

# INFORMATION AND EDUCATIONAL TECHNOLOGY YEAR TWO PROGRESS REPORT (2004-05)

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## 1. Second-Year Implementation Highlights

During the 2004-05 academic year, the information technology landscape at UC Davis started to undergo several significant transformations. Through a number of collaborative initiatives, both on and off campus, UC Davis is pursuing new ways of supporting “facilities, information resources and technology infrastructure necessary to achieve national and international distinction and leadership in learning, discovery and engagement” while preparing to deliver new campus services more effectively and more efficiently.

Particularly characteristic of this past year is the increasingly collaborative nature of IT planning and development at UC Davis. The recent partnership, for example, between the Registrar's Office, the Teaching Resources Center, and Information and Educational Technology (IET), to enable faculty and administrative personnel to submit final grades online proved particularly successful. Equally promising is the partnership between IET, the School of Medicine and the School of Veterinary Medicine to evaluate, identify, and plan for a new learning management system based on the ‘Sakai’ initiative, a national consortium of institutions of higher education focused on developing a community source system to support teaching and research. Other key information technology partnerships involve a number of campus organizations and focus on developing new business applications, collaborative research programs, and flexible educational technology resources (see key initiatives below).

To guide these and future improvements to the IT landscape at UC Davis, three main information technology priorities were identified in Spring 2005:

- Increase standardization and enterprise delivery of IT solutions across the campus.
- Develop a solid educational technology infrastructure that is inter-operable with relevant financial and administrative programs across campus, and is delivered centrally.
- Implement infrastructure processes and programs in support of research.

### Some key UC Davis collaborative IT initiatives already underway:

- **Faculty Merit and Promotion System:** Headed by Academic Personnel, this project proposes to create faculty digital portfolios that can be used in support of the academic merit and promotion processes, as well as other processes.
- **Electronic Research Administration System:** Sponsored by the Office of Research, this system will enable electronic submission, review, approval, and tracking of research grant proposals. This initiative has been conceived and structured as a multi-stage project.
- **Effort Reporting:** Under the leadership of the Office of Administration, UC Davis has entered into a collaborative partnership with the Office of the President and several other campuses. The goal of this initiative is to improve and replace the current paper-based effort reporting process.
- **Human Resources Systems:** Several technology projects are underway in the Office of Human Resources. The first is an initiative led by Staff Development and Professional Services to provide an online enrollment and tracking system for instructor-led staff development courses and certification programs. The second is a project to implement PeopleAdmin, a Web-based business application that will handle campus recruitment, applicant tracking and position descriptions. A third partnership with HR is focusing on replacing the Temporary Employment Pool Database.
- **Learning Management System:** Working in partnership with the School of Medicine and the School of Veterinary Medicine, IET is coordinating a campus initiative to implement specific modules of Sakai, an open source learning management system developed by a consortium of higher education institutions. This initiative is expected to produce a new course management system for the campus. Pilot projects with select courses will be launched starting in Fall 2005.
- **Online Grade Submission System:** Through a partnership involving the Registrar's Office, the Teaching Resources Center, and IET, the campus successfully introduced the UC Davis Online Grade Submission System in Fall 04.
- **Student Information System:** In partnership with the Office of Resource Management and Planning, IET staff are working to provide Web-based reporting access to instructional activity summary reports. Detailed data and reports are being developed.
- **Payroll/Personnel System:** The Accounting Office no longer has to print and distribute multiple large monthly production Payroll/Personnel System reports. Campus departments can now view their reports via the Web, which has improved access to this data and resulted in cost savings.

- **Centralized Active Directory and Exchange Services:** The Office of Administration (OOA) is working with IET to consolidate their existing decentralized Microsoft Exchange servers into a centralized service provided through the campus Data Center. A total of approximately 1,400 OOA members, representing eight departments, are involved in this transition.
- **Cooperative Technical Partnerships with the Health System.** Examples include: Integration of telecommunications directory databases, integration of Active Directory systems, solution for mobile device encryption, and consolidation of the physical computing facilities between the main campus and the Medical Center.
- **Wireless Networking:** A recent partnership was formed between IET and ASUCD to expand wireless coverage in and around the Memorial Union by Fall 2005. In addition, a new guest access service model is being developed that will eliminate the requirement for MAC address registration on the campus MoobileNet wireless network and will allow different types of guest access, both short and long term.
- **Faculty IT Needs Assessment Survey.** In April 2005, the Educational Technology Subcommittee of the Campus Council for Information Technology conducted a survey to determine the technology needs and priorities of faculty teaching at UC Davis. Topics ranged from faculty's instructional use of the Internet to educational technology resources, classroom presentation resources, and barriers and incentives affecting faculty's use of educational technology tools. A summary of the results is available at <http://ccfit.ucdavis.edu>.

