University of Idaho

Created in 1889 by a statute of the 15th territorial legislature, the University of Idaho is a publicly supported, comprehensive, land-grant institution with a full-time student enrollment of 11,000, located primarily on an 800-acre campus in Moscow, Idaho. Designated as the state’s primary institution for graduate and research education, UI offers a wide range of graduate and undergraduate programs through ten colleges.

In addition to its main campus, the University has resident instruction centers in Coeur d’Alene, Boise, Twin Falls, and Idaho Falls, and operates facilities in ten other locations throughout the state, one in the heart of the Idaho wilderness. Agricultural extension service is provided through four district offices and by county extension agents in forty-two of the state’s forty-four counties.

Why invest in information technology?

Given Idaho’s predominantly rural nature, to meet the educational needs of citizens the University has developed a delivery network that reaches into every corner of the state. Thus there is a clear recognition of the value of investing in information technology to more effectively and efficiently accomplish UI’s mission as a land-grant institution.

The University employs a ten-year strategic planning cycle to address institution-wide programmatic concerns. Provost John Yost notes the significant difference between the plan of the early eighties and the one recently completed, mainly because of the potential of information technology. Like many other state-supported institutions, UI is challenged economically as a result of decreasing support from the state legislature. With resources severely constrained, says Yost, “We’re going to have to do fewer things better, using the most up-to-date information technology. We have the opportunity to provide leadership within the state by being more and more of a collaborative university—with the legislature, with the private sector, and with the K-12 community.”

According to George Simmons, vice provost for academic affairs, “One challenge we have is to provide the same network access we enjoy on the Moscow campus to the statewide University infrastructure. Once that is in place, we can begin to think of the network as a huge body of knowledge, connections, and interfaces for the entire populace of Idaho.”

Yost adds: “The innovative educational technologies will cause us to raise questions about whether we need to teach a course in a semester or whether we can do it at a self-paced rate, and that will lead to a change in learning productivity. It will be controversial, but we will raise the question about a three-year baccalaureate in some areas. There are many courses that do not need to be taught in the lecture mode or over a full semester. We will ask the faculty to consider the importance of communicating the excitement of discovery, the methods of inquiry, and the modes of thought that give students a flexible handle on an accelerating world with tremendous career paths, rather than transmitting their specialization in the traditional way.”

While information technology holds promise to increase learning productivity and helps span the barriers of distance, investment in this resource needs to be approached thoughtfully. Vice President for Finance and Administration Jerry Wallace says, “We have enough money to do whatever we want, but not everything we want. We need to be very selective in those initiatives that we take on, and do them in a systematic fashion that builds a foundation for where we are trying to go. Effective planning is critical.”

Planning for information resources

At UI, central information services are delivered through three organizations: Administrative and Academic Computing Services, the Division of Instructional Media Services (DIMS), and Library Services. Rather than create a
single vice presidency to oversee these areas, President Elisabeth Zinser established and chairs the President’s Ad Hoc Information Technology Cabinet to formulate policy related to planning, developing, and operating information technologies and to provide a coherent, unified vision of institutional needs and priorities for IT. The Cabinet, which is made up of key vice presidents, college deans and chairs, and computing and instructional media staff, meets quarterly with the various subcommittees it has charged to explore specific IT-related topics.

Input from faculty, staff, and students about computing is provided through the University Computing Advisory Committee, which works closely with Computing Services. It was this committee, in conjunction with Computing Services, that successfully proposed a student computing fee in the fall of 1992 to facilitate integrating computing into the curricula throughout the University. Testimony of students before the Idaho Board of Education, along with a sound business plan, contributed to the Board’s approval of a fee for general access student computing facilities. The fees ($28/semester for full-time students, $2 per credit hour for part-time) have enabled the installation of standardized up-to-date software on upgraded computers throughout UI’s sixteen “open” student labs.

Other advisory committees, composed of faculty, staff, and students, meet regularly and also provide input that helps the planning process. Several areas identified as having the highest priority for UI are the implementation of a communications infrastructure capable of supporting the advanced voice, video, and data requirements of an increasingly sophisticated and demanding group of users; the comprehensive placement and upgrade of computers on faculty desktops; and integration of technology into the curriculum.

**Partnership strategies leverage resources**

The University has used several creative partnerships to leverage its decreasing resources, two of which are in the telecommunications and networking area. Until last year, UI’s phone services were provided through an aging PBX system. An analysis of the costs of replacing the PBX versus outsourcing UI phone services showed it would be more beneficial to contract for Centrex services, especially when the vendor (GTE) guaranteed that the revenue stream UI had been enjoying from phone services would not decrease with the new arrangement. The contract was signed in March of last year, and in just five months GTE had completely installed an AT&T 5ESS central office switch, which now provides the campus (as well as local communities) with analog as well as ISDN and other digital services.

