

Moreland School District Case Study

Moreland School District in California is Taking Advantage of Sun Ray™ Appliance's Unprecedented Flexibility



This picture is part of a photograph taken in 1933, the building served as the Moreland Elementary School from 1894–1951.

In 1850, Moreland was established as the second school district in California. For the first two years, instruction was provided in a private home. On November 13, 1852, teacher Samuel Rogers purchased the home of Zechariah Moreland for \$350 to establish the district. That residence was the 'schoolhouse' until 1894 when Moreland Elementary School was built at that location. It remains a historical landmark. At first, only the lower floor was utilized for teaching, while the upper floor was occasionally used for dances, until it was needed for classroom space. The school continued to be a district learning facility until 1949. Population growth and age forced its closure in 1951. The original school bell, which sits atop the front of the building, was saved and is currently displayed outside of the Moreland School District Office as a reminder of Moreland's proud history.



“I am only beginning to recognize the impact of the Sun relationship with Moreland. I recognize that it is a new paradigm for computing and I know we will continue to explore and exploit this network-centric model.”

– Les Adelson, Moreland School District’s Superintendent

Key Highlights

Organization:

Moreland School District, San Jose, CA
 K-8 School District—9 Schools,
 4,200 students

Industry/Market:

Primary and Secondary (K-12) Education

Customer Environment:

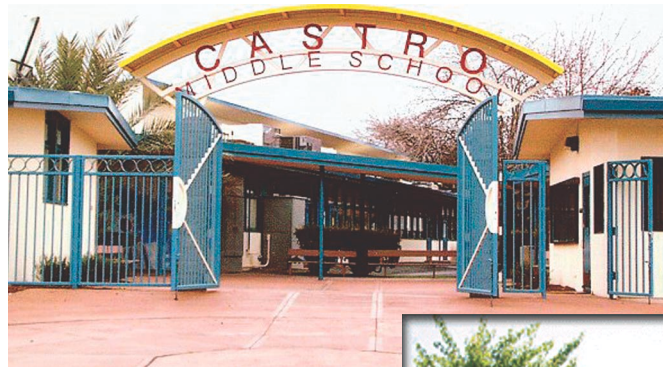
- Sun Fire™ 280R servers
- Sun Fire 480R server
- Sun Ray™ 1 appliances
- Sun Ray 100 appliances
- Sun Ray 150 appliances
- Sun Blade™ workstation
- Solaris™ Operating Environment
- StarOffice™ Software Suite
- Netscape Navigator™

Key Objectives:

- Web-based environment for administrators, teachers, and students
- Easy to use and easy to upgrade
- Reliable, cost-efficient solution without the administrative hassles

Key Benefits:

- Improves reliability
- Increases productivity gains
- Eliminates software loading and updating at the desktop
- Easy maintenance with Web-based administration tools
- Provides simultaneous access to applications hosted across multiple platforms



www.moreland.k12.ca.us/schools/Schools.html

Founded in 1850, Moreland School District is located in the heart of Silicon Valley. As the first rural school district in California, Moreland opened its doors to just a few students taught in a private home. Today, Moreland has grown to include seven elementary schools and two middle schools (4,200 students). Moreland prides itself on providing rich educational experiences and resources to students of all ethnic backgrounds.

Similar to most school districts in the United States, Moreland schools were either predominately PCs or predominately Macintosh. The majority of these desktop PCs were reaching end of life.

“We were at a point where we needed to make a decision between spending available technology money on updating the aging and out of date PCs and Macintoshes versus trying a new solution, entirely,” explains Mike Jones, Moreland School District’s director of information technology.

Of the nine schools in the Moreland School District, six schools are currently using Sun Ray™ appliances for use by teachers, administrators, and students.

The Migration to Thin Client Technology

Although the Moreland School District is a longtime user of Sun systems, they first learned of the Sun Ray appliance through Sun’s Open Gateways grant program in 1998. Through the Open Gateways program, one of Moreland’s schools, Payne Elementary, was able to implement a Sun Ray lab on its campus. The Sun Ray lab enabled first through fifth grade students to have access to technology along with StarOffice™ software suite.

At Payne Elementary, all of the students have access to Sun Ray appliances with StarOffice software. Each class has 50 minutes of lab time per week. Students are assigned a variety of projects using StarOffice software throughout the year. One of the most exciting projects is a year-end, district-wide project for fifth graders called ROPEs (Rite of Passage Experiences). This project requires students to meet an extensive set of criteria. Frequently,

the final presentation of their study is presented using StarOffice software suite.

