

BERKELEY COMPUTING & COMMUNICATIONS

Volume 12, Number 5

November-December 2002

Moving information technology forward despite significant budget reductions

Jack McCredie, CIO

Governor Davis signed the 2002–03 California State budget on September 5. With approximately \$750 million in additional cuts still to come in the next several months, the governor has already reduced the current budgets of most state programs significantly. The University of California is no exception. President Atkinson, in a September letter (<http://www.ucop.edu/news/budget/issue3.htm>) to the UC community, outlined the consequences of these reductions for the University. For the Berkeley campus, the new budget translates into a permanent cut of \$4.2 million targeted to state-sponsored research, a one-time cut of \$2.9 million in core programs, and a

permanent undesignated cut of \$762,000 from our 2001–02 budget.

Chancellor Berdahl, in a recent budget memorandum to all units, indicated that the campus must also find additional resources totaling more than \$10 million to cover significant unfunded cost increases in purchased utilities and critical deferred maintenance projects. To accommodate both the state mandated budget reductions and the critical utility and maintenance needs, state-supported research units must cut 10 percent from their permanent budgets and most other campus units must reduce 2002–03 expenditures by approximately 5 percent.

Continued on page 3

IN THIS ISSUE:

UniBears!—7

IT security policy—9

CNS shopping cart—12

FASDI business
security—16

Business
resumption plan—17

CalNet Active
Directory—20



CCS Director Martha Fateman plans to retire in December after 26 years of University service.

From the Chief Information Officer

Moving information technology forward despite significant budget reductions	cover
Selected IST operational highlights, Spring-Summer 2002	4
IST begins nationwide search for new CCS Director	5
News and Announcements	
Request for feedback: e-Architecture Guidelines under revision	6
Unified Communications project update: UniBears!	7
e-Berkeley project registration system	8
New server for Socrates service	8
New draft IT security policy	9
ETS training events	9
Procurement Card	9
Rebuilding and repositioning our student information world	10
Security Spotlight	
Don't get "Slapped"	10
What's the Policy?	
Q: Is it okay to use campus computers for an "incidental" amount of personal financial gain?	11
Service Updates	
CNS offers shopping cart ordering	12
Redesigned webcast.berkeley	13
Features	
Davis-Etcheverry Computing Facility	14
FASDI business security rules	16
Infrastructure	
CCS begins business resumption planning	17
Requesting access to CalNet Directory services	18
IDMS conversion is underway	19
CalNetAD: Update	20
CalAgenda Tips	
Tips for opening or searching for agendas and resources	21
Quick Guide: Basic IT services at UC Berkeley	
IST departments	22
Computer facilities	22
Trouble status and reporting	22
Help with project development	22
Help with computing / networking / telephones	22
Online services	23
Dialup network connectivity	23
Hardware / software sales and support	23
User groups	23

Cover photo by Richard J. Fateman.

Senior Editor: Natalie Kato
Managing Editor: Kalle Nemvalts

Berkeley Computing and Communications: Copyright 2002, The Regents of the University of California.

Berkeley Computing and Communications is published by Information Systems and Technology (IST), University of California, Berkeley. Distribution is free to departments, faculty, staff, and students, and North American universities and colleges. *Berkeley Computing and Communications* is available in electronic form on the IST website (<http://ist.berkeley.edu/>). Articles in the printed edition may be condensed to fit available space.

Send address changes to:

Mailing List
Berkeley Computing and Communications
206 Evans Hall #3812
University of California
Berkeley, CA 94720-3812
sub_bcc@uclink.berkeley.edu

Portions of *Berkeley Computing and Communications* may be reprinted or adapted for nonprofit purposes by universities, colleges, or K-12 schools, provided the source is accurately quoted, duly credited, and a copy of the document in which the material appears is forwarded to the BC&C Editor. Send inquiries to:

BC&C Editor
UC Berkeley IST
295 Evans Hall # 3812
Berkeley, CA 94720-3812
avante@socrates.berkeley.edu
510-643-5385 (fax)

The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the University of California, Berkeley, of any product or service to the exclusion of others which may be suitable. Trade names that might be used in this publication include the following: Apple and Macintosh, trademarks of Apple Computer, Inc.; Microsoft and Windows, trademarks of Microsoft Corporation; Netscape and Netscape Navigator, trademarks of Netscape Communications Corporation; Sun and Java, trademarks of Sun Microsystems, Inc.; Unix, a registered trademark of X/Open Company, Ltd.; and the MELVYL® system, a trademark of the Regents of the University of California.

The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, or age, or within the limits imposed by law or University policy, sexual orientation, citizenship, or status as a covered veteran (special disabled veteran, Vietnam era veteran, or any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized).

The University of California is an affirmative action/equal opportunity employer. The University undertakes affirmative action to assure equal employment opportunity for underutilized minorities and women, for persons with disabilities, and for special disabled veterans, Vietnam era veterans, and any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

University policy is intended to be consistent with the provisions of applicable state and federal law. See Staff Affirmative Action Plan (<http://hrweb.berkeley.edu/aaeeo/plan/aaplan.htm>).

Inquiries regarding the University's equal employment opportunity policies may be directed to:

Academic: Academic Compliance Office,
200 California Hall, #1500
510-642-2795.

Staff and Management: Edith Ng,
Director of Staff Equity and Diversity Services,
641 University Hall, #1130
510-642-5002.

Accommodations for persons with disabilities will be provided in accordance with the Americans with Disabilities Act. For information regarding IST facilities and services, contact:

IST User & Account Services
510-642-7355
accounts@uclink.berkeley.edu

Please request accommodations at least two weeks in advance of need.

