

# South Haven School District

## Case Study

### South Haven School District cuts IT budgets but preserves educational quality with Wyse Technology

#### Challenge: Meet high expectations on a low budget

At South Haven Public Schools in South Haven, Michigan, the focus is empowering students with the skills needed to succeed in higher education and in the job market of the future. The district educates all students in how to use information technology: it boasts an excellent student-to-computer ratio, provides all students access to computers, and integrates technology into the learning process. With funding increasingly tight, the district has had to seek ways to continue to meet its goals while cutting technology costs.

“It’s a challenge to provide the best technology with current levels of funding,” says Jan Carlson, District Technology Supervisor at South Haven Public Schools. “For example, to stay current we should be replacing PCs every five years, but the district can’t always come up with that large sum all at once. It’s a catch-22: if we can’t afford to replace our computers in a timely fashion, we end up spending more on support and non-renewable resources for older machines.”

For the past few years, the IT group has been increasing efficiency by streamlining its systems and increasing its capability to manage computers remotely. Carlson originally wanted to take that initiative to the next level and implement a terminal server configuration for more centralized ease of management and cost effectiveness. In the course of exploring that idea with IT consultants at Brain Trust Technologies, she refined her plan.

Brain Trust Technologies investigated how the district could get PC-level multimedia performance, together with low TCO, centralized ease of maintenance, and control. “We explored other virtual desktop providers, and found many solutions were complex. Wyse Streaming Manager (WSM) simply pushes processing down to local hardware (“streaming”) to deliver all the functionality of a PC, without any of the complexity,” explains Jeff Cobado, CEO at Brain Trust Technologies.

Brain Trust Technologies recommended the district implement WSM in a core/edge configuration to automatically and securely supply student software to diskless workstations. In fact, Brain Trust Technologies was so impressed with this configuration that it also deployed WSM in its own offices.

For Carlson, the first opportunity to put the new plan in place came when she needed to replace 60, seven-year old PCs in two labs at the high school. She wanted to ensure that the new computers were absolutely reliable. If one computer is down, students have to share a machine, making it difficult for them to complete their work. Teachers have to spend extra time accommodating those students. Slow performance negatively impacts teachers, students and staff.

#### Viewpoint

“WSM gives organizations the ability to utilize low cost, commodity based, hardware on the client side, while providing a centrally managed, distributed model. This results in an energy efficient, productive desktop with all the performance of a PC without the day-to-day complexities and risks associated with them.”

JEFF COBADO,  
CEO,  
BRAIN TRUST TECHNOLOGIES LLC.





## Enhancing education

“The less time and money we have to spend fixing problems, the more we can seek out new applications, develop new solutions, and enhance the quality of our students’ technological education.”

JAN CARLSON,  
DISTRICT TECHNOLOGY SUPERVISOR,  
SOUTH HAVEN PUBLIC SCHOOLS.

Thanks to Brain Trust Technologies’ experience with WSM, and virtualization, implementation was simple. “It took us just one day to set up the core and virtualized edge server and six hours to build the student software image,” recalls Cobado. “Four technicians swapped out each lab within about an hour. We had the workstations up by lunch on day two with no impact to the district.”

### Solution: Diskless Workstations and WSM deliver performance and reliability

Today, two labs in the high school house Intel-based diskless workstations. The core server running WSM is located in the data center, with a virtualized edge server at the high school. The virtualized edge server distributes the WSM image over the high school LAN, while freeing the network backbone from having to handle login and profile traffic.

One lab is dedicated to business and accounting classes, where students work on Microsoft Office products and accounting applications, additionally they rely on Internet access. Having to keep multiple applications open at the same time to move information among them was challenging the old PCs. Multi-application use is easy with the new system, due to more powerful local processors plus additional memory. In the other lab, the teacher uses the same applications, plus Moodle, a free Internet-based product for education, and other Internet-based applications that use Flash, Quicktime, and Windows Media Files. The new workstations perform just like high-powered PCs, with no multimedia slowdowns or glitches.

### Benefits: Costs decrease while quality of experience improves

With the new infrastructure in place, South Haven Public Schools has already begun to experience benefits including low TCO, hardware cost savings, greater responsiveness to teachers’ needs, improved support and increased performance and security.