### **IT Security Advances:**

A major element was added to the campus IT security framework with the official adoption in April 2005 of the UC Davis Cyber-Safety Program Policy and Security Standards. The policy defines responsibilities as well as fourteen key practices for assuring the integrity, availability and confidentiality of UC Davis computing systems and electronic data. The program also requires annual reporting of campus units' progress towards implementing the recommended security measures. In addition to this program, a number of other significant IT security measures were implemented this past year, including:

- Expanded the UC Davis anti-spam program. Spam prevention tools include SpamAssassin, spam filtering for departmental email servers, campus spam filtering, quarantine folders, allow/deny lists, etc. In 2004-05 alone, over 9.3M messages were tagged as spam.
- Expanded virus prevention program (e.g., email attachment restrictions, virus detection and deletion program, availability of application to detect and monitor system changes).
- Integrated stronger authentication into several key online and email services
- Converted Payroll/Personnel Decision Support to single sign-in
- Drafted an encryption policy and technical specifications for a campus-wide encryption solution
- Developed a compliance program for campus units handling electronic protected health information (to ensure campus compliance with federal HIPAA security regulations)
- Integrated incident response for campus computing incidents with the automated Remedy trouble-ticketing system (thereby ensuring that all incidents are monitored and closed when all follow-up work is complete)
- Started providing firewall services; campus units can now acquire and/or implement a fully-supported network firewall
- Implemented multi-faceted security awareness and communications program (e.g., comprehensive Web site at <http://security.ucdavis.edu>, training materials, series of presentations, flyers, etc.).

In addition to these measures, UC Davis garnered UC-wide attention on two separate occasions for its IT security-related programs:

- Received the prestigious 2005 Sautter Gold Award for Best IT Practices for Business Processes and Services (awarded by the University of California Office of the President). The award was in acknowledgment of the comprehensive vulnerability scanning and intrusion detection system developed and maintained by IET.
- Hosted the 2005 IT Security Symposium (June 22-24, 2005). This event provided technical security training to 239 conference registrants, including campus staff and UC colleagues, in the form of 25 hands-on sessions and 19 lectures. It was structured as a forum for campus technical specialists to share their knowledge and skills, and as a networking opportunity for campus technical staff. The event was a resounding success.

### **Access and Support:**

In the last two years, the campus computing help desk (IT Express) has made significant improvements in the quality of the support provided to campus users. Specifically, the unit has:

- Developed and implemented service level goals for telephone and email support requests. As of July 2005, the average telephone response time was less than 15 seconds (compared to close to 20 minutes a couple of years ago). Similarly, recent email response times reflect a dramatic improvement in the level of service provided to campus members, with 90% of email inquiries being answered within 1 business hour (compared to within 72 hours a couple of years ago).
- Started using the Remedy Help Desk system to track all client support requests, thereby enabling consultants to enter a trouble ticket, route it to the appropriate parties, and monitor the ticket through its resolution.
- Developed a standardized methodology for reviewing and using feedback from users of the MyUCDavis portal. This methodology is integrated with the Remedy trouble-ticket tracking system.
- Increased business hours by 10 hours weekly by keeping the help desk office in the General Library open until 8 p.m.

Other indicators of increased access and improved support include:

- **Technology infrastructure and support in general assignment classrooms.** Much progress was made in the updating and further refinement of campus general assignment classrooms. Classroom upgrades include the provision of personal response systems, assistive listening devices, complete media systems, new document cameras and data projectors, and classroom remote network smart panel and data projector monitoring systems. The most significant advancement in this area for this year, however, was the opening of the new 500-seat lecture hall, Sciences 123, and the first new computer lab since 1996 providing a new 40-seat computer classroom. The lecture hall is equipped with a full-scale media presentation system that allows instructors to connect their laptops to a full spectrum of digital audio-visual support equipment. Service provided through computer classrooms, computer labs, and general assignment classrooms attempted to keep pace with campus needs, as expressed through increasingly high numbers of reservations, instructors using technology, and requests for service. Reservations are crowded; classrooms are more than fully booked; and lines continue in computer labs.
- **Increased interest in, and use of, educational technology.** This school year, 51% of the faculty and 90% of students accessed the course management system (GradeBook, QuizBuilder, Website Builder) in the MyUCDavis portal at least once. In addition, the ET Partners Program experienced considerable success in reaching more faculty (total of 292) and serving more courses (84) and more students (6300) through the introduction of one-on-one consultations in faculty offices, using faculty computers, and through increased departmental partnerships. In addition, a number of instructional applications continue to be developed and/or supported centrally (e.g., online grade submission, class rosters, class mailing lists, online course content, Almagest, Breeze, Webcasting, videoconferencing, etc.).
- **Expansion of Webcasting offerings.** The Webcasting proposal, developed jointly by University Relations and IET and approved by Provost Hinshaw in Fall 2004, made possible the purchase of two additional Web servers and an expanded contract with a vendor for live and on-demand streaming services.
- **Lifetime email forwarding.** Exploring the provision of a lifetime email forwarding service to UC Davis alumni and retirees.
- **Temporary affiliate forms.** In partnership with the University Library, a team of IET programmers is working to automate the application process for temporary campus affiliates (visiting scholars, guests, presenters, etc.) who wish to obtain access to UC Davis computing services.