It is important for members of our campus community to understand that rather than having incrementally more resources to invest in key information technology projects, Information Systems and Technology (IST) must reduce expenditures below last year's levels. Projects such as the e-Berkeley initiative, the modernization of the campus network including additional wireless services, the Berkeley Administrative Initiatives, CourseWeb services, and many other excellent activities such as those described in the "Operational Highlights" article in this issue will have to move forward with significantly reduced resources, and at a slower pace.

For example, the Governor's budget explicitly cut by 30 percent the money available to the Digital California Project, the University of California initiative to bring advanced networking capabilities to the state's more than 8,000 K-12 schools. Several UC Berkeley staff members continue working to adjust priorities and to revise implementation plans so that this strategic statewide effort can continue to move forward, but now with a more drawn-out schedule than originally planned.

Closer to home, Chancellor Berdahl's campus budget reduces significantly the resources available for the Berkeley Administrative Initiatives, modernization plans for the campus network, and several e-Berkeley projects. To adjust to the cuts in these and other programs, IST managers are implementing several immediate changes and exploring additional approaches to cut expenses and increase revenues.

Plans to reduce expenses

IST departments are reducing travel, training, and other discretionary expenditures wherever practical. Managers are also postponing the hiring of replacement or new staff positions whenever possible. In addition, they are reviewing implementation schedules for all active projects to determine where they can modify prior schedules to spread fixed costs over a longer time frame without significantly

impacting the overall results of a project. They have also identified a small set of nonessential services that IST will reduce or curtail in the coming months after thorough discussions with departments and individuals impacted by these changes.

Plans to increase resources

Programs such as the award-winning Interactive University (<http://iu.berkeley.edu/IU/>) have been successful in obtaining funds from foundations and corporations in the past. Currently, this project is exploring funding opportunities from several external agencies. Other IST departments continue to work with companies that manufacture information technology products to develop mutually beneficial partnerships whenever possible.

It is probable, however, that IST will have to begin charging nominal fees for some services that it now provides without charge to end users. Campus administrative committees will review such proposals in the coming months. For example, IST is proposing to institute a \$10 charge to be assessed every six months for use of the dial-in modem services that are currently provided without fee. This charge of \$1.66 per month compares with external market prices of approximately \$20 per month for similar services.

In my opinion, if the budget crisis continues for an extended period of time and UC Berkeley departments continue to experience significant ongoing budget reductions, campus leaders will have to explore the possibility of instituting a student technology fee. The alternative is that our students will be forced to work in a deteriorating and mediocre, rather than a world class, information technology environment. ECAR, the EDUCAUSE Center for Applied Research (<http://www.educause.edu/ecar/>), recently published a research bulletin showing that nearly 70 percent of American public universities have a mandatory student technology fee. Unless the budgetary climate for the University of California

improves, student and administrative leaders will have to engage in a dialog about such a fee for our students.

Keeping strategic IT initiatives moving

Although the current budget situation is a challenge for all University of California departments, campus and IST managers are committed to finding ways of continuing the improvements we have made in our information technology environment in recent years. Although funded at a reduced level, the e-Berkeley initiative continues to serve as a framework for transforming the ways in which we interact with each other and with other University departments. We will continue to modernize and expand the campus network with improvements such as higher bandwidth connections and expanded wireless services.

During the past summer, construction crews started building a structure that will house a new, seismically sound campus computing and communications operations center. IST will move into this new facility in spring 2004. In the meantime, we will continue to make significant progress on business resumption plans for the campus IT infrastructure in case of an unplanned disruption of critical services. Working with partners both on campus and off, IST will continue to plan for new initiatives such as an integrated student portal, enhanced course management systems, and an integrated system of electronic mail, calendars, and related digital communications. And we will continue to enhance, but more slowly than previously planned, the recently implemented new financial and human resource management systems of the Berkeley Administrative Initiative.

Although we must slow the pace at which we implement some important initiatives, we must not lose the positive momentum we have generated in recent years. The UC Berkeley electronic information infrastructure is at the core of our great University. It must continue to evolve. ■

Selected IST operational highlights, Spring-Summer 2002

Jack McCredie, CIO

Services to learning, teaching, and research: Enrich opportunities for academic activities, both locally and at a distance