Through Payne’s use of the Sun Ray lab, the Moreland School District was able to pilot the thin-client technology for expansion into its other schools.

“Based on the success of the grant program at Payne Elementary, we decided we wanted to promote the use of network appliances throughout the district,” says Jones.

A Web-based Environment

With a vision of providing all of its schools with a Web-based environment, Moreland School District looked extensively at the pilot program with Payne Elementary and its use of the Sun Ray appliance, as well as other thin-client devices. Another thin-client product was also being used through a pilot program at one of Moreland’s other schools.

“We looked extensively at the pilot program with Payne Elementary and we also looked at the competing product that was implemented at one of our other schools. In addition, we looked at three to four other, so-called, thin-client products. In the end, we found that Sun Microsystems’ Sun Ray appliance was the most unique. The other products all had the same look and feel. Sun was the only one that had a really unique approach. It is a true ‘thin client,’ with no operating system, no moving parts, and a five-year warranty—and we liked that different approach,” says Jones.

He adds, “The Sun Ray appliance also fit into our vision of a Web-based environment. It doesn’t break, it can’t fail. You can stick a Sun Ray appliance in front of a student, teacher, or



administrator, and it provides a Web browser. Sun Ray appliances are Web-enabled devices. You don't have to spend a lot of money for all that power inside a multimedia PC or Macintosh that becomes obsolete in one to two years and breaks down with some regularity."

From the classroom to the front office, Sun Ray appliances deliver unprecedented flexibility to students and faculty alike. Sun Ray appliances are simple, plug-and-work desktops, which run no local software and never need to be upgraded. Teachers are free to teach, while the administration, system maintenance, and upgrades are left to the IT experts who manage the servers. Sun's innovative Hot Desk technology enables users to instantly access their own personal sessions and work in progress from any appliance in the workgroup—providing anytime, anywhere learning. Smart cards, similar in size to a credit card, deliver secure access to the system and enable easy mobility—users can withdraw their smart card to stop mid-sentence in an application, then continue where they left off by re-inserting their smart card into any Sun Ray desktop on the school's network.

Providing Schools with Equal Access to Technology

In a typical classroom setting there is a great disparity of technology access. There are schools that are technology rich and have lots of computers, or there are schools that are technology poor and have maybe one or two computers that are obsolete or outdated. With a network compliant strategy, everyone has equal access to technology because it's all coming from a central server.

"Sun Ray desktops help deliver equal access to technology. With the Sun Ray environment, if we upgrade the central Sun server, all the Sun Ray desktops automatically get upgraded—everybody benefits. Whereas with the old systems, we could only upgrade a percentage of the systems, so some people benefited and some ended up with hand-me-down systems," says Jones.

Integrating the Sun solution into the school district, Moreland took two approaches. The approach for the two middle schools was to start with the teachers and expand out to the students. Through this approach every teacher's desk in every classroom has a Sun Ray desktop. This allows the middle school teachers and administrators to access their assessment tracking system, EdMin, as well as enabling them to send and receive e-mail, Web browsing, and perform other administrative tasks.

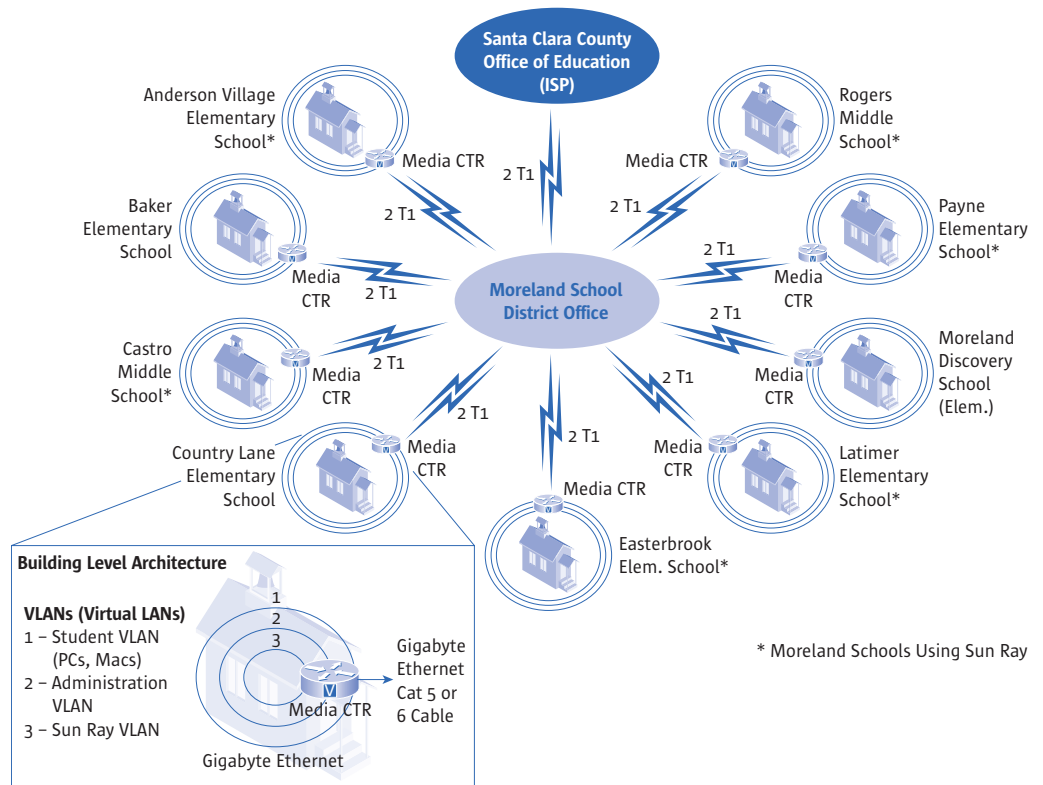
The approach with the elementary schools was the opposite. In the elementary schools, Sun Ray appliances were implemented in the computer labs for students use and then expanded up through the classrooms and to the teachers and administrative staff.

