

ENABLING THE PROJECT LEAD THE WAY INITIATIVE THROUGH INFRASTRUCTURE TECHNOLOGY

Providing transformative learning experiences for K-12 students and teachers is the mission of Project Lead the Way (PLTW). This initiative aims to enable and empower students to develop and apply in-demand and transportable skills in computer science, engineering and biomedical science, equipping them for future success, and arming the United States to be more competitive in a global market.

IMPROVED LEARNING OPPORTUNITIES, INCREASED ENROLLMENT

With PLTW, school districts have the opportunity to provide students with leading edge training and skills development, which in turn makes the districts more sought after for education, increasing enrollment. Additionally, districts can leverage grant funds to support the technology that is needed to enable these innovative, hands-on learning experiences.

With the technology available to school districts, students can take courses like:

- Engineering Design
- Aerospace Engineering
- Digital Electronics
- Environmental Sustainability
- Cybersecurity
- Biomedical Science
- Biomedical Innovations
- Medical Interventions

LEVERAGE TECHNOLOGY TO ENABLE STUDENTS

Many of these disciplines require high performing architecture to support them...think AutoCAD, Autodesk Inventor and Autodesk Revit, Adobe Creative Suite, and Windows Movie Maker. To address evolving learning styles and practices access to the applications and software needs to be extended to outside the classroom. Districts want to enable students to do their work and continue their studies when they are home, at the library, on break at their jobs, anywhere. Some districts have already invested in technology to support PLTW with high end workstations loaded with specialty software and applications. They invested in distance learning through devices like Chromebooks, but application accessibility remains a challenge, locking the learning for many PLTW and STEM courses to a handful of classrooms.

Software-Defined Data Center (SDDC), Hyperconverged Infrastructure (HCI) and Virtual Desktop Infrastructure (VDI) solutions enable districts to meet the needs of their teachers, students, and communities by delivering secure enterprise-level availability, scalability and performance. With increased processing, memory and GPU cards, these solutions can accommodate the heavier user requirements. Plus the opportunity to scale means districts can start out small and grow as usage and need expands. Add the VDI component and suddenly the high-end workstations that were locked in a few classrooms are available anywhere.

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HCI solutions can be customized to meet growing needs. Districts can start with a few nodes, or go with a fully configured turnkey solution.

Let's look at how two of the Gartner magic quadrant leaders can meet your needs for PLTW.

vSAN Ready Nodes are designed to be the basic building blocks to VMware's HCI offering, vSAN. They fit together like LEGOs®. Nodes can be large or small and just click together. All of the hardware in the nodes is validated on the VMware hardware compatibility list ensuring a seamless integration. The configuration can be as small as three (3) nodes or as large as sixty-four (64) nodes. This is critical to ensure you can grow as your needs expand. Many of the PLTW courses have significant video demands, so sizing the nodes to ensure the proper amount of GPU is available and scales properly is critical.

vSAN is VMware's software defined storage that powers its HCI solution. vSAN is built into vSphere and runs in the ESXi kernel. This architecture ensures it is built in and not bolted on like other solutions with storage VMs running in the user space. A single vSAN node can produce hundreds of thousands of IOPS (input/output operations per second), depending on its configuration.

VxRail is Dell EMC's turnkey solution around HCI. It has all the components required for a software defined data center. The foundation of VxRail is vSAN and all it brings as outlined above. The heart of VxRail is vSphere, the staple in 80% of all virtualized workloads. This is all managed by the VxRail Manager which allows for the whole SDDC to be installed in just a couple of hours. VxRail also has Backup and Disaster Recovery built right in, with RecoverPoint for VMs, and the ability to leverage cloud storage all added with the ease of adding an app from the VxRail marketplace.

Horizon View is VMware's End-User Computing solution that allows end-users to leverage all the performance of enterprise class hardware from any device, in any location, while being securely located in your data center. The end-user experience is the same or better than sitting at the expensive workstations locked up in classroom or computer labs. This flexibility ensures all students can leverage the advantage that PLTW provides, on or off campus.

With the right technology as the foundation, school districts are able to take full advantage of national and state initiatives like Project Lead the Way. Don't let your district, or your students, get left behind.

About PLTW

Project Lead The Way (PLTW) is a nonprofit organization that provides a transformative learning experience for K-12 students and teachers across the U.S. PLTW empowers students to develop in-demand, transportable knowledge and skills through pathways in computer science, engineering, and biomedical science. PLTW's teacher training and resources support teachers as they engage their students in real-world learning. More than 9,000 elementary, middle, and high schools in all 50 states and the District of Columbia offer PLTW programs. For more information on Project Lead The Way, visit pltw.org.



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