At about the same time, UI concluded that it lacked the telecommunications networking infrastructure to serve its land-grant mission in the more sophisticated networked information environment of the future. (Although sixteen main buildings are connected with optical fiber, these installations serve only about 1/6 of the campus.) Clearly, UI had to invest in upgrading this infrastructure, but with limited funds and no growth in staff positions sufficient to take on this formidable effort, how could this be accomplished?

UI’s solution to this dilemma was to enter into an outsourcing arrangement for end-to-end network services. In Jerry Wallace’s view, the networking industry is creating a standard transport (ATM) for a standard physical layer which will allow computer networks to assume a “utility” status. Thus it made sense to seek a partnership with a private company that would be willing to assume the responsibility for installing, managing, maintaining, and adapting (as emerging technology warrants) the University’s network infrastructure. Wallace sums it up thus: “We simply can’t afford to own our own infrastructure; we haven’t the resources to continually keep up with advances in networking technology. We decided that it would be better to partner with a corporation that will be one of the public utility providers of such infrastructure in the future.”

In February of this year, UI requested proposals for a “partnership to deliver telecommunications network services.” The RFP document outlined the parameters of the envisioned partnership, in-
“The Information Age and the Age of the Learner are converging, and not any time too soon. Our society’s need for enlightened, literate, and productive citizens is more poignant than ever. To this end the University of Idaho, like other land grant universities, is a ‘tale of two worlds.’ We offer a residential living-learning community on campus and concurrently carry our teaching and learning resources to the ‘living rooms’ of individuals, families, businesses, and education centers at great distances.

“The extension to ‘remote’ living-learning settings of more than a century of experience in teaching, discovery, and productive application is made possible by the explosion of new telecommunication technologies. The UI is incorporating these new technologies into its portfolio of essential tools for delivering quality, accessible, and affordable educational services. I applaud the innovative partnerships between the visionaries and technicians who produce these tools of hope for continuous learning, as well as the creative educators and students who use them.”

Quality philosophy is key to good management

The management philosophy that Wallace and Director of Computing Services Fritz Hibbler have introduced in their organizations is based on a quality orientation, team training, and results-oriented job descriptions. Staff in Finance and Administration, including Computing Services, receive team training. This training has helped them to understand what empowerment really means and how to work effectively in a team environment.

Every six months, individuals in Computing Services create job descriptions based on expected outcomes, including allocating percents of their time to each of those outcomes. The latter are based on objectives and tasks identified as part of their unit’s annual “action plans.” This approach truly empowers the individual to be responsible for attaining the objectives, and allows the needed flexibility to undertake new activities as needed, even at the management level. For example, rather than heading organizational “units” within Computing Services, Hibbler describes his three associate directors as sharing cross-unit responsibility for specified, but fluid, outcomes: “We strive to be a dynamic organization, responding to the need to change and be innovative, and to add value in the process.”

Wallace’s organization has identified many “customers” within and external to the University whose needs must be served. But in the end, he says, it all comes down to serving the student: “If you do a good job with students, you generally serve the rest of the customers. Our philosophy at UI is that no student should ever have to stand in line for anything, ever; no student should ever leave this university for lack of service.”

Restructuring business systems

As a result of these management approaches, there has been an effective reorganization of business systems, and an ongoing process has been established to continually seek improvements to streamline administration.

Three years ago, UI realized its homegrown COBOL-based administrative systems were a stumbling block to providing the kind of service today’s students expect, nor could these systems enable interdepartmental information sharing or ready access to information for decision-making. An administrative computing committee was formed and charged with identifying administrative computing needs and recommending solutions. After an intensive study, in the spring of 1993 the committee established a strategic direction that included

UNIX-based, multiprocessing Sequent computer systems, the Oracle relational database, and the complete suite of administrative (Banner) applications from SCT.

A three-year strategic plan for computing presented to the Deans’ Council proposed that the funding necessary to support the administrative upgrade ($3 million in upfront costs) be derived from an administrative computing reserve, as well as from General Education contingency reserve funds and increased funds for computer services, to be spread over the next three years.

To date, the University has successfully completed the installation of the alumni, student admissions, and finance systems, with human resources and payroll currently under way and the other student modules (including financial aid) scheduled for later this year. The implementation of a data warehouse with report-writer tools has made a big difference in raising the level of understanding of the value of the new systems, and their potential to change University business processes. That potential, however, will not be fully realized until the networking infrastructure is in place.

Good communications throughout the implementation of the Banner products has been key to success. One of the ways this has been accomplished is through a page on UI’s World Wide Web server, called Banner Bits. The use of teamwork techniques has also facilitated the systems implementation.