Tomorrow's Technology

Moreland School District believes there is a shift away from traditional standalone applications operating on individual desktop computers and toward Web browser-enabled applications and away from traditional CD-ROM-based software. These trends in technology will profoundly affect how schools deliver quality curriculum to students in addition to how the district manages its business operations.

Moreland wants to position itself at the forefront of these emerging trends and

Moreland School District WAN Architecture



* Moreland Schools Using Sun Ray

become a leader in the innovative use of technology in public education. As public schools face more and more competition from private, parochial, and charter schools, as well as school vouchers, Moreland strives to provide a learning environment that makes the most effective use of technology, maximizes learning/teaching time, and does so in the most cost effective way possible.

Moreland feels that while the initial investment in server resources and network bandwidth may be significant, over time, the total cost of ownership is significantly less and the need to budget for personnel to perform desktop support functions is greatly reduced. "Server-based resources, Web browser-based content, and network appliances represent the best opportunity for innovative and cost-effective application of technology in an educational setting," says Jones.

To sum it up, Jones says, "We're going down a path that's not locking us into Microsoft or any proprietary operating system."

Currently, six of Moreland's schools are using the Sun Fire™ 280R servers along with the Sun Ray appliances. Each school has at least 32 Sun Ray appliances.

A Higher-Level of Learning

With the new Sun architecture in place, more students and teachers have access to the global community via e-learning. Students have the tools that will help them build knowledge by interacting with the world around them. They can communicate on a global level using new mediums including multimedia StarOffice software suite and other programs, content portals, search engines, and electronic libraries. This means that education at Moreland is student-centered and the learner can construct his or her own meaning from the experience.

Teachers at Moreland are re-thinking how they deliver instruction. Traditional

textbook content and lectures can now be enhanced with online resources, interactive multimedia, and content portals. Classroom discussions now extend beyond the walls of the classroom via telecommunications. Teachers are restructuring lessons to create more authentic experiences for students. Student learning is active, reflective, and it promotes higher-level thinking skills.

"With the Sun thin-client solution there are no technical difficulties. For teachers who are struggling to get a handle on their own technology skills and more importantly, how to integrate it into the curriculum, this is very important. The instructional momentum is maintained at all times and students are engaged," says Michelle Watson, Moreland School District's technology resource teacher.

"With the Sun technology in place, the students are doing more research projects using the Internet and less research is done in the libraries. Students practice the skills being taught in the classroom using Web-based activities. All work performed is standards based. Students are using more educational programs to increase their knowledge," explains Denise Heuer, teacher at Payne Elementary School.

The teachers and administrators are using the Sun Ray desktops to send e-mails to fellow teachers and parents, to do lesson planning, and create lesson templates. The Sun Ray desktops provide a simple-to-use tool to easily communicate and be more productive.

"Teachers and administrators feel more confident and competent on the Sun Ray computers," adds Heuer.

Not only are teachers and students taking advantage of all the benefits the new Sun solution has to offer, but school principals are too.

