



Wake Forest University and IBM Create an Educational Intranet

Wake Forest University, like all institutions of higher learning, is currently facing a three-fold challenge: providing the highest quality education for its students, attracting the best students for the future, and containing the growing costs of running a modern university. Ranked by *U.S. News & World Report* as one of the country's top 25 national universities, Wake Forest knows well what it takes to compete successfully in higher education. A university's success depends on its ability to attract students by offering a quality education at a competitive price. Wake Forest stepped up to the challenge by developing a blueprint for its future – "The Plan for the Class of 2000." A major focus of that plan is technology.

Wake Forest recognized that to remain an attractive choice for prospective students it would have to provide them not only with



Jennifer Burg, assistant professor of mathematics and computer science, and her class using ThinkPads

excellent professors, labs, and libraries, but also with the technological tools and skills needed in today's world. But it had to do this while keeping tuition affordable.

"The challenge of employing technology is nowhere more complex than in higher education," Dr. Thomas K. Hearn Jr., Wake Forest's president, notes. "This plan enables Wake Forest students to use technology to enrich their education and widen future opportunities."

The Challenge: Creating a Collaborative Intranet

The plan calls for computers to become an integral part of each student's academic experience. Beginning with the Fall 1996 semester, each entering freshman was issued an IBM ThinkPad complete with a color screen, fax modem, word processor, database, presentation software and Lotus Notes. The ThinkPads connect to a campus-wide network that links students to a collaborative intranet using Lotus Domino.

Wake Forest knew that creating a collaborative intranet was not as simple as installing the new computers and other hardware. It would take a comprehensive software application plan and set of guiding principles to:

- assure students and faculty access to internal and Internet information
- enable collaborative communication among students and their professors
- provide enhanced project presentation capabilities
- deliver the advanced analytic tools necessary for various academic analyses

Applications IBM Global Campus

Services IBM Global Services

Software Lotus Notes
Lotus Domino

Hardware IBM ThinkPad 365-XD
IBM RS/6000 SP

The challenge for Wake Forest was to do all this while keeping tuition in line.

IBM Provides the Total Solution

Wake Forest chose to establish a multi-year partnership with IBM because of IBM's proven technology, expertise and commitment to the higher education marketplace. University Provost David G. Brown was impressed by the "total solution focus" IBM brought to Wake Forest's situation. "IBM listened and listened to us and developed products that were responsive to our needs," said Brown. "The team kept asking us what we wanted to make sure they were meeting our expectations."

Wake Forest is one of 25 institutions participating in IBM Global Campus, an education and business framework that helps colleges and universities use computer networks to redesign learning, teaching and administration. Each university has somewhat different requirements. The right solution for Wake Forest was to put ThinkPads with Lotus Notes into the hands of students and link them to an intranet using Lotus Domino,

thus giving them powerful collaboration capabilities and an efficient means of accessing the wealth of information available online. To get the solution up and running, IBM assisted in on-site consulting and training for university faculty and staff.

"IBM's vision is for technology to add a new dimension to the learning process," said Jim Corgel, IBM executive partner for Wake Forest. "Wake Forest is transforming the traditional model of campus learning by eliminating the barriers of time and space and putting the tools right where they should be – in the hands of the students and teachers."

Collaborating through Lotus Notes/Domino

The Lotus Notes software solution, customized by IBM for Wake Forest, is analogous to a classroom file cabinet: each "drawer" offers different protection levels, limiting and expanding access according to the function of the drawer.

Continuing the file cabinet analogy, a cabinet owner might specify that only he or she can update the information contained, while assigning browsing-only privileges to other users. For example, a professor may allow students to view the class syllabus and lecture supplements in the "top drawer." Other drawers may have broader access privileges that allow students to carry on threaded conversations in cyberspace lounges, both within the University community, and outside via the Internet.

Virtually all Wake Forest offices, residence hall rooms, and classrooms are directly linked to the campus network, which is based on IBM RS/6000 SP servers. Lotus Domino is also giving Wake Forest students, faculty and staff the benefit of *remote access* to Notes databases, mail and calendar features via the IBM Global Network when they are off-campus – either at home or abroad.

Lotus Notes' synchronized tracking allows students to collaborate on a single document while avoiding confusion among multiple versions. Collaboration can be done either while attached to the network, or by using Notes' bi-directional replicating function. In addition, students receive assignments from their professors through Notes.

The solution was designed to ensure that all students and professors use the same hardware loaded with the same software. This standardization simplified the implementation of the program, making training easier and minimizing support costs. The approach also enabled the university to maintain spare systems that are easily interchangeable, promoting both flexibility and budget predictability – important factors in the fight to control and manage costs.

The Impact of Technology on Education

According to Dr. Brown, the IBM solution maximizes the benefits of a Wake Forest education:

"Students who take advantage of this solution – increasing their access to internal and external resources – will graduate with a deeper capacity to analyze information, and more freedom in conceptualizing solutions, similar to challenges they face in life."

The results of providing students with ThinkPads access to the intranet have been immediate. "Traffic on our network has increased exponentially since the introduction of ThinkPads," says Sandra Boyette, Wake Forest's vice president of Public Affairs. Students have increased interaction with teachers, and the teachers themselves have been able to collaborate with each other and faculty from other universities. "Never in my 35 years in education," notes Provost Brown, "have I seen as much discussion on teaching methodology and preparation because of the impact of technology." Wake Forest's "Plan for the Class of 2000" is causing higher education to rethink its use of technology.

The future for Wake Forest's investment looks bright, with numerous ways for Wake Forest to leverage its IBM investment. These include providing users with real-time, digitized video and access to digital repositories of images – for example, works of art from the Louvre.

By partnering with IBM, Wake Forest is able to offer the high-tech environment and affordability required for it to maintain its attractiveness to students while holding down its costs – to the year 2000 and beyond.

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For more information on IBM Global Campus, go to
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And visit Wake Forest's Website at
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