### Low Total Cost of Ownership delivers ongoing savings

WSM’s projected ease of use and low TCO sealed the deal for the district, and the software has delivered as promised. Man-hours spent on maintenance and repairs are down sharply. “We rarely need to repair the machines,” says Carlson. A typical lab with 30 PCs would generate 5 to 10 work orders per week, but Carlson says she’s had fewer than ten service calls from the two labs during the current school year. “The few fixes we’ve had to do have taken one tenth or less of the time and effort compared to fixing a PC,” says Carlson. “Because most things can be done remotely with WSM, we rarely send someone out to the labs, saving time and money.”

Non-renewable resources are also down sharply in the new labs, for two reasons. One is that Carlson now schedules the machines to turn on and off automatically, eliminating the chance that they’ll be left on overnight or over a weekend accidentally, reducing power consumption. The other is that the diskless workstations themselves use seventy five percent less power than the PC’s that had been previously deployed. Additionally, not having to send technicians out uses less fuel, reducing the school district’s carbon footprint on the environment further.

### Hardware cost savings help district keep performance levels high

To have a PC loaded with its basic software and ready to go costs the district approximately \$700.00 per unit; for a diskless workstation, it costs around \$500.00. Though diskless workstations with WSM do have more requirements on the back end, Carlson calculates that the district is currently saving \$250.00 per unit, net of additional back-end expenses—and per-unit cost will decrease as the number of units goes up. The use of WSM makes the infrastructure flexible and highly scalable.

“The WSM approach is extremely cost effective, due to the fact that workstations are a commodity,” observes Cobado. “WSM gives organizations the best of both worlds: they can achieve PC like performance on the least expensive device, while gaining more control over the endpoints.”

The district will save money due to the longer lifespan of the diskless workstations. While PCs become slow and costly to operate after about four years, the new machines should maintain excellent performance and require little maintenance for approximately seven years. If requirements increase



## Going it alone: another WSM option for Organizations

Carlson and her team benefited from Brain Trust Technologies' interest and experience in WSM, but even organizations that don't have expert help can implement WSM without requiring expertise in-house. Wyse now sells a package called WSM Pilot in a Box that includes end-to-end support, so organizations can start small with their WSM implementation, and grow from there.

WSM Pilot in a Box includes a Wyse WSM Appliance, pre-loaded and ready to go, plus three Wyse Zero Clients (diskless workstations). This basic configuration can support up to 25 diskless computers, and scale up readily as needed.

**For more information, visit the Wyse website at [www.wyse.com/solutions/education/index.asp](http://www.wyse.com/solutions/education/index.asp) or call 1-800-GET-WYSE.**

due to more complex software it can be managed on the WSM image. When workstations need to be replaced, the cost will be more affordable for the district.

### WSM Delivers new software to the desktop faster

When teachers in the WSM labs want new software made available, the IT team can usually make access available in the next few hours instead of days. Carlson and her team only have to update the central software image on the server. When each student logs on, he or she sees the latest software. Technicians no longer have to travel to the labs to complete the update, saving additional time and money.

### Increased performance and security

The diskless workstations don't need any of the performance-slowng security products that protect computers from viruses or from curious students eager to see what they can do to change a machine.

"No matter what they do, students keep getting the original settings back," says Carlson. "Plus, we're saving a lot of money in antivirus software licensing." With the Wyse streamed virtual desktop, there's no need to defragment, or lock the endpoints down: each reboot delivers a fresh start, with no performance degradation over time.

ROI Factor	ROI Calculation	Annual Cost Avoidance
Reduced costs of hardware	\$200.00 savings for each PC replaced by a diskless workstation	For 60 workstations, \$12,000.00
Greater availability/reduced downtime	1.5 hours of downtime and 1.25 hours of IT staff time saved per issue with a diskless workstation vs. a PC.	Avoided 540 hours of downtime and 450 hours IT time spent annually on 60 PCs
Longer life cycle: 7 years vs. 5 years	Total cost of ownership is PC vs Diskless workstations over their life cycle. PC = 5 years Diskless Workstation = 7 years	PC = \$140.00 per year Diskless workstation = \$71.00per year Almost 50% cost avoidance per year
Reduced support cost	Technicians take about 1.25 hours to deal with a trouble ticket, but instead of receiving 5-10 trouble tickets, IT may have only one ticket from the new lab in a multi-week period, and it can usually be dealt with in 10 minutes, without travel.	Savings of approximately 12 hours of staff time each month.
Lower electricity consumption	The district's replaced desktop PCs consume 200 Watts; workstations typically consume up to 36 Watts, for a savings of as much as 164 Watts per PC.	Manageability of the units allows for superior electricity savings from 22696 kWatt hours up to 72504 kWatt hours per year.
Reduced electricity costs	Michigan electricity prices were recently around \$0.10 per Kilowatt hour	Annual electricity cost savings of \$38 per unit per year with no management up to \$121 per managed unit per year.