- Webcast (<http://webcast.berkeley.edu/>), a collaborative effort between IST and Educational Technology Services, currently delivers 14 UC Berkeley courses and, beginning in spring 2002, campus special events, both live and by on-demand replay, over the Internet. This project won the 2002 University of California Larry L. Sautter Award for Innovation and Entrepreneurship in Information Technology (<http://uccsc.berkeley.edu/sautter.html>). See "Redesigned webcast.berkeley" in this issue of *BC&C*.
- IST's networking staff doubled the campus capacity for ISP bandwidth to the commodity Internet to meet increased demand for the new semester. They continued to expand the successful AirBears wireless networking pilot project (<http://airbears.berkeley.edu/>) by installing the service in 10 new locations. In addition, they installed an innovative low-cost Internet connection to support the SETI@home research project (<http://setiathome.ssl.berkeley.edu/>), saving significant costs while providing both the campus and the project with improved service.
- The Social Science Computing Laboratory (SSCL, <http://socrates.berkeley.edu:7500/>) completed two test (beta) releases of Version 5.3j of the Computer-Assisted Survey Execution System (CASES) for the Windows environment. This system will be used in many other universities, government agencies, and private research organizations as well as the Berkeley campus, and is supported by organizations that belong to the Association for Computer-assisted Surveys.
- Nine innovative pilot projects were funded after a second round of proposals for the campuswide e-Berkeley initiative; IST staff members are involved in six of the nine projects. See "e-Berkeley Innovation Projects selected for funding" in the Summer 2002 issue of *BC&C*.
- RePS, the Research eProtocol System, is in the final stages of acceptance testing and the Animal Care and Use Committee will be using it for new protocols beginning in fall 2002. RePS is an e-Berkeley project jointly sponsored by IST and the Vice Chancellor for Research. The Animal Care and Use Committee provides the functional expertise. See "Research e-Protocol System (RePS)" in the Summer 2002 issue of *BC&C*.
- CourseWeb (<https://courseweb.berkeley.edu/>) went live, and in the first week of classes reached a load of 5,000 concurrent users on several occasions. CourseWeb is a collaborative effort between IST and Educational Technology Services (ETS). The system includes instructor profiles, course information, syllabus and book lists, roster, messaging, and student views. This project is part of UC Berkeley's Learning Management System initiative. See "New gateway to courses on the Web" in the Spring 2002 issue of *BC&C*.
- IST staff upgraded eight general access and instructional computer labs (<http://facilities.berkeley.edu/>) with new equipment including flat panel displays. Two instructional computer labs were closed and turned over for departmental use. This upgrade cycle keeps the facilities within the IST three-year equipment replacement plan for such facilities.
- The first phase of the new Human Resource Management System (HRMS, <http://hrweb.berkeley.edu/hrms/hrmsmain.htm>), Administer Workforce, was implemented July 1. Working with the functional sponsors, a large IST technical team completed the required customizations to PeopleSoft release 8, developed an interface from HRMS to PPS, and implemented the web-based transaction processing application for central offices and ten early-adopter departments. During the first three months of operation, all pay cycles have been successfully completed. Training for all departments continues, and the complete campuswide distributed deployment is anticipated by early November.
- Because PeopleSoft Financials at the release 7 level does not provide an adequate data archiving solution, the Accounts Payable team, working with other IST staff, Disbursements in Business Services, and Materiel Management, developed an archive data store in PeopleSoft for closed requisitions, purchase orders, and for vouchers based on specified dates. This enhancement has improved system response time and, in particular, helped with the nightly batch window. A second round of archiving will occur this November.
- The Online Financial Aid Offer Letter is now available to students. It allows the recipient to accept or decline awards, report changes in their enrollment plan, and report new or updated outside resource information. The system accesses up-to-the-minute Financial Aid data for individual students and reflects changes made by the Financial Aid Office immediately.
- Several new, or enhanced, student web-based applications continue the momentum generated last year by the e-Berkeley project. Examples include

Enterprise information system initiatives: Streamline and improve the quality of campuswide administrative and academic support systems

the online Statement of Legal Residency (SLR) for new students, the Graduate Admissions System, E-grades, emergency contact information, transcript request, enrollment verification, and class scheduling and room reservation applications.

Technical support to campus departments: Enhance the ability of departments to utilize a broad range of information resources

- The central campus implementation of Active Directory (<http://calnetad.berkeley.edu/>) is in full production supporting several departments including the Haas School of Business, the College of Chemistry, the Chancellor's Office, the College of Engineering Dean's Office, International and Area Studies, and several IST units. See "CalNetAD: Update" in this issue of *BC&C*.
- Communication and Network Services staff led a campuswide task force on firewalls and network support (<http://fwtf.berkeley.edu/>) that developed a consensus set of recommendations concerning firewalls that departments can follow as they strive for increased data security. See "Efforts of the Firewall Task Force" in the Summer 2002 issue of *BC&C*.
- Through the Campus Information Security Committee (CISC), IST led the effort to develop the draft campus IT security policy (<http://socrates.berkeley.edu:2002/pols.html>). A well-attended campuswide meeting was held to discuss the draft. See "New draft IT security policy" in this issue of *BC&C*.
- CNS led an RFP process for "Layer 2" network switches, and established purchasing procedures with three competitive vendors able to supply equipment meeting campus technical criteria. By purchasing from these three vendors as appropriate, the campus saves a great deal of money.

IST begins nationwide search for new CCS Director

Jack McCredie, CIO

With the announcement of CCS Director Martha Fateman's upcoming retirement, IST has embarked upon a nationwide search for a new Central Computing Services Director. Candidates should submit applications directly to UC Berkeley Employment Services. For position details and application information, see "CCS Director position description" (http://ist.berkeley.edu/MgmtTeam/ccs_director_jd.html) on the IST website. ■

- The System and Network Security (SNS, <http://socrates.berkeley.edu:2002/>) team developed an intrusion detection working group with representatives from several departments that are either currently deploying or planning to deploy departmental intrusion detection systems. This group takes advantage of existing computer security expertise on campus, and fosters cooperation and information sharing across campus.
- The Faculty Equity Assistance (FEA) web-based application, used in faculty recruitment for applicants to self-identify gender, ethnicity, and other information, has been packaged by the original developers in DTS and provided to UC Riverside. This is one of several efforts underway to share software and collaborate on solutions between campuses in order to improve information services.
- CAL PACT (<http://calpact.berkeley.edu/>) completed its sixth year of providing free basic computer training classes to staff employees. Since the inception of the program, over 13,400 people have attended courses that CAL PACT developed on the Microsoft Office suite, FileMaker, PageMaker, Web Design, Eudora, and CalAgenda software, just to name a few.
- The Connecting@Berkeley (<http://cab.berkeley.edu/>) team improved upon the award-winning C@B 2002

CD with its latest release — the C@B 2003 CD. This CD adds support for Windows XP, Mac OS X, and the AirBears wireless network. It is significantly enhanced due to collaborative efforts with UC Davis and Queen's University at Kingston, Ontario, Canada. See "Announcing the Connecting@Berkeley (C@B) 2003 CD" in the Fall 2002 issue of *BC&C*.

