The Anderson School of Management was founded in 1947 at the University of New Mexico with the vision of shaping the intellect and character of future and current business leaders. With more than 1500 students in bachelors, masters and executive business curriculums, the school is a vital contributor to New Mexico and the nation’s business culture.

Faculty and staff recognize the increasingly important role that technology plays in business today. In addition to a strong campus computing environment, including a mobile initiative, the school offers several technology management courses designed to hone the students’ abilities to manage complex computing infrastructures.

**Traditional Computer Lab Challenged by Physical Limitations**

The school offers several Information Systems courses covering system and network administration, information security and database administration. Successfully teaching and learning in these classes depends upon faculty and student access to a wide range of software applications.

In the computer lab, students could only use certain machines configured with software that matched their assignment requirements. If that system was being used by another student, they had to wait. Another issue was physical access to the lab. “Students were limited by the hours that the lab was open, a problem especially for those who work during the day,” Alessandro Seazzu, director of information systems explains. And granting administrative access for advanced exercises in this public lab environment could pose security risks. Also, distance learning students could not utilize the lab resources over the Internet.

**University of New Mexico Anderson School of Management Solves Access to Complex Technology with VMWare Applications on Dell**

**Challenge**

Providing students in information technology courses with access to the computers and software programs they need to complete hands-on information system assignments.

**Solution**

The University of New Mexico Anderson School of Management deployed a VMware Workstation solution in a remotely-accessible, virtual student laboratory populated by Dell™ hardware.

**Benefit**

Students have remote and secure access to course material without the limitations of a physical student laboratory, such as limited hours, sharing machine availability with other students and the complications of multiple operating systems and software programs residing on different machines.
If students were using their own computers, instructors had to contend with a wide variety of hardware and software configurations. Consequently, instructors needed to scale their assignments to ensure they were compatible with everyone’s systems. Students had to have a valid license to use the software, have sufficient administrative privileges and know how to install the applications.

**Virtual Shared Lab Presents Real Solutions**

The Anderson School of Management IT team employed a combination of remote access and virtual machine technology to implement a versatile, secure, Internet-accessible virtual lab. They repurposed 42 desktops, connected them with KVM switches, and activated the Remote Desktop software that comes with Windows® XP Professional to build a shared computer lab. Using VMWare Workstation, the team created a virtual computer and network hardware environment that runs multiple operating systems and their applications simultaneously.

In addition to the shared systems, the IT team deployed a Storage Area Network. VMWare images are stored on the network so that students can access their particular image from any system. The gigabit SAN is built with Dell™ PowerEdge™ and Dell/EMC servers as well as Dell PowerConnect™ switches. “We have had no issues with the SANs performance,” Alessandro says. “We have been a Dell customer since the early 1990s. Dell service is the reason we have remained a Dell shop for so many years.”

**Removing Physical Barriers to Learning**

The virtual lab built on Dell hardware has opened up a whole new level of educational possibilities for the students and faculty at The Anderson School of Management. Information System courses can now be offered completely online. “Students can access and complete their homework assignments from anywhere in the world at anytime,” states Alessandro.

Instructors are able to assign more high level hands-on exercises enabling students to learn a wider range of material. Plus, executing multiple virtual machines allows side-by-side comparisons and advanced assignments. Users can also exercise administrative privileges while logged into the host operating system.

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—alessandro Seazzu
Director of Information Systems
University of New Mexico
Anderson School of Management

The virtual lab is an efficient use of Anderson’s technology resources. “Multiple classes can be supported on the same machine, and the school can purchase software licenses in volume for all of the systems at once,” Alessandro explains. Reliable, high performance Dell servers and networking hardware, services and software has given the IT team the tools to design and maintain an innovative solution to a complex problem.

**DELL CAMPUS ARCHITECTURE**

The Dell Campus Architecture™ illustrates Dell’s commitment to technology in education. This comprehensive framework helps universities like University of New Mexico plan, procure, implement and manage campus technology environments. It addresses the different computing communities on campus, and it enables a wide range of campus areas to work together in creating a technology-enhanced learning environment. The Dell Campus Architecture features four pillars: Student Computing, Administrative Computing, Academic Computing and Research Computing. To learn more about the Dell Campus Architecture, visit us at www.dell.com/hied/dca.