## Summary

### Customer:

- South Haven Public Schools, Michigan
- 2270 Students
- 254 Staff
- 5 school buildings
- 1 administrative building.

### Challenge:

- Develop student's computer and software skills
- Provide students, teachers and staff access to high-performance computer environment.
- Reduce the total cost of ownership (TCO) of technology
- Implement a "Green" computing environment.

### Solution:

- Distributed thin-computing environment leveraging VDI (Virtual Desktop Infrastructure) solution using Wyse Streaming Manager (WSM).

### Results:

- Saved on hardware, support, and non-renewable resources.
- Successfully implemented first step in moving forward in the "Green" technology initiative.
- Eliminated performance problems and equipment failure
- Increased responsiveness to teachers, students and staff requests.

## Conclusion:

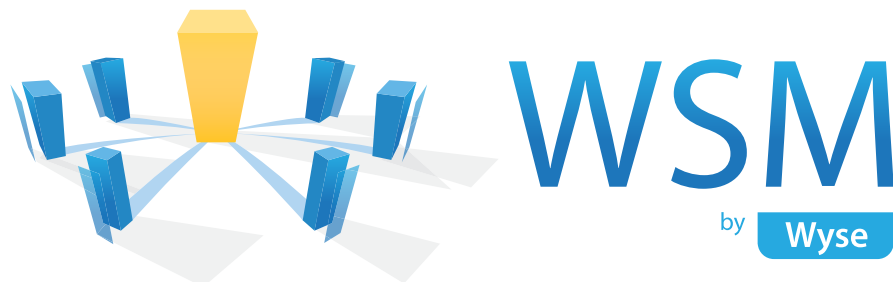
### Build tomorrow's skilled professionals on today's budgets

Carlson is enthusiastic about the cost savings and performance of the Wyse Streaming Manager infrastructure—and the ease of management. “If I’m sitting in my office and I want to check on the machines, I simply log in and I can see them all,” she says. “I can bring them all up in the morning, turn them off at night. If there’s a problem with any software, we just fix it in the data center and it’s up and out to all the diskless workstations right away.”

Carlson is glad she’ll be using WSM to transition to Windows 7 in the future. “To put Windows 7 on hundreds of standalone machines requires a huge amount of time, effort, and money,” she says. “But we know that for our WSM machines, it will be no trouble. Brain Trust Technologies tested the process and within 10 minutes had upgraded our diskless workstations to Windows 7 in both labs. I just hope that when we’re ready for a full rollout we have more diskless workstations connected to WSM and a lot fewer PCs!”

The team at Brain Trust Technologies is also very pleased with its own transition to WSM. Support time, costs, and renewable resource usage are down, and the company has developed valuable expertise in running a WSM implementation that positions it to sell and support WSM-based solutions to more customers. “The ease of installation and use of WSM means it takes less than half the effort to deliver and maintain than other VDI solutions,” says Cobado. “We can do everything in a few clicks, so we can easily sell WSM as part of managed client services even to very small businesses. This has opened up new business opportunities for us and our clients.”

Meanwhile, Brain Trust Technologies’ WSM client is poised for greater growth. Carlson is eager to replace PCs in labs as they become obsolete, and to put workstations in the schools’ administrative and accounting offices to support more efficient operations for the district. With more workstations in place, Carlson believes the district can achieve its goal of delivering a high-quality, high-tech, “green” education—while staying within budget. “As we increase efficiency due to the WSM solution, we can reallocate our budget to more creative use,” she says. “I could even get one of my staff out in the classrooms working with teachers. The less time and money we have to spend fixing problems, the more we can seek out new applications, develop new solutions, and enhance the quality of our students’ technological education.”



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