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## 2. Short Statement of Plans for 2005-06

- ❖ Develop a long-term strategic plan for information technology at UC Davis. Key elements of this approach are the three major priorities identified in Spring 2005:
  - Increase standardization and enterprise delivery of IT solutions across the campus. Includes completing the collaboration with the Office of Administration to provide enterprise-level Active Directory and Exchange services; and integrating the Campus Data Warehouse and Payroll Personnel System (PPS) Decision Support Teams.
  - Develop the campus educational technology infrastructure and programs. Includes implementing comprehensive learning management software programs, the Faculty Merit and Promotion System (MyInfoVault), and e-portfolios. In addition, a proposal to form a new UC Davis Center for Educational Technology is being developed. The center will be dedicated to the pursuit and application of technology in support of instruction.

- Implement research infrastructure processes and programs. Includes further development of the Electronic Research Administration application (InfoEd) and e-health application (eVelos) as well as the proposed formation of the UC Davis Center for Computational Studies. This center will be dedicated to providing support to researchers in the area of computer clusters and associated applications.
- ❖ Continue to strengthen the UC Davis Information Technology Security Program. Includes:
  - Implementing border and ResNet firewalls to control network traffic
  - Acquiring and implementing a campus solution for encryption services; promoting adoption of a campus policy on the use of data encryption tools
  - Evaluating campus unit plans for compliance to the Cyber-Safety Program; preparing a state-of-the-campus security report to the Provost and Chancellor.
  - Acquiring and implementing policy and technology to support ResNet compliance with the UC Davis Cyber-Safety Program.
- ❖ Continue to actively pursue opportunities for coordination and collaboration with administrative and academic units, on the main campus and at the UC Davis Health System.

### 3. Sample Metrics Available for 2004-05 (see also narrative above)

#### **# of campus computing accounts created by faculty, students and staff (as of 05/05)**

Total # accounts	61,088
# total active computing accounts (not incl. applicants)	49, 278
# new computing accounts created (not incl. applicants)	12,000 per year
# new applicant accounts created	30,000 per year

#### **# of seats/workstations available for computer classroom instruction and for open computer access**

# seats/workstations for computer classroom instruction	311 (+41)
# seats for open computer access	107 (+7)

#### **# of faculty, students and staff who have used computer labs and classrooms**

# faculty users	293
# student users	25,040
# staff users	861
# logins	1,075,124

#### **# of courses, instructors and students making use of course management tools**

# grades submitted through Online Grade Submission	F 04: 112,684; W 05: 107,596; Sp. 05: 103,044
# grade books created using GradeBook	F 04: 2579; W 05: 2686; Sp. 05: 1741
# quizzes created using QuizBuilder	F 04: 149; W 05: 68; Sp. 05: 132
# Web sites created using Website Builder	F 04: 514; W 05: 2686; Sp. 05: 1741
# announcements created using Course Announcement	F 04: 2067; W 05: 2173; Sp. 05: 2213

#### **# of classes with online components and number of students enrolled in those classes**

# courses with course management online components	F 04: 551; W 05: 656; Sp. 05: 663
# students enrolled in courses using course mgt tools	F 04: 5971; W 05: 5963; Sp 05: 5859

#### **# of centrally-managed wireless access points**

Number of centrally-managed access points	93
Number of department-managed access points using centrally-managed authentication	21

#### **Use of email**

# class mailing lists	4279 (1376 F04; 1481 W05; 1412 S05)
# users of campus Web mail	28,000 per day
# total email messages delivered	23,950,542