

# Rockhurst University

## Case Study

### Rockhurst University goes lean and green, saving 80% on student labs with Wyse

#### Challenge: Doing More with Less

Founded by the Jesuits in 1910, Rockhurst University is a comprehensive university that offers more than 50 undergraduate and graduate programs taught by nationally recognized faculty. The Kansas City, Missouri-based institution has been ranked among the top masters' universities in the Midwestern United States by U.S. News & World Report, and has several times been singled out by the Carnegie Foundation for its excellence in teaching.

This track record of innovative teaching is matched by a tradition of innovation in IT. Rockhurst University has been ranked among the nation's top 30 wireless college campuses by Intel. So when the university considered switching from PCs in its student labs to thin-client devices, but could not find any other school that had done so, it was not deterred.

"We took a leap of faith," says Michael Stanclift, Network Analyst at Rockhurst. "We wanted to continue to provide our students and faculty excellent services while cutting the costs of maintaining PCs and conserving energy. We believed that thin clients could be the solution."

Rockhurst University computer labs are equipped with 230 PCs. These serve students who need to work on specialized applications that are too expensive for them to purchase on their own, such as SPSS statistical analysis applications, Loggerpro for physics, and Mathematica, an application that helps create mathematical formulae and calculate their values. The lab PCs also provide access to standard computing capabilities, such as Microsoft Word and Excel and Internet browsing. Keeping those machines up-to-date and running smoothly was expensive. IT spent on average 6-10 hours a week and between \$300 to \$400 in man hours and repair costs dealing with these PCs' hardware issues, failed hard drives, and software corruption problems.

In addition to this continual need to maintain desktop computers, Rockhurst also needed to replace them with newer models every four years, to keep students equipped with systems powerful enough for the latest applications.

#### Viewpoint

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NETWORK ANALYST,  
ROCKHURST UNIVERSITY**





## Budget efficiencies

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Rockhurst typically replaced half its PCs in one year, half the next, and then repeated the cycle. Each of these two cycles would take 75% of its IT budget for that year. This frequent replacement of PCs—and day-to-day maintenance, support, and repairs—consumed too much IT staff time and too large a share of the university’s limited IT budget, leaving little scope for future innovation. The IT group was eager to consider options, especially any that would reduce e-waste and contribute to the university’s efforts to minimize its carbon footprint.

“We started to think about virtualizing our desktop machines after we implemented VMware ESX and saw the benefits of virtualization within our server environment,” explains Stanclift. But there were concerns. The IT team had limited experience using thin-client devices and no experience with virtual desktop infrastructure (VDI). Timelines were tight: to minimize the impact on students, Rockhurst University would have to complete the entire project—switching out PCs and replacing them with thin-client devices and a VDI on the back end—all during a 12-week summer vacation period.

“We considered switching only a few labs to thin clients to start,” comments Stanclift. “But ultimately we decided that from a financial standpoint and in the spirit of keeping standardization in the labs, we would take the leap and replace them all at one time. We knew that thin clients could save us in hardware costs, refresh, installation, and energy. The prediction that we’d save 80 percent of our energy costs sealed the deal with everyone who had to approve the project, so we got the green light to proceed with a complete cut-over.”

## Solution: Thin Computing

The change-over went smoothly, taking only five weeks, and when students returned from their summer break, they found that all the PCs in the computing labs had been replaced by Wyse V10L thin-client devices. Rockhurst students benefit from the Wyse TCX USB Virtualizer capability to securely plug in their flash drives, so they can use their own data when working on the university’s specialized applications. IT enables students to check out floppy drives and CD ROM drives and connect them to the Wyse-based infrastructure, too, to accommodate other media.

Initially, most students didn’t notice a difference—except that the thin clients were faster and much quieter than PCs, making it easier to concentrate. Over time, they came to appreciate the other advantages of thin clients compared to PCs, such as the ability to pick up the same session from any thin client on campus and increased up-time.

For the IT department, the thin-client implementation dramatically changed their jobs, reducing to almost nothing the time required to support end-user devices in the 18 computer labs spread out across campus.



## Managing the cultural transition

Rockhurst University students embraced the thin-client initiative from the start. “We had instant approval from the Student Senate to move forward with the project, and once the other students found out how much energy we could save and how environmentally friendly the units are, they were completely sold on the idea,” says Stanclift.

