists with the optimal technology tools to unleash creativity and meet constant deadlines at an affordable cost

Approach

Deploy HP Z Workstations, including HP Z840 Workstations with HP Z Turbo Drive and NVIDIA® Quadro® M6000 Graphics cards supporting Redshift GPU-based rendering workflows enabling faster creative iterations at lower cost

IT matters

- Increase rendering speed by 20% with HP Z Turbo Drive
- Reduce render farm build costs by 66%
- Enable strategic shift to GPU-based workflows
- Streamline production workflows for storyboarding, animation, editing

Business matters

- Improve quality through speed-enabled creative iterations
- Meet robust market demand for original content
- Reduce infrastructure costs, accommodate space constraints
- Meet high-pressure weekly series deadlines



“HP Z Workstations have taken machine limitations out of the production process and brought creativity back in.”

– Yurie Rocha, creative director of production, Guru Studio, Toronto, Canada



Guru Studio is a content-driven entertainment company renowned for creating, developing and producing internationally acclaimed and highly successful shows including the #1 U.S. preschool smash-hit and consumer products phenomenon, *Paw Patrol™*, in collaboration with Spin Master and Nick Jr., as well as Mattel’s *Ever After High*; and its own original Emmy® Award nominated preschool series *Justin Time* in association with Disney Jr. and Netflix.



“Reliability is a must for us, and getting the most performance for the investment.”

— Jason Burnard, IT director, Guru Studio

This is Gold Rush time for media content, says Yurie Rocha, Guru Studio’s creative director of production. Entertainment companies such as Nickelodeon, Spin Master, and Netflix today bring an enormous appetite for animated shows. In response, Guru Studio has produced hit after hit. It created *Paw Patrol* in collaboration with Spin Master and Nickelodeon’s Nick Jr. It’s the animation force behind Mattel Inc.’s *Ever After High*. Expanding into its own content, Guru created the original Emmy®- and six-time Annie Award-nominated preschool series, *Justin Time*, winner of the 2014 Canadian Screen Award. The shows entertain children and the messages about cooperation and kindness are needed in today’s world.

Uncompromising quality under relentless deadlines

Guru started in 2000 as a small commercial studio with three employees. Today the company employs over 300 artists, producers, technical directors, IT staff, and other professionals. The weekly deadline pressures of producing TV series—not to mention commercials and other projects—are enormous. Where feature-film animators traditionally have enjoyed more time to perfect their content, creating for TV means finishing fast and moving on. Except today, that TV show will likely sit next to a feature film on the menu of a service like Netflix. Therefore, its production quality has to be comparably high.

“Our work needs to draw in an audience within a competitive landscape that doesn’t differentiate between feature films or episodic series anymore. Our consumers are

demanding and what they demand is great content regardless of budget,” Rocha says.

HP Z Workstations deliver reliable high performance

That’s where HP Z Workstations come on the scene, built for reliable high performance and easy IT manageability. Guru Studio has used HP Workstations for more than a decade. “Reliability is a must for us, and getting the most performance for the investment,” says Jason Burnard, IT director at Guru Studio. “Also, the way the HP Workstations are designed, they’re rock solid, flexible, and easy to upgrade. IT loves working with them.”

Guru Studio has 226 HP Z Workstations, along with HP Z Display Z22i Monitors. It uses HP DreamColor Professional Displays, with their 10-bit color precision, to help perfect final images. The studio matches its HP Z Workstation models with the functions they serve.

Animators typically use HP Z420 Workstations or HP Z440 Workstations. For more-demanding workloads such as lighting, rendering, and compositing, Guru uses HP Z620 Workstations or HP Z640 Workstations—all the way up to the HP Z840 Workstation, built for high-end computing and visualization. Guru configures its HP Z840 Workstation with HP Z Turbo Drive G2 PCIe SSD 250GB and NVIDIA® Quadro® M6000 graphics processing units (GPUs).