Production support: Ensure continuous, dependable, high-quality, effective and efficient production and support services

- During the summer, the UCBackup team upgraded hardware and software supporting the campus backup and restore service to provide more flexible options and to allow expansion to new customers. In addition, staff upgraded dozens of other servers, operating systems, and software products to improve load balancing, availability, and networking capabilities, and to enhance security.
- Early in the year, IST began a significant Business Resumption and Disaster Recovery project by hiring a manager of this activity and arranging for consultants to initiate a complete review of current operations and procedures. See "CCS begins business resumption planning" in this issue of *BC&C*.
- Construction crews broke ground on a new building that will include a modern, secure, and seismically

resilient campus operations center for information technology activities. Occupancy of the new data center is anticipated early in 2004.

- The conversion of legacy IDMS Systems to DB2 began in May 2002. Data structures and programs have already been converted for undergraduate admissions and the transfer course system. The goal is to have all IDMS systems converted to DB2 by summer, 2003. This includes 23 systems, and approximately 2,000 programs in six different programming languages. This consolidation will save the University money, enable the creation of the next generation of web-enabled systems at Berkeley, and simplify staff training and recruitment. See "IDMS conversion is underway" in this issue of *BC&C*.

Communication services: Implement and maintain a ubiquitous, accessible, robust, secure communications and resource infrastructure

- Communications and Network Services (CNS) staff completed a comprehensive strategic planning effort for campus communication services that validated several major infrastructure projects currently underway, and that enabled the campus to delay some other costly projects while the technology matures. See "CNS completes long-range strategic plan for campus communications" in the Fall 2002 issue of *BC&C*.
- During the past several months, CNS staff completed 98 major data networking projects, more than 1,100 telephone work orders, and 395 network work orders representing 3,339 connections. The data network now has approximately 45,000 nodes in service.
- The new Network Funding model (<http://cns-pao.berkeley.edu/netfunding/>) completed the first year of full-scale implementation with

Continued on page 7

NEWS AND ANNOUNCEMENTS

Request for feedback: e-Architecture Guidelines under revision

Chris Hoffman, Graduate Division

For the e-Berkeley initiative to succeed, an e-architecture must be in place that facilitates campuswide application development and integration and, more generally, information communication and exchange. In previous articles and elsewhere, members of the e-Architecture Working Group have described the goals and general outlines of such an e-architecture. In the past year, significant incremental steps have been taken to build the e-architecture; in general, the trend towards web-based systems that take advantage of existing resources such as CalNet, has been growing. Many issues, however, have seen little progress. Future articles will highlight some of these milestones as well as areas that still need significant work.

One of the major products of the e-Architecture Working Group is the *UC Berkeley e-Architecture Guidelines*, a document that is intended to be used by campus developers and decision-makers to help evaluate whether the architecture of a new system (to be built or bought) is aligned with the e-Berkeley e-architecture. First released more than a year ago, the e-Architecture Working Group is now working on a new version of the Guidelines. Certainly one goal of this revision will be to incorporate new and developing technologies. More importantly, a year of experience using the Guidelines allows us more clearly to identify their scope and purpose and to address other important issues.

To that end, the e-Architecture Working Group would like to open a dialog with the campus community, from academic departments to user groups, to discuss architectural issues campus units face so that we can see how the Guidelines can be more helpful and clear. We

will also address the nontrivial issue of supporting departmental efforts while simultaneously moving the enterprise architecture forward. In addition, this outreach effort will help us document how the e-architecture is being built right now so that we can identify best practices and bring together communities that are working on similar problems. We hope to support communities that are building the architecture by bringing visibility to particular efforts, especially as they contribute to the goals of e-Berkeley.

During this academic year, the e-Architecture Working Group will be contacting several departments and groups. If you are interested in meeting with us or have general comments on the e-Architecture Guidelines, please contact us by sending email to Chris Hoffman, chris_h@uclink.berkeley.edu.

Article links and related articles

- E-Architecture Working Group (<http://socrates.berkeley.edu:4259/e-Arch/>).
- E-Architecture Documents and Resources (<http://socrates.berkeley.edu:4259/eberk.detail.html>).
- UC Berkeley E-Architecture Guidelines, version 1.1 (<http://socrates.berkeley.edu:4259/itatf/GuidelinesForE-Arch.1.1.html>).
- An e-architecture for e-Berkeley. *BC&C*, Summer 2001.
- New e-architecture guidelines. *BC&C*, Fall 2001.
- Next steps towards the e-Berkeley enterprise architecture. *BC&C*, November-December 2001. ■

Unified Communications project update: UniBears!

Terri Kouba, IST-CNS

The cross-departmental Unified Communications Task Force is pleased to announce that Call Sciences has been selected for a one-month technical pilot of their Unified Communications service. The detailed technical test can be found

on the Unified Communications — Technical Pilot page (<http://telecom.berkeley.edu/uc/tech-pilot.html>).



About Call Sciences

Founded in 1993, Call Sciences offers enhanced communication services to service providers that deliver personal communication services such as email, fax, voicemail, and one-number service to their customers and subscribers. Call Sciences is headquartered in Edison, New Jersey, and is privately held. For more information, visit the company's website at www.callsciences.com or call 800-669-5400.