Stanclift recalls hosting a demonstration of the new thin clients. “One student didn’t realize that we were rolling out something new,” he says. “When we asked whether she noticed anything different, she seemed surprised—and asked whether we’d changed the mice. That completely sold the faculty on the new system: the fact that it didn’t change the learning environment at all.”

## Wyse Benefits: Easiest to use and manage

The most meaningful measure of the success of the thin-client implementation is student satisfaction. The students were pleased with the thin clients’ performance and enthusiastic about their environmental benefits, but Stanclift sees that as just the most immediately obvious value of thin clients. “Ultimately, we can use whatever we save from PC maintenance to continue to innovate and enhance our learning environment,” he says.

ROI factor	ROI calculation	Cost avoidance
Reduced overall costs of hardware, software, licensing, and three years of support	\$155,000 for all the hardware, software, licensing, and three years of support for all aspects of the thin client system, compared to \$185,000 for same number of PCs	\$30,000 one-time savings
Greater availability/reduced downtime	One week of down time to resolve average PC issue, typical PC experienced one event per year	For 230 thin clients, avoided an average of 230 weeks of downtime per year
Longer life cycle: 6 years vs. 4	Replacing 230 PCs per year with thin clients saves \$30,000 in hardware costs	Projected \$30,000 in hardware savings in first year; \$245,000 over 12-year period
	\$2,000 in IT staff time savings per replacement cycle of 230 PCs	\$2,000 in IT staff time savings per cycle; \$6,000 over 12-year period
Reduction in support overhead	Technicians no longer need to spend time re-imaging and re-installing software on each PC at the start of each semester; with Wyse, re-imaging runs automatically overnight	Savings of 3 weeks of 2-3 technicians’ time each semester; approximately \$4,000 per year for two semesters
	Average of 10 hours of technician time spent on repairs per PC per year; less than a few minutes for a thin client	For 230 thin clients, avoided 2,300 hours—equivalent to one full-time employee—spent on repair annually
Lower electricity consumption	Estimated 80% reduction in energy costs compared to traditional computer lab.	Each thin client uses just 3% of the power required by a PC.

## Delivering better computing service for improved learning

Stanclift estimates that a typical failed PC takes about a week to replace, allowing for diagnosis, repairs, reimaging, and redeployment to the lab and network. Replacing a failed thin client takes just 15 minutes or less. Rockhurst keeps extra Wyse thin clients on hand, and unlike thin clients from other providers, the Wyse devices have minimal configuration requirements. Staff can simply plug in the thin clients without any additional local configuration, and they can be up and running within minutes.

Thin clients are quieter and so less distracting than PCs. They’re more convenient for students because thin clients enable students to work at any of the labs on campus and still be working in their own desktop environment. And if students are working on thin clients



## Managing the cultural transition -

continued

What students did notice was the fact that the new computers were faster and quieter. Students and faculty have thanked IT for the quieter work stations in the labs across campus. As the semester progressed, they also noticed that computers were never out for repairs. And student organizations concerned with environmental issues have been delighted. “We even received a huge ‘Thank You’ card from one of these organizations called Voices for Justice,” says Stancliff. “It was signed by all the students in that organization and was a great boost for us to receive such a thoughtful card from our students.”



and the building loses power or suffers a network problem, students can go to any other lab on campus, log back in with their credentials, and start working again with the same desktop, exactly where they left off, even if they had not saved their work.

### Making more efficient use of IT staff time

The switch to thin clients saves IT time previously spent on day-to-day PC maintenance, each semester's lab preparation, and PC refresh cycles. This frees IT staff to focus on higher-value tasks, such as helping users, evaluating new software purchases, and special projects such as upgrading the university's multimedia capability.

Supporting PCs day-to-day meant sending members of the IT support team to labs around campus to re-image machines, add software, and troubleshoot problems that students experienced with the machines. In a typical year, IT staff would spend 10 hours per machine on ongoing PC support and maintenance. With Wyse thin clients, IT staff can do all of this from their offices, usually within minutes, without the need to send staff into the labs.

