

SUCCESS STORY | PARKWAY SCHOOLS

LIMITLESS LEARNING IN AN EVER- CHANGING WORLD



Image courtesy of Parkway Schools



Parkway School District ushers in the future of “anytime, anywhere education” on a Dell Technologies hyperconverged infrastructure that’s accelerated by NVIDIA virtual GPU technology.

SUMMARY

- > Allows practically instant provisioning of server resources.
- > Software rollouts take 1 hour instead of 2 weeks.
- > Software runs without unplanned downtime.
- > Supports extreme application workloads with great performance.
- > Gives students the freedom to learn, research, and collaborate wherever and whenever they like.

INTRODUCTION

Parkway School District, located in western St. Louis County, Missouri, skillfully uses advanced digital technology in unique ways. The district relies on enterprise-level solutions to enable top-quality teaching and learning with the most efficient use of resources. Parkway IT serves over 20,000 technology users, from students to teachers and staff.

CHALLENGE

Parkway School District faced a difficult choice: to renew the expiring support agreement for its converged infrastructure or gain greater agility. District leadership saw an opportunity to transform how Parkway empowers students to learn while allowing teachers to break new educational ground.

CUSTOMER PROFILE



Organization:
Parkway
Schools

Industry:
Education

Location:
Chesterfield, MO

Employees:
20,000+

Website:
parkwayschools.net



SOFTWARE

Hypervisor: VMware ESXi

Graphics Acceleration: NVIDIA RTX™
Virtual Workstation (vWS)

Virtualization software: VMware
Horizon

HARDWARE

Server: Dell EMC VxRail V570F
hyperconverged infrastructure

GPU: NVIDIA Data Center GPUs

SOLUTION

The Journey to Hyperconverged Infrastructure

Several years ago, Parkway worked with Dell Technologies to rebuild its data center on a converged infrastructure instead of a more traditional architecture. That initiative made it possible to consolidate disparate servers on one centralized, efficiently managed platform and give students and teachers easier access to learning resources. With only one-third of its IT staff needed to manage the converged environment, Parkway could reassign IT team members to other projects. Instead of having to address any concerns with multiple vendors, the district could now look to Dell Technologies as its single support contact.

To enable its virtual desktop infrastructure (VDI), Parkway decided to take advantage of a hyperconverged infrastructure (HCI) running on Dell EMC VxRail instead of renewing the support agreement for its current technology. Sharon Hennessy, manager of technology service operations at Parkway, says, "Deploying Dell EMC VxRail helped us achieve greater agility and make our systems more resilient."

“Especially considering the ease of management, the Dell Technologies and NVIDIA solutions provide a far better return on investment than other options.”

Sharon Hennessy,
Manager of Technology
Service Operations,
Parkway School District

RESULTS

Modernizing Technology in Two Months

Parkway deployed 12 Dell EMC VxRail V570F nodes for its VDI and nine nodes for its production environment which supports: file servers, SQL servers, HR and payroll software, power management, and other back-office applications. After planning collaboratively with Dell Technologies and NVIDIA, Parkway completed its technology refresh in just two months.

Each VxRail node powering the VDI environment features two NVIDIA® Data Center GPUs with NVIDIA RTX Virtual Workstation software and are configured with 1GB profiles to support demanding, graphics-intensive workloads. Parkway IT operates the virtualized infrastructure with the VMware ESXi hypervisor, VMware Horizon VDI delivery, and management solution.

Students are more engaged as they explore and do research. Educational applications are always available to them whether they study in labs or virtually. “We no longer have to restrict students to use our resources one hour per day,” Hennessy says. “For example, if they are curious and motivated, they can visit the lab on the weekend and design robotics systems.”

Compute-intensive tasks like creating 3D models and designs do not strain the capacities of the learning technology. Erber comments, “We are heavy users of Autodesk applications and the Adobe Creative Suite. Without the NVIDIA GPUs, we could not run our demanding workloads or offer the classes for which they are crucial.”

Julian Erber, DevOps manager at Parkway, says, “We take a lot of pride in running an enterprise-class data center on Dell EMC VxRail. Downtime is nonexistent, so students can rely on being able to do their homework anytime they like.”

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Julian Erber,
DevOps Manager,
Parkway School District

Learning and Teaching Without Breaking Stride

In the new VDI environment, Parkway has virtualized close to 1,000 client workstations so far. For business and technical education students in grades 6 to 12 and their teachers, VDI reliably enables anytime, anywhere teaching, learning, and collaboration on assignments. Students access the virtual learning environment from their district-issued Chromebooks. Confident in the dependable performance of the technology, teachers can try out new learning software when it fits their lesson plans. With NVIDIA vGPU acceleration, students and staff are also able to use graphics-intensive workloads.

Now, when Parkway IT rolls out new software applications or updates, one team member deploys a single master image from a central console instead of a group of people touching every physical device. “Before, validating and deploying software and working out bugs would take us up to two weeks,” Erber says. “Today, we can install an application and deploy it for the entire VDI environment within an hour.”

Instant server provisioning and hour-long, district-wide software deployments

In both the VDI and production environments, VxRail helps IT managers deploy and update applications and systems more efficiently. Erber explains, “Our update processes are super easy and we can scale very quickly. We often get requests for provisioning new applications and server capabilities at an instant’s notice. On VxRail, we can immediately meet those needs.”

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Sharon Hennessy,
Manager of Technology
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SUMMARY

Charting a Future Course for Hybrid Learning

Parkway expects hybrid learning, with smooth transitions from classroom to remote locations, will continue once the pandemic subsides. The district is already expanding the VDI environment and plans to support more and different applications, like video editing software. Erber notes, “We have already moved some of our virtual arts and music classes to the VDI platform, where teachers and students can create and experiment to their hearts’ content by using our heavy-workload software systems.”

Future technology updates will likely focus on Parkway’s HCI environment, which would mean financial and operational advantages for the district. Hennessy says, “The next technology refresh may not require more client workstations. Instead, it might be more VxRail appliances—or the next generation of the technology—to expand the VDI environment. Especially considering the ease of management, the Dell Technologies and NVIDIA solutions provide a far better return on investment than other options we could pursue, such as replacing the client workstation fleet.”

Parkway is enthusiastic about the assistance it received from NVIDIA and Dell Technologies in rebuilding its VDI environment as well as the ongoing support from its key technology provider. “It’s huge for us that we can trust Dell Technologies to help us get systems running quickly and reliably so we can better support students and staff,” Erber concludes. “All school districts should find a great partner like Dell Technologies, because expert insight is invaluable.”

To learn more about NVIDIA, visit: www.NVIDIA.com/virtualGPU

www.nvidia.com



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