Mike McCoy, CEO of Call Sciences, issued this statement:

We are pleased to have been selected to participate in the UC Berkeley Unified Communications project. We are confident we can work together to bring a state-of-the-art system to the University, in a cost-effective and timely manner, while improving the communications capabilities of the University.

What is Unified Communications?

A few features of a Unified Communications solution include:

- Unified in-box — email, voice-mail, and fax in one in-box.
- Single-number reach, also known as the find-me, follow-me feature. Your callers dial only your single phone number and the Unified Communications solution forwards your calls to locations you specify for set periods of time.
- Self-initiated conference calling.
- Call screening so you know who's calling you before you answer.
- Voice, fax, and email message accessibility from any device — the

Web, wireless Internet devices, desktop computers, desktop phones.

If the technical pilot is successful, the Unified Communications service will be available on the Berkeley campus in spring 2003!

More information about the Unified Communications Project (now called UniBears!) is available on the UniBears! website (<http://telecom.berkeley.edu/uc/>). ■

Operational Highlights

From page 6

documentation of the campus "node bank" and special memoranda of understanding available on the Web. The implementation of this model has resulted in more than \$800,000 of additional usage-based departmental charges to support the network.

- IST implemented a Campus Computer Incident Response Team (CCIRT) to coordinate responses to exceptional attacks on campus computer or network resources that may have severe consequences, such as possible threats to health and safety, significant financial impact, or compromise of confidential data. See "Reporting computer security incidents" in the Fall 2002 issue of *BC&C*.

Organizational development: Build IST into a values-based organization focused on service excellence

- In partnership with Compensation in the Office of Human Resources, IST financed and participated in two

national salary surveys for IT-related positions. These data aid the campus in setting salaries in order to recruit and retain highly skilled staff.

- Communication and Network Services significantly improved its operational efficiency by consolidating all CNS staff at one location. Approximately 40 people moved out of Evans Hall to an off-campus location at 2484 Shattuck Avenue. This move improved overall IST operations by generating additional space in Evans to accommodate additional staff. See "CNS is on the move" in the Winter 2002 issue of *BC&C*.
- A national recruitment for a new Director of IST's Administrative Systems Department drew more than 90 applicants; Kelly Haberer was selected for the position from a pool of excellent candidates. See "Kelly Haberer appointed director of Administrative Systems Department" in the Fall 2002 issue of *BC&C*. ■

e-Berkeley project registration system

Monica Hastings-Smith, Chancellor's Office — e-Berkeley Program Office

The e-Berkeley Program Office recently launched a project registration system, a project designed to “make sharing and collaboration at UC Berkeley easier” as noted by campus CIO Jack McCredie in his article about campus collaboration. (See “Collaborating to build better IT solutions at UC Berkeley” in the Fall 2002 issue of *BC&C*.)

Project managers are encouraged to register all projects that require participation from other units. Effective communication and access to information can prevent major issues and problems when planning, designing, or implementing campus systems. The benefits of registering your project are:

- **Establishing communication with campus data and systems custodians early in the project process.** Discussions can be initiated to effect the timely resolution of issues such as access to central data resources, conventions, definitions, authorization and authentication, and business rules and procedures.
- **Assisting in better project planning.** Sharing information provides for improved project execution, informed decision making, optimizing use of resources, benchmarking technical skills and training, and improved contingency planning.
- **Promoting open communication in a distributed development environment.** Find peers and projects with which you can collaborate, consult, share vendor solutions, find implementation partners, synchronize data, minimize redundant development projects, and improve understanding of people and business practices.
- **Early consultation with campus staff that have strategic technical and policy oversight.** Get a better sense of the full spectrum of issues, including

strategy, people, processes and technology, and integration of current initiatives. View the impact of campus planning and development on local processes.

This web-based registration tool creates a way to initiate first contact, timely information sharing, and coordination across units at the early stage of a technical project on campus. CalNet authenticated users interact with the tool to register new projects, update existing projects, search project information, and get help using the tool. When registering a project, the registration form prompts users to identify which, if any, bodies of campus data or financial systems are required for the project. Based on the choices made, the registration form automatically forwards an email to notify the appropriate data custodian or business manager. The project information that is collected will be maintained as a viewable, searchable database of campuswide e-Berkeley-related projects. As the information accumulates it will serve as a historical archive of projects.

Knowing which campus IT projects are being developed is particularly important now given the current budget predicament that we find ourselves in. Everyone needs to enhance development efficiencies including sharing solutions, avoiding duplication, leveraging successes, and building on what already works.

What would motivate you to register a project? Do you have any questions or comments about the tool or its use? The development team needs your input. The successful implementation of this tool and strategies behind it depend on a clear understanding of our need, as Jack McCredie stated in his article, “to learn how to collaborate on common goals and share information and solutions more openly and effectively.” Please contact e-Berkeley Program Director, Jon

Conhaim, conhaim@uclink.berkeley.edu, 643-2255.

