

# Santa Ana College creates Green Lab with virtual desktops

## Challenge

Provide more computer access for students across the College while extending the use of green technologies.

## Solution

Deploy 21 NComputing access devices and 7 PCs in the lab to create 25 student stations in the Green Lab.

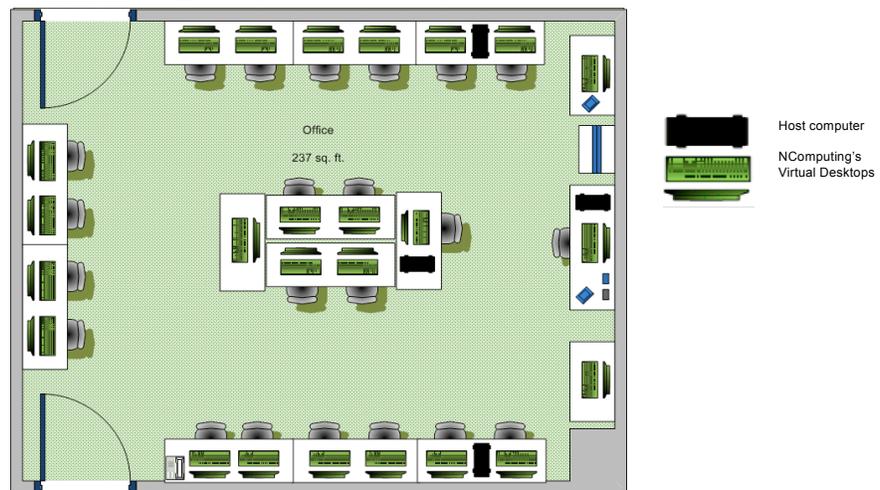
## Impact

Hardware costs reduced by 69%; realized an 81% savings in electricity; reduced demand on IT support; and maximized student learning with new 1:1 student to computer ratio.

## Partner

Santa Ana City College District Information Technology Service (ITS) installed and supported the project.

Celebrating over 90 years of excellence in academic achievement and community partnership, in Community College Week, a national publication for two-year college professionals, Santa Ana College ranks 7<sup>th</sup> among the top 100 associate degree producers for Hispanic students in the nation. Santa Ana College has a long history of educational innovation. Whether for associate degree, university transfer preparation, career training, or personal development, Santa Ana College is the best choice for advancement.



Blueprint of Green Lab at Santa Ana College showing 21 NComputing access devices running on 4 PC hosts creating 25 student stations.

## Eco-friendly on a budget

Like most institutions, IT budgets were tight and there was significant demand from computer science students requesting more hands-on learning. Looking ahead, Santa Ana College faced another challenge common to schools today—to find a way to provide computing access to more students and extend the use of green technologies in the most cost-effective manner. Santa Ana College needed to find a computing solution that was flexible, eco-friendly, and low maintenance.

Looking for solutions to create a greener institution, Santa Ana College Computer Science faculty and the Santa Ana College ITS Director attended the Green IT Convergence Conference in Frisco, TX. They returned inspired and enthusiastic, and sought the assistance of their District Information Technology Services (ITS) to search for a solution that would meet the learning objectives of the students and the growing demand for the college to go green, while staying within their limited budget. After trying many virtual desktop solutions, Santa Ana College chose NComputing for its cost efficiency, reliability, and ease of use. Following a number of studies and comparisons of Virtual Desktop Infrastructure (VDI), the college paired NComputing's solution with VMware's virtualization infrastructure to consolidate operating systems on fewer servers.

## “Reducing carbon Footprints one step at a time”

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SANTA ANA COLLEGE,  
DIRECTOR OF INFORMATION  
TECHNOLOGY SERVICES  
CHERYLEE KUSHIDA  
DEPARTMENT CHAIR, COMPUTER  
SCIENCE  
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Once the team decided to go ahead with NComputing’s solution they purchased X-series NComputing kits and 4 Dell PCs to create 25 student workstations. Students no longer needed to share computers, maximizing student learning as they now had more access to learning software and educational websites. “A typical PC uses 10% of its processing power. We can utilize that processor power and share it among multiple users with NComputing. This type of sharing makes it affordable to equip our lab while acting responsibly and sustainably. When it is time to replace, you don’t have to buy 21 new PCs, just 4,” explained Nicholas Quach, Santa Ana College ITS Director.

NComputing access devices consume only 5-6 watts per user, compared to over 100 for a typical desktop PC, while providing the same level of computing access. Reducing the amount of electricity that is consumed by the PCs and monitors considerably reduces the heat and noise in the lab, keeping the room cool without the need for additional air conditioning.

NComputing and the IT Green Convergence Conference showed Santa Ana College that they could simultaneously cut costs and achieve environmental goals. The students determined precise energy cost savings, hardware savings, equivalent gasoline usage, coal usage, carbon dioxide emissions, and e-waste comparisons. Charts illustrating these metrics were displayed on the walls as a means to drive awareness and showcase the benefits derived from an eco-friendly lab.

### **Hands-on in the classroom**

Virtualization through the NComputing solution has brought significant benefits to the university in terms of time and labor. Computer science student Interns at Santa Ana College were instrumental in the Green Lab setup and will continue to play a large role in its growth and test bed environment. They converted a storage unit into a lab environment within 3 months and deployed NComputing virtual desktops in just 3 days. The lab is a great platform for computer science students to experiment with the latest and greatest green technologies before rolling out similar configurations to the classrooms. Cherylee Kushida, Department Chair of Computer Science explained, “From a teaching perspective, the simplicity of NComputing devices to integrate with other technologies such as VMware allows the students to be trained at the college and then apply their acquired skills as interns for local companies.”

Since the deployment of NComputing virtual desktops in the computer lab, acquisition costs have decreased by 69% and energy costs have been reduced by 81%. “Without the NComputing solution we would not have had the capacity and finances to equip the computer lab and maintain 21 servers,” explained Ms. Kushida. Furthermore, the school quickly realized that they would not have the budget to replace computers every three years in order to meet the future computing needs of the students. NComputing’s solution eliminated this challenge because virtual desktops are solid-state devices that have no moving parts, making their life expectancy more than double that of a traditional PC.

### **Paving the way to a new future**

Santa Ana College created an internship program available to computer science students who are interested in earning units while gaining experience. The Internship program has been highly successful at giving computer science students hands-on experience and in many cases, job placement opportunities. Employers have said that their interns are well prepared and have a “can-do” attitude, important in today’s competitive work environment.

After the Green Lab launch, business partners such as Cisco and County of Orange have requested additional tours and information sessions in the Green Lab as an opportunity to learn more about the NComputing solution. Next year



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there are plans to extend NComputing virtual desktops to sister colleges and other departments on campus.

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