VIRTUAL TECH GURUS

VDI ON CONVERGED INFRASTRUCTURE SAVES ISD NEARLY $3 MILLION

A WHITE PAPER

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Amid Severe Budget Cuts, Improved IT Efficiency Preserves Education Funding

The Tyler Independent School District was caught in the financial vice of having thousands of old computers in desperate need of replacement, while losing significant state education funding. Teachers and students alike avoided using the machines because they were slow and often incapable of running modern software. Moreover, the difficulties and costs of maintaining thousands of PCs, sprinkled over nearly 30 different facilities and hundreds of square miles, were considerable. At the same time the district was poised to lose $10 million dollars due to major state budget cuts. The need for new machines was pressing, yet the district could no longer afford the traditional pc upgrade cycle.

A Converged infrastructure™ System running Virtual Desktop Infrastructure (VDI) software from VMware offered the district a new path forward.

Instead of the wholesale replacement of 4,000 machines, the district could instead buy the Converged infrastructure system and use its existing computers as thin clients, saving $1 million in capital expenditures in the process. Performance and user experience were top priorities; on both metrics Tyler's IT staff confirmed old computers running VDI on the Converged infrastructure system were indistinguishable from new, modern PCs.

Tyler also gained the benefit of centralized administration of the districts' infrastructure. Instead of laboriously traveling to fix and upgrade remote machines, through remote access system admins can now administer users' desktop environments from anywhere, driving major operational savings.

In all, the district expects to save $2.7 million dollars over 5 years, improve the student experience, and reinvest the savings in education.

Challenge

The Tyler school district needed to upgrade its IT infrastructure to serve the needs of 18,400 students, and 2,300 teachers and administrators. The district had a large stock of severely outdated computers, which were unusable for many tasks. Servicing these machines in the field was expensive, logistically complicated, and prone to delay. Cuts in the district's budget made it impossible to upgrade the existing PCs and continue business as usual. The Tyler school district needed a solution that not only enabled it to modernize its infrastructure, but also did so at a much lower cost.

Solution

The Tyler school district partnered with VCE to deploy a Virtual Desktop Infrastructure (VDI) solution built on Converged infrastructure systems. The solution included:

• Converged infrastructure Series 300 GX

• VMware View VDI software

Results

The district estimates total TCO benefits over 5 years of $2.7 million, including:

• Operational savings of $1.7 million by reducing the cost of maintaining the existing stock of computers, through centralized administration

• Capital expense savings of $1 million by purchasing the Converged infrastructure 300 instead of 4,000 new PCs. And customer satisfaction has increased

• Children and teachers now have highly responsive computers running the latest software

• Users have access to school IT resources whether they are in the classroom or at home

• Valuable time has been freed for the IT staff enabling it to reduce the service backlog. As the number of children in the district expands, the district will be able to avoid adding additional IT headcount due to the increased efficiency of running VDI on the Converged infrastructure platform

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Difficult Financial Times Compel Change

The Tyler, Texas Independent School District places a premium on using money effectively, out of responsibility to the children and to the taxpayer. This leads the district to be frugal with its equipment upgrades and spending. As a result, Tyler had a large stock of outdated computers, some up to 10 years old.

The Director of Technology at Tyler, John Orbaugh, commented: "Our desktops were aging. A lot of them were very old and not being used in the classroom. They were sitting there gathering dust, because nobody wanted to use Windows 98 or 2000." Something had to be done, but in the context of a shrinking school district budget, simply buying replacement machines seemed impossible. Due to $5.4 billion in education budget cuts by the State of Texas, the district lost $10 million in funding. John and his staff started looking into possible alternatives; they had several requirements:

• TCO — They needed a solution with a low total cost of ownership (TCO)

• Performance – John insisted that "we didn't want our students to know the difference between a virtual desktop and a physical desktop."

• Compatibility with end user devices and applications — It had to run Windows 7, Office 2010 Pro, Adobe Creative Suite, streaming HD video, as well as a variety of educational software

Converged infrastructure VDI Solution

Total Equipment & Software Savings $1,001,715

Reduced Staffing Expense For PCs Per Year $900,000

Staffing Expense For Converged infrastructure

Per Year -$415,455

Other Expenses: Maintenance -$108,726

Total Operational Savings Per Year $336,267

Total Operational Savings Over 5 Years $1,681,335

Total Cost of Ownership (TCO) Benefits $2,683,050

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The Right Platform

The Tyler school district selected a Virtual Desktop Infrastructure (VDI) solution running on Converged infrastructure systems to modernize its desktop infrastructure.

Working with VCE, the IT department chose a VCE VDI solution consisting of a Converged infrastructure 300 GX system and VMware View software.