Delivering central information services

When Hibbler joined UI three years ago, a substantial reorganization was undertaken to make Computing Services more responsive to the support needs of faculty, staff, and students.

Customers are now supported through user education and consulting services, a Help Desk (including the On-Site Service Group), and a Partners Program. The latter is an informal network of interested computer support personnel throughout the University who provide ideas and information about their departments’ needs to computing services staff and who keep their departments informed of new computer services and activities.

Support provided by the Instructional Media Services organization, under the direction of Harvey Hughett, includes not
only conventional classroom audio-visual services for faculty teaching and learning, but also multimedia services, photography, printing services, publication design, photocopying, instructional TV, and maintenance. According to Hughett, to enable the use of multimedia in the classroom it will be necessary to equip classrooms with large-screen video projection, large-screen data projection, CD-ROM, and videodisc capabilities, as well as Internet access.

DIMS collaborates with the Office of Faculty Development to offer numerous classes where professors can learn about a variety of technologies, from connecting to the Internet to using software to teach. DIMS also administers a mini-grant program offered through the provost’s office that enables faculty awarded these grants to design and develop new approaches to teaching.

In addition to traditional library services, the University Library operates an integrated online information system from CARL Systems, Inc. through its membership in the Inland Northwest Automated Library Network (INLAN), a consortium of four regional higher education institutions. Over 200 cataloged CD-ROMs in the library collection are available through a local area network.

Dean of Library Services Ron Force recognizes the rapidly changing role of academic libraries as the digital medium gains in popularity for publications in many fields. The Internet offers many challenges as well as opportunities to partner with campus computing and instructional media services. Three areas of collaboration include bringing order to UI’s Gopher menuing system, publishing on the Internet, and training faculty and students in the skills they need to navigate the Net. In the area of electronic publishing, the library is experimenting firsthand with an online publication, the Electronic Green Journal.

Increasingly, the University’s distance education needs are being supported through the efforts of the College of Engineering Outreach program, under the direction of Barry Willis. Initiated ten years ago, Engineering Outreach is a charter member of the National Technological University (NTU) Consortium. The program provides off-campus, distance-delivered graduate degree programs in eight technical disciplines. Delivery is by videotape as well as live courses offered by satellite and microwave. Recently Engineering installed a compressed video system between the Moscow campus and Boise, running on a T1 line, to provide more interaction between faculty and students at the two sites. The T1 setup has provided a model for other programs that are now beginning to use the technology effectively.

Transforming teaching and learning

Dale Gentry, dean of the College of Education, lauds the support of the University’s central information services organizations. In a climate of increasing chargeback for such services, their dedication to no- or low-cost services has helped promote the use of information technology to improve the teaching and learning process.

In spite of shrinking funds in other areas, the state of Idaho has shown support for the use of information technology in education by allocating resources to colleges of education for two purposes: (1) to prepare undergraduates in education to use technology in the classroom, and (2) to enable the colleges to be a resource to K-12 school districts as they implement technology.

UI’s College of Education is working toward developing classrooms and labs that will allow a transition from the mode of teacher-as-presenter to one of teacher-as-interactor and students-as-teams-of-learners. One of the best examples of this approach is the Thomas O. Bell New Century Classroom (see sidebar below), funded by the provost’s office and the College of Education.

Art Department Chair David Giese is one of a number of UI faculty who are excited about the potential of information technology, especially the World Wide Web, to not only enhance but to dramatically change the teaching and learning process. For example, faculty in the art department view the Web as a major enabler of a new kind of service and long-distance communication. Idaho students now have the kind of access to artists and art scholars formerly enjoyed only by students in major metropolitan areas. Regionalism, says Giese, is a thing of the past.

Many of the documents mentioned in this article are available from the CAUSE IR Library (for information call 303-939-0310 or send e-mail to orders@cause.colorado.edu). They are also available on UI’s Gopher (gopher://gopher.uidaho.edu/) and Web servers (http://www.uidaho.edu/).

Thomas O. Bell New Century Classroom

Located at the University of Idaho’s Coeur d’Alene Center on the North Idaho College campus, the New Century Classroom is a modern showcase of technology, curricula, and pedagogy for the future. Through this experimental classroom, UI offers Idaho’s K-6 teachers in-service coursework that focuses on in-depth explorations of the resources, identification of effective methodologies, and construction of lessons and/or units that integrate technology into the math/science curriculum. In-service opportunities include weekend workshops, one-day seminars, vendor presentations, field trips, and one-week courses. The University of Idaho’s Computing Services provides a T1 line between this Coeur d’Alene facility and the Moscow campus, as well as an uplink to the Internet.