"As a building principal, I love the Sun system. I really like the smart card technology," explains Gary Stebbins, principal at Rogers Middle School. "I log on in the morn-

ing and then throughout the day as I visit classrooms, I can access e-mail or do whatever I need to from any device on campus. The students see me using this technology (modeling) and this makes for a good discussion at times. I am also teaching a class one period per day and I use an Internet grade book program. I can enter student grades from any Sun Ray desktop in the school. In short, the Sun Ray desktop and the smart card have enhanced my ability to stay connected without being tied down to my office. As instructional leaders, principals need to be visible and model good teaching. This system helps me do both."

In addition to using EdMin software district wide, Moreland is currently implementing Leboe & Grice Multimedia's 10 Minute Publisher, Thinkronize's netTrekker, Classwell Online from Houghton Mifflin's Classwell Learning Group, bigchalk Library & Retriever, in addition to SIRSI's UnicornECOLE library software to their Sun environment.

As a computer lab aid and instructional assistant at Moreland's Latimer Elementary School, Debbie Holler has first-hand experience with some of the district's latest software applications. "bigchalk provides students with access to a huge library of resources right at their fingertips. More than we could ever buy and maintain as a subscriber. Both new and archived information from print news and magazine publications are available to students. This has been a tremendous resource that I have used for several years now."

She adds, "For teachers and other media specialists, the teaching resources are exceptional. I have been using bigchalk's newsletter and sharing ideas with teachers and with parents in our school newsletter, which is great. Throughout the district, we are all sharing great ideas and best practices — teachers, para-professionals, and students. With access to bigchalk in combination with netTrekker, I have not only improved my

lessons, but am encouraged to create new ideas. These are terrific teaching tools!”

“I love Classwell. It is user friendly and has lots of meaningful resources,” says Jackie Costanzo, a Moreland third-grade teacher.

“SIRSI’s UnicornECOLE provides a universal catalog that stores all of the information about the district’s library collection on one server. The system can search the libraries of different schools, allowing teachers and students to see in minutes where the material they need is in the district,” explains Jones.

“Students are doing more work, and all our technology use, programs, products, or the process of doing that work is correlated to our state and local standards. There is no compromise to our educational commitment. Students use the drawing program to create illustrations for their books and shapes for their study of geometry. Students use the text program to write essays, poems, reports, books, and letters. Lab time has increased since we received the Sun Ray desktops. Students use the Scholastic Reading Counts program to help build their reading and comprehension skills,” adds Heuer.

“It has been exciting watching the migration away from ‘programs.’ In the primary grades, teachers have sought ways to integrate the California Language Arts standards and technology. For example, in one of the second grade classes, the focus was on finding a way to implement the standard on letter writing, a partnership was developed with another Sun Open Gateway grant school in Broomfield, Colorado (Mountain View Elementary). The classes used e-mail to correspond with each other. Thus, the technology provided a means for developing a meaningful approach to the core curriculum. Another example is how a third grade class was learning to write reports, and used animals as their focus. The children used a number of search engines to find Web sites where they could learn more about their animals, and find pictures for their final word-processed reports.



In a fourth grade class, students complete presentations highlighting their learning from a geometry unit, while a team of fifth graders created their own businesses and used the presentation software to summarize the key ideas for their business. These are just a few examples of ways the Sun technology has begun to support the curriculum,” says Honey Berg, Moreland School District’s director of instructional projects.

Sun Microsystems’ relationship with the Moreland School District has created a means of collaboration between teachers, administrators, and business. All stakeholders have an opportunity to re-shape the educational experience—benefiting everyone, but most importantly the students who develop the skills and interests that make them life-long learners.

“Moreland’s partnership with Sun Microsystems has been a wonderful support and resource to the district. Not only have we felt that our migration to fat server/thin-client technology has been a step in the right direction, but we have also felt that through Sun’s support we have found new and better ways

to integrate technology into the work of our staff and students. We have had the opportunity to work with other Sun partners as they develop programs to use with students, we have beta tested a variety of “software” programs and had input into their development, and we have had the opportunity to field test new programs that are aligned with the focus of using technology as a component of meaningful curriculum,” says Berg.

“I am only beginning to recognize the impact of the Sun relationship with Moreland,” says Les Adelson, Moreland School District’s superintendent. “I became superintendent of Moreland in July of this year and within 30 days, not only did I see, hear, and learn a lot, but I hosted a visiting educational team from Brazil. To say we are excited about Sun, and their interest and support of the Moreland schools would be mild. I have not ever seen this kind of relationship, which is empowering, not demanding. I also recognize that it is a new paradigm for computing and I think we will continue to explore and exploit this network-centric model.”

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