Additional resources

- e-Berkeley Project Registration tool (<http://project.berkeley.edu/>).
- e-Berkeley website (<http://eberkeley.berkeley.edu/>).
- E-Berkeley IT project registration system. *BC&C*, Winter 2002.
- Collaborating to build better IT solutions at UC Berkeley. *BC&C*, Fall 2002. ■

New server for Socrates service

Peggy Cowell, IST-CCS

During the winter break, Central Computing Services plans to upgrade Socrates, the central academic Unix server, from a Sun Ultra Enterprise 5000 to a new Sun Fire V880 server based on Sun's second-generation 64-bit UltraSparc III processor. The Sun Fire V880 was given to UC Berkeley on an Academic Equipment Grant from Sun Microsystems. The new server will run the Solaris 8 Operating Environment to ensure software compatibility for existing applications. The new 900 mHz CPUs should provide a performance boost. The Sun Fire V880 scales easily with additional components and offers the ability to hot-swap components while the system is running. We will be communicating regularly with the Socrates user community about this upgrade. We will also be surveying Socrates users this fall, polling them about current and future use of the central academic Unix service. If you have any questions about this upgrade, send email to consult@socrates.berkeley.edu. ■

New draft IT security policy

George Lavender, System and Network Security

The UC Berkeley Campus Information Security Committee (CISC, <http://socrates.Berkeley.EDU:2002/CISC/>) was formed last year as part of an ongoing effort to improve computer and network security on the Berkeley campus. One of its first efforts was to draft an Information Technology Security Policy, the purpose of which is to define the roles and responsibilities that each member of the campus community has in regard to information security. The policy defines three major roles, Administrative Officials (e.g., department chairs, principal investigators, managers), Providers (e.g., project managers, system administrators), and Users. Each of these roles has a set of responsibilities for the electronic information resources under their control.

After much discussion within the CISC, the policy has started through an informal review process. In July, a group of about 100 system administrators and computing resource managers met to discuss the policy and how its implementation would impact their departments. This group enthusiastically endorsed the policy and made suggestions for other things that could be done to improve campus security. The next step in the review process is to take the policy to other campus groups for their input. We will be doing this in the upcoming months.

The draft IT Security policy is available at <http://socrates.berkeley.edu:2002/DRAFTS/IT.sec.policy.html>. I urge all interested people to look at it. If you have any comments, please send them to policy@uclink.berkeley.edu. ■

ETS training events

Judy Stern, Educational Technology Services

In case you missed them, ETS (Educational Technology Services) is repeating some of the events we held in August, designed to help you learn about building course websites.

Course Website Tools Orientations

Want to learn about the three course website building systems — CourseWeb, WebCT, and Blackboard — the UC Berkeley campus is currently supporting? Come to any of our presentations during which we'll demonstrate these tools, cover the administrative and pedagogical reasons for using each, and answer the questions you have about when you might want to use these or other tools.

Sessions will be held in 117 Dwinelle Hall from 12 noon to 1 p.m. on:

Monday, November 25

Tuesday, November 26

In addition, following each session (from 1 to 1:30 p.m.) computers and helpful staff will be available in 117 Dwinelle so that you can make changes to your CourseWeb site or register for a WebCT or Blackboard site. (If you want to make changes to your CourseWeb site, be sure you know your Calnet ID and passphrase.)

No registration required. Bring your lunch.

Getting Started with Blackboard

Tuesday, December 10

10 a.m. to 12 noon

Two-hour hands-on workshop, designed to help you get started building your own course website. Topics covered include navigating in Blackboard, adding basic course information, posting announcements, uploading documents, adding course images, and communicating with students.

Registration required. See the ETS Training page (<http://ets/training/schedule.html>) for registration information.

Getting Started with WebCT

Thursday, December 12

10 a.m. to 12 noon

Two-hour hands-on workshop, designed to help you get started building your own course website. Topics covered include navigating in WebCT, creating a syllabus, setting up a course calendar, adding a simple quiz, and organizing online discussions.

Registration required. See the ETS Training page (<http://ets/training/schedule.html>) for registration information.

Please note: Hands-on Blackboard and WebCT workshops will only be held if there are a sufficient number of participants enrolled one week before the date of the workshop. ■

Procurement Card

Linda Pratt, IST-ASD

A large new enhancement to the Procurement Card subsystem of BFS was rolled out to campus on October 7. The change reproduces BFS field edits in the Procurement Card subsystem and allows for easier operation by the end user.

The University of California, Berkeley, Procurement Card (also known as P-Card) is a credit card used by designated individual cardholders for the purpose of purchasing low-value goods and services. The program is designed to streamline low-value purchasing by reducing processing time and paperwork, and it provides campus departments the ability to electronically monitor and audit card purchases and payments.

Related links

- Procurement Card Purchasing Guide (<http://www.matl.berkeley.edu/procure/purguide/procurec.html>).
- Berkeley Financial System (BFS, <http://www.bai.berkeley.edu/bfs.htm>). ■

Rebuilding and repositioning our student information world

Lisa Chow, IST-SIS

The annual student systems forum became part of the campus fall semester startup activity for staff on August 13. While many attendees found this to be a busy time, over 200 people came, giving this year's forum the largest participation of the three forums held since 1999. With the forum right before classes, it helped gear up student advisers by refreshing and presenting new information that they would use immediately.

The theme this year was "Rebuilding and Repositioning Our Student Information World". The Forum started with Registrar Susanna Castillo-Robson, Vice Provost for Undergraduate Education Christina Maslach, and Director of Student Information Systems JR Schulden, presenting a supportive unified commitment to student service and support on various levels. They discussed the "new" student who was brought up surrounded by web access and technology. These students are technologically savvy and expect not only student administrative services, but academic and class information to be available to them through the Web that can be used anywhere and anytime.