In addition to day-to-day maintenance, IT had to send two to three staff members into the labs for three weeks at the start of each semester to re-image every computer, ensuring that each had the latest applications and was operating smoothly. Now, with Wyse, IT's network staff simply update the central desktop image. As soon as users log in, they automatically get the new desktop image.

While PCs need to be replaced every four years, Wyse thin clients are likely to last six years or longer. Plus, thin clients are much easier to deploy, as they don't need to have applications loaded on. Over a twelve-year period, this greater ease of implementation and reduction in refresh cycles is expected to save Rockhurst at least 18 weeks of staff time for 230 thin clients.

### Saving money

Purchasing and implementing a thin-client device costs less in hardware and staff time than purchasing and implementing a PC. Over a twelve-year period, with the lower refresh rate of thin clients, Rockhurst University expects to save \$245,000 in hardware. This frees much-needed funds for other IT projects and applications.

The switch to thin clients brought immediate savings, too. “We spent a total of \$155,000 on all the hardware, software, licensing, and three years of support for all aspects of the system,” says Stancliff. “For the same number of PCs, over a three year period, I'd expect to pay \$185,000 for hardware, software, licensing, and three years of support.”

### Going green

Rockhurst University is committed to conserving natural resources and protecting the environment. Thin clients have a much smaller carbon footprint than PCs: they require less energy and raw material in manufacturing, are shipped in smaller boxes for greater transport efficiency, and have a longer lifespan. Also, because thin clients do not have spinning disks or fans, they use less electricity, reducing the computer labs' contribution to Rockhurst's power bills by approximately 80% annually.

The Kansas City Star newspaper featured Rockhurst University's replacement of PCs with thin clients as a significant green initiative, helping create an even more positive image of the university among students, faculty, staff, and the community.





## Save and innovate

‘Ultimately, we can use whatever we save from PC maintenance to continue to innovate in how we use IT to enhance students’ learning.’

MICHAEL STANCLIFT,  
NETWORK ANALYST,  
ROCKHURST UNIVERSITY



## Conclusion: Getting the most innovation for the money

By becoming one of the first educational institutions to fully deploy VDI to all computer labs on campus, Rockhurst University is strengthening its reputation as an innovative university, and has already gained more favorable publicity as a result. Rockhurst University Computer Services received the Computerworld Magazine Honors Program Laureate Award in the summer of 2009 for its thin client project. Now Stanclift and his team are spreading the word about thin computing among other educational organizations. “We have already met with or spoken to 35 other organizations from all different areas,” says Stanclift.

Stanclift strongly recommends thin computing to those other organizations. “Our thin-client implementation has achieved its goals and exceeded our expectations,” he says. “Thin clients helped us meet our students’ needs by delivering greater availability, quieter working conditions, and reducing our environmental impact. At the same time, thin clients freed our IT staff to do more innovative work, and saved us money on PC hardware and maintenance. We used those funds to upgrade our e-mail infrastructure, increase our Internet capacity, and renovate our residence halls’ computer network to deliver more wireless access points and more bandwidth. We used the extra support time to implement multimedia upgrades for every classroom, with touch-screen controls to help faculty enhance the classroom experience and be more efficient. These investments enhance the learning environment at Rockhurst and help us continue to attract the best students and faculty.”

And, according to Stanclift, Wyse thin clients in the university’s computing labs is just the beginning. “We are discussing the possibility of a future thin client laptop implementation for faculty, staff, and students that could be used anywhere in the world with an Internet connection,” he says. “That way, employees and students could have access to all the resources we have on campus, while our data stays secure on the servers in our data center.”

## Summary

### Customer:

- Rockhurst University, Kansas City, MO
- 3,000 students
- 230 PCs in labs

### Challenge:

- Reduce cost of maintaining PCs
- Conserve energy and support green initiatives
- Increase the lifespan of lab computers

### Solution:

- Centralized thin computing environment with Wyse V10L desktop thin client devices connected to centralized application servers via VMware View Virtual Desktop Infrastructure (VDI)

### Results:

- Increased computer availability by nearly eliminating downtime
- Increased IT staff efficiency by reducing support needs
- Slashed cost of hardware, software, licensing, and 3 years of support for 230 PCs by \$30,000, or 17%
- Saved an estimated 80% of energy required to power PCs

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