Best-of-breed components guaranteed performance, while VMware's View software enabled outdated hardware to run the district's latest applications, thus reducing the need to acquire new terminals. Lower initial capital expenditure requirements, combined with the Converged infrastructure system's ease of management promised lower TCO.

Of the alternatives that were evaluated, John "liked the VCE hardware architecture better. It was a big factor, because the performance is much better. The whole name of the game is speed. The computer has to respond to the user in a form and fashion that they are accustomed to."

When the solution was introduced to the school board, the IT department set up a blind side-by-side challenge: a virtual desktop running on the Converged infrastructure system versus a current generation desktop. Could the board members determine which machine was which? They could not.

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The Benefits

Converged infrastructure Systems Bring Peace of Mind

The benefits of the Converged infrastructure systems were apparent from the moment the system arrived.

Because of the standardized, pre-integrated nature of the Converged infrastructure platform "the deployment experience was amazing. We had a truck back up to our dock one day. In a few hours the systems were deployed, and we were ready to begin configuration."

Management is also simpler — there is no longer a need to track, maintain and upgrade thousands of desktops. The entire environment can be managed from a single point of contact. The system administrator is able to log into the system from any remote location and quickly configure every facet of the VDI solution, through the administrator's interface.

John says, "I hear from my engineering group regularly about how happy they are with the Converged infrastructure, how easy it is to work with, and how well it works."

The IT staff at Tyler appreciates the consolidated services and support that VCE offers. VCE manages the patches: "We get one periodic update, where VCE has pre-tested a patch, to make sure that it's not going to have an adverse effect. One of the things we did not want to get into was a round of circular finger-pointing (when something goes wrong). Having all of the support in one location was a real plus for us."

Major Cost Savings

After examining all the options, the Converged infrastructure platform was found to be the most cost effective solution for Tyler to reduce capital and operating expenses.

Capital expenses: The district's original plan called for replacing their existing stock of PCs at a cost of $3.6 million. By purchasing the Converged infrastructure system's VDI solution:

- Tyler saved over $1 million in capital expenditures, even after accounting for hardware, software, maintenance and setup costs

- Instead of purchasing new machines, Tyler uses its old machines as thin clients. These computers are now imbued with snappy modern performance, since they are serving as shells for programs running remotely

Operating expenses: Before the platform, the costs of supporting the existing PCs were considerable. The IT staff supported 4,000 student desktops and 1,500 laptops used by teachers and administrators spread over the 200 square miles of the district. The annual management and support costs of the desktops were $1 million. This included the costs of having to update and upgrade the machines laboriously one by one, as well as making a variety of onsite repairs, and time lost by the techs crisscrossing the district in the course of business.

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• Tyler has achieved operational savings of over $336,000 per year, or $1.7 million over five years

• The new Converged infrastructure system has reduced the costs of managing the desktop infrastructure by 90%

• Entire batches of machines can get new software and upgrades remotely with relatively little effort

• Fewer issues need to be resolved at the site of the individual PCs. Everything short of mechanical failure can be handled remotely

• If a machine does break, replacing it is a matter of unplugging it and plugging in a thin client. The tech can then walk away

• The time required to set up the computer labs every summer has been reduced by two hundred hours — thus helping to ensure that all of the computers are ready for use on day one of a new school year

• These efficiency improvements will allow Tyler to avoid the cost of hiring additional staff going forward

• In total, the school district will experience TCO benefits of$2.7 million over five years

• Moving forward, as the existing stock of PCs ceases to work, they will be replaced by thin clients, which will cost $400 on average

These devices have no CPU, no moving parts, no fans or hard drives spinning. John thinks they should "last 10 to 12 years."

This will add to the ongoing savings of the system.

As the thin clients are put in place over time, they will drastically reduce power consumption costs.

The typical thin client consumes 6W of power, vs. 150 – 200W for PCs.

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As all of the 5,500 PCs and laptops are switched over to thin clients, it will save the district $221,000 per year in power costs: "We can save on the heat generated and the air conditioning

too."

Students Get Better Technology Everywhere

Finally, John says that the students now get "the exact same toolset, whether they are at the house on a weekend or in the classroom.

It is another way of pushing the technology closer to our students. " Even if a student's family cannot afford a new PC, this system can provide them with a powerful computing experience.

Next Steps

Tyler is running 120 virtual servers on 7 blades dedicated almost exclusively to VDI. As the computing needs of the district grow, additional workloads will be virtualized on it.

The system has more than lived up to user and staff expectations. John explains: "The bottom line is that it has performed quite well. We are very happy with it."

Learn more about how you can enjoy the benefits of pervasive virtualization and VDI sooner than you think with Converged infrastructure Platforms.

Visit www.vce.com or contact your authorized VCE reseller, VTG @ alan.hanna@virtualtechgurus.com experience.