Associate Registrar Walter Wong presented an overview of central student systems. Other presentations reflecting service to students through the Web were made by: Tony Christopher from Undergraduate Affairs on web applications for new incoming students; Tessa Michaels from Business and Administrative Services (BAS) on the Recreational Sports Facility, Black Lightning Notes, and Parking; Cheryl Resh from the Financial Aid Office on Online Offer Letter; Ed Rogers from Disabled Students' Program on technology to assist the disabled. The many examples presented and the progress made in just one year were appreciated by all who attended. SIS Director Schulden also talked about how the student database is being converted from IDMS to DB2, which will enable

rapid web development of the older central systems. There was also discussion of the University's new mandatory student email policy and activities in process to improve the accuracy of student email address and use.

Break-out sessions this year included:

- IDMS/BearFacts — Tools of the Trade (Russell Low and Dorothy Jones of UGA, and Helen Lee of SIS). Staff from the Registrar's Office and SIS discussed techniques for making the best use of these systems.
- CARS Student Billing System (Mindy Lopez, John Aczon, Linda Pratt). Staff from Loans and Receivables (LRO) talked about how to read a CARS bill and how best to direct students who have questions about their CARS bills.
- CourseWeb — Learning Management Systems (Mara Hancock).

The forum also hosted poster sessions for: CalNet staffed by Jan Sartain; e-Grades staffed by Karen Denton and Rozanne Largent; SEVIS (The Student Exchange Visitor Information System) by Dianne Walker; and the Student Portal Project put on by the Student Portal Project Team, Leadership Development Program.

The presentations reflected the rapid and widespread growth of online services to students as well as the ongoing collaborative effort between Student Information Systems, Undergraduate Affairs, Undergraduate Education, campus departments, and users of the systems. It was clear that many on campus are dedicated to providing student service and that the Web will be one of the major ways UC Berkeley will reach out to its students and enhance the UC Berkeley community.

For those who attended the forum, we welcome your feedback, particularly for planning next year's event. Please feel free to email your comments to lisachow@uclink.berkeley.edu. ■

SECURITY SPOTLIGHT

Don't get "Slapped"

Craig Lant, System and Network Security

The latest threat that the campus System and Network Security office (SNS, <http://socrates.berkeley.edu:2002/>) is seeing is called the "Slapper" worm. This naughty little bug attacks Linux computers running Apache web servers with OpenSSL. If you're not running an Apache web server and a Linux operating system, you're safe from this worm. However, other web servers and operating systems are known to be vulnerable and the worm will undoubtedly be modified to attack them. As usual, the solution is to always make sure you're running the latest, patched version of all software.

The worm exploits a known vulnerability in OpenSSL. SSL is a widely used protocol that is intended to protect network communication. It includes the ability to encrypt communications as well as other security services. Unfortunately, the Slapper worm takes advantage of a buffer overflow in the SSLv2 handshake process using a malformed client master key. Basically, that means it tricks the computer into running a tiny program that lets the worm copy itself onto the computer and run itself.

Once a system has been compromised by the worm, it will begin scanning nearby systems for the same vulnerability. Some versions of the worm will also replace programs on the system with copies of themselves and make sure that those copies are run regularly. This is how the worm propagates and ensures that it remains active on infected systems.

The worm also opens various "back doors" through which anyone on the Internet can log in. This has resulted in quite a lot of hackers scanning the Internet for signs of the worm. Once found, hackers can take control of an infected computer, install whatever tools they want, and use it however they please.

Interestingly, the worm has also created numerous “peer-to-peer” networks over which infected computers communicate with one another. Using these networks, a hacker can send a command which will quickly propagate to every infected computer on the Internet. Such a command would typically be to launch a distributed denial of service (DDOS) attack on some high profile website. Each infected computer would then begin sending very high volumes of traffic at the target site.

If you are running a vulnerable system, the most important thing to do is upgrade to the latest version of OpenSSL (currently 0.9.6g). A few campus systems have been infected and SNS is on the lookout for signs of the worm. Unfortunately, if your system has already been infected, the only way to ensure that the system is secure is to completely reinstall the operating system, web server, and any other software from secure media (like CD-ROM). Then, of course, all security patches must be installed. A tedious process to be sure. To avoid this in the future remember: keep your system and applications patched. The time it takes is saved many times over if you can avoid being a victim of a hack and reinstalling everything.

For a detailed description of the worm, see CERT Advisory CA-2002-27 (<http://www.cert.org/advisories/CA-2002-27.html>). For information on OpenSSL including the latest version of the software, see the OpenSSL Project website (<http://www.openssl.org/>). ■

WHAT'S THE POLICY?

Q: Is it okay to use campus computers for an “incidental” amount of personal financial gain?

Karen Eft, IST-AVCO

The UC Electronic Communications Policy (ECP, <http://www.ucop.edu/ucophome/policies/ec/>) says that campus electronic communications facilities or services may be used for “incidental” personal purposes, but only under certain constraints and conditions. One constraint, stated in section III-D.3, is that “University electronic communications resources may not be used for personal financial gain (except as permitted under applicable academic personnel policies)”. This recognizes that under certain limited conditions, faculty may be granted exceptions. Otherwise, University electronic communications resources may not be used for any personal financial gain.

It is important to realize the broad scope of electronic communications resources, systems, and services that, as stated in ECP section III-B,

are the property of The Regents of the University of California. These include all components of the electronic communications physical infrastructure and any electronic communications address, number, account, or other identifier associated with the University or any unit or sub-unit of the University or assigned by the University to individuals, units, sub-units, or functions.