HP Z Turbo Drive is a storage solution that handles large files cost-efficiently while reducing boot up times and increasing performance. This in turn enables Guru to

Customer at a glance

Application

Production workloads for 2D and 3D storyboarding, animation, editing. Software applications employed include:

- Adobe® Premiere Pro® CC for editing
- Adobe Photoshop® for photo editing
- NUKE software from The Foundry® for compositing
- Autodesk® Maya® 3D modeling & animation
- Toon Boom Harmony 2D animation software
- Toon Boom Storyboard Pro
- ZBrush from Pixologic for 3D sculpting
- Substance Painter 3D painting software from Allegorithmic
- Redshift for GPU rendering

Hardware

- HP Z840 Workstation, configured with:
 - NVIDIA® Quadro® M6000 Graphics Card
 - HP Z Turbo Drive G2 PCIe SSD 250GB
- HP Z640 Workstation
- HP Z620 Workstation
- HP Z440 Workstation
- HP Z420 Workstation
- HP Z Display 22i
- HP DreamColor Professional Display

leverage NVIDIA® Quadro® M6000 Graphics to drive GPU-based workflows. GPU-accelerated computing enhances performance by offloading compute-intensive portions of applications to the GPU, while the remainder of the code still runs on the central processing unit (CPU). Redshift software, Guru's GPU renderer of choice, accelerated rendering by a factor of up to 10 times compared to the studio's previous workflows.

“Our biggest challenge is delivering high quality, affordably. HP Z Workstations are reliable, rock-solid, and they support accelerated workflows that give us the competitive advantage of multiple creative iterations.”

– Jason Burnard, IT director, Guru Studio, Toronto, Canada

“This is a huge paradigm shift in how rendering is done here at Guru Studio,” Rocha says. “The old model of rendering, getting final pixels onscreen, was to send your data to a render farm that was mostly CPU-driven. But given the costs of operating a high-end facility in the creative core of downtown Toronto plus the risk associated with off-site farms, we built a small GPU-based render farm in-house. Within one workstation now I have the rendering power of five previous desktops.” The cost of building this in-house render farm, he adds, was approximately one-third that of co-location.

Underlying the success of this strategy is the power of the HP Z840 Workstation with HP Z Turbo Drive. “The NVIDIA® Quadro® M6000 GPU works so fast that it's constantly trying to pull data,” Rocha says. “If it were trying to pull that data off a hard drive, there would be a bottleneck;

even milliseconds make a huge difference. But the HP Z Turbo Drive feeds the GPU very quickly. It gives us a further 20% speed increase.”

Creativity without limits

The impact, Rocha says, is better quality in less time. Faster rendering enables more creative iterations. Gone are the days when series artists could accommodate just one or two scene renders before they had to move on to the next shot. Now they have the computer speed and power to use more-sophisticated features of their software tools and to experiment, revise their work multiple times.

“It becomes like a gamification of the iterative process,” Rocha says. “You try something, see it immediately, try something else. People are exploring ideas they couldn't before. It's taken technology limitations out of the process and brought creativity back in.”

Using these advances, Guru went to work on their new series *True & the Rainbow Kingdom*, a Netflix Original set to premier globally in summer 2017—and take its place alongside feature films of the highest production values. The studio also is developing a number of series such as *Big Blue* for CBC.

The creative freedom and production efficiencies enabled by HP Z Workstations enable Guru to absorb risk, try new things Rocha says.

“Our competitive advantage comes from the ability to do more creative iterations. It comes from being able to do more with less. It comes from aligning with a company that's invested in this sector—now and for the future. HP is always ahead of the curve when it comes to media and entertainment.”

Learn more at

hp.com/go/zworkstations
hp.com/go/media-entertainment

Sign up for updates
hp.com/go/getupdated



Share with colleagues



Rate this document

© Copyright 2017 HP Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

NVIDIA and Quadro are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries.

The Foundry®, its logo and product names are registered trademarks in the UK, USA and/or other countries.

Adobe and Adobe Photoshop are trademarks of Adobe Systems Incorporated.

Autodesk, the Autodesk logo, and Autodesk Maya are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries.

Images courtesy of Guru Studio.

4AA6-9046ENW, March 2017

