

Low-cost computing for education

SABES Strengthens The Use Of Information And Communication Technology In The State Of Guanajuato, Mexico

Following the Education Act of 1996, the Ministry of Education of Guanajuato established SABES, Sistema Avanzado de Bachillerato y Educación Superior, (Advanced System for Secondary and Higher Education) as an initiative to create new decentralized bodies and expand the reach of educational services. Subsequently in 2000, la Universidad Interactiva y a Distancia del estado de Guanajuato – UNIDEG (University of Distance and Interactive Learning of the State of Guanajuato) was instituted, expanding the range of programs offered to include the training of associate professionals and bachelor degrees. The State of Guanajuato recognized that information technology plays a central role in today's economy and sought to implement educational models designed to improve the quality of education, provide a healthy learning environment, and sustain community development.

SABES Educational Model

The SABES educational model strives to develop student competencies on the use of Information and Communication Technologies (ICT). SABES recognized that the combination of theoretical knowledge and technical computer skills would drive improvements in student achievement and preparation for career training. Implementing a plan of action, SABES sought out the following strategic goals:

- Identification of relevant and cutting-edge academic models in secondary and higher education.
- Achieve instructional effectiveness above the national average indicators.
- Consolidate and grow in accordance to the State of Guanajuato's educational requirements.
- Establish an internal communication model to ensure the reliability of key information within the institution and to strengthen the identity for the members of the system.
- Foster a healthy working environment by employing accredited teachers and professional staff who were in accordance to the values of SABES.
- Provide quality services that meet the customer's needs.
- Establish a decentralization process for the regional offices and centers to ensure a swift transition and institutionalization.



Students can now use computers for classwork in the school's computer lab.

Challenge

Consolidate the use of information and communication technology to ensure better use of resources and enable increased computing access.

Solution

Deploy 3,500 units of the NComputing L-series access devices to create a ratio of 23 users to 1 host computer in 150 classrooms.

Impact

Realized reduction in acquisition costs; reduced maintenance and management issues; decrease in electricity consumption and power usage; and maximized student learning.

Partner



A successful alliance of Acceso Digital (Alactec) and PCServer provided both experience and the desired local support for the NComputing implementation.

Incorporating Technology In The Classroom

The main challenge the SABES technology department faced was finding a solution that would increase the lifetime of its IT assets while also offering significant benefits in terms of time, labor, and cost. Prior to implementing a thin client solution, computer rooms were equipped with out-dated, standalone towers that overtime would require either ongoing maintenance or replacement. The software was also obsolete and simple tasks such as logging on or opening web browsers became time consuming. Jose Cruz Ayala Villegas, SABES IT Coordinator explains, "One of the problems at hand was the administration of the computer rooms which required constant attention from the staff in terms of both tech support and preventative maintenance." A main goal of any IT system is to find solutions that save time and are easy to manage and maintain. In addition, by design, SABES serves geographically dispersed rural areas, resulting in long travel time and costly service visits. Therefore, it became crucial and time sensitive for SABES to find a way to cost effectively upgrade their existing computer architecture and implement an educational model where performance indicators could be easily satisfied and measured.

The Search For A Perfect Solution

SABES searched for solutions that would be reliable, simple to install and manage, and align with the institutions academic and technology goals. This approach would provide each campus with basic tools and computing equipment that supported the academic formation of the students' community. The IT team understood that multi-user computing would simplify both the deployment and the ongoing maintenance of the installations. SABES assessed traditional thin clients and arranged demos by different manufactures but found that these solutions were complex and required third-party hardware components, adding to the overall cost. After conducting extensive testing of NComputing's L-series access devices, SABES was confident that they had found a solution that would simultaneously address the computer infrastructure challenges and satisfy the institutions academic goals and "model classroom" concept. The NComputing solutions not only provided better performance and an enhanced user experience, it was compatible with existing applications alleviating the need for expensive third party IT deployment services.

SABES discovered the NComputing solution through PCServer who, allied with Alactec (Now Acceso Digital, S.A.), an authorized NComputing partner and service provider for government and educational customers. This alliance provided both the experience and local support required for the project. For the initial deployment SABES purchased approximately 2,000 units of the NComputing L230 access devices. With the help of Acceso Digital and PCServer (now also an NComputing authorized partner), by 2011 SABES had over 3,500 units installed in over 100 computer classrooms, each supporting 23 users with only a single host system per classroom. In the past, computer resources were limited to only a few users.

The NComputing solution works today because PCs are so powerful that the vast majority of users only need and use a small fraction of desktop computing capacity. NComputing taps this unused capacity from a single PC or server that can be simultaneously shared by many users. Each user's monitor, keyboard, and mouse are connected to a small and highly reliable NComputing access device, which is then connected to the shared computer. The access devices itself has no CPU, memory, or moving parts—so it's rugged, reliable, and easy to deploy and maintain.

A Path To A Better Tomorrow

The consolidation of SABES ICT infrastructure has resulted in significantly reducing costs as well as the successful implementation of the educational model. At this juncture SABES has plans to expand NComputing L-series access devices to both their high school classrooms and universities, granting both students and administrative/faculty additional usage.

"The deployment of NComputing access devices has allowed us to reduce both equipment and implementation costs."

Jose Cruz Ayala Villegas,
SABES IT coordinator

Results with NComputing

- Since the deployment of the NComputing desktop virtualization solution, SABES has realized many benefits:
- Reduced hardware and maintenance costs allow the IT team to invest their time in other projects.
- Created a "Standard Classroom" specification allowing the IT department to deploy and maintain a tested, proven setup.
- Reduced electricity consumption and power usage has resulted in significant long term cost reductions.
- The classroom has provided a great platform for students to acquire both the technical computer knowledge and hands on experience to drive student achievement and preparation for career training.

Mr. Ayala explains, "The teachers and students have benefited from the widespread accessibility of computers and the simplicity and ease of use of the NComputing access devices. In addition NComputing's L-series access device allows for better control of the resources, consistent with the formation of the competencies included in our baccalaureate model."