Thus, for example, the following campus resources, systems, and services are included:

- the campus network;

- connection accounts (e.g., Home IP, SHIPS, or local departmental accounts);
- email accounts, web space, data processing resources;
- computers (e.g., mainframes, server machines, desktop computers, laptops), peripherals, and software;

as well as the names, addresses, or other identifiers associated with these. Also see the definition of electronic communications resources in Appendix A of the ECP.

If you have questions about the scope of allowable “incidental personal use” — i.e., not for personal financial gain — you should check with your department.

Also remember that there are other restrictions on your electronic communication activities, such as the policy against sending large-scale unsolicited mailings, against accessing systems you are not authorized to use, and other applicable laws and regulations. For general information about campus information technology policies, see the Campus IT Policies website (<http://cio.berkeley.edu/policies.html>) or send questions to policy@uclink.berkeley.edu.

References:

- University of California Electronic Communications Policy (ECP, <http://www.ucop.edu/ucophome/policies/ec/>).
- Berkeley Campus IT Policies (<http://cio.berkeley.edu/policies.html>). ■

SERVICE UPDATES

CNS offers shopping cart ordering

Gladys Oddoye, IST-CNS

Before the year 2000, our campus customers were using our order system known as Quest or CSR (Customer Service Request) to place orders with CNS. While this system was reasonably effective, it had limited capability to give full information and flexibility to customers, and offered little choice on products and relevant information. In early 2001, focus groups were started with the sole purpose of finding out what our customers wanted.

As a result, CNS reoriented its product and service offerings to respond to the needs and demands of our customers. All this led CNS to come up with technologically advanced solutions that would offer better options and products to the customers. Thus was born our Shopping Cart (<http://sagebrush.berkeley.edu/cgi-bin/ws515/sc.r>).

Thus far, it is one of our most effective service enhancements. It has empowered our customers and offers them real solutions and valuable flexibility in real time.

The shopping cart gives our customers the following options:

- Product comparison before purchase.
- Information on the merits and demerits of products.
- Capability to see the items and products they are ordering.
- Choices as to color, weight, size, etc.
- Price information.
- Information on compatible accessories and other equipment.
- CNS and Vendor warranty information.
- Browsing capabilities without having to order an item or add new service.
- Ability to change Individual Funding.

- Ability to change Mass Funding.
- Ability to submit Change/Move/Delete Order.
- Security of knowing that only those approved by a department with access rights can place orders for that department.
- Ability to go back and change item orders any time before the transaction is completed.
- Instant confirmation numbers that are assigned as soon as an order is submitted.

These are just a few of the highlights of our Shopping Cart technology.

To facilitate easy customer feed back we included Shopping Cart Feedback via email. With continuing feedback from our customers and focus groups, enhancements are constantly being made.

The newest enhancement was the **UserI Page**, which was introduced in August. This allows customers to use free-form information to establish profiles that are person, or department, specific. This enables users to add further additional personal information such as job titles. Departments can make changes such as add or delete employer/employee, or processing unit changes.

We have also added the most frequently ordered combinations as favorite packages for easy ordering.

A popular innovation is the **I don't see my item order button**. When selected, a box pops up for customers to put in a description of what they want. An example of this is placing a project order that is not

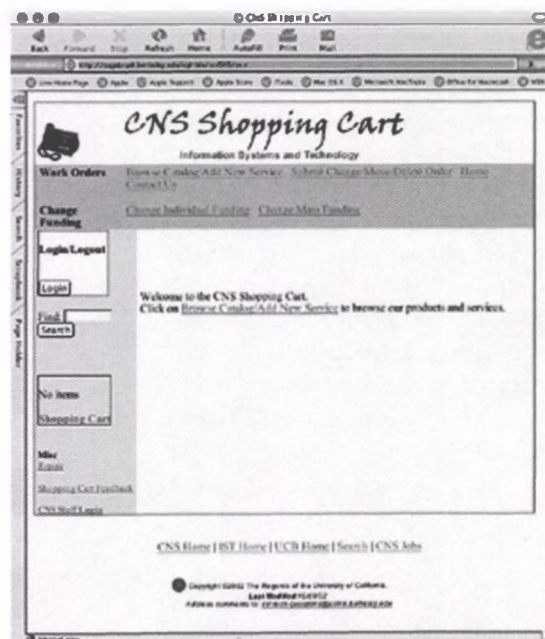
specifically itemized in the shopping cart. Because the shopping cart technology tracks orders in real time, orders of any size are prevented from falling through the cracks.

Our shopping cart is a real boon to our customers. We intend to continue to provide additional innovative solutions, products, and services to the campus community.

Future developments

We are currently working to add an enhancement called the **Delete Page**. This will allow customers to see a list of all their services, voice and data, and to be able to choose which ones to delete from the list.

Another request that is also being worked on is the **Move Page**. At the click of a button, users will be able to see a list of all their voice and data services. They can then decide which ones to move from one location to another. ■



Redesigned webcast.berkeley

Obadiah Tarzan Greenberg, Educational Technology Services

You will see a lot of changes when you visit [webcast.berkeley](http://webcast.berkeley.edu/) (<http://webcast.berkeley.edu/>), the online destination for UC Berkeley's live and archived webcasts. Webcast is a cooperative project developed by Educational Technology Services, Central Computing Services, and the Berkeley Multimedia Research Center.

First of all, it's not just for courses anymore. This fall, a new section for webcasts of campus special events was unveiled. Former President Bill Clinton's speech at Zellerbach in January, photographer Sebastião Salgado on his Migrations exhibition at the Berkeley Art Museum, and this fall's popular Lunch Poems series are just some of the events available for on-demand viewing. The Events section (<http://webcast.berkeley.edu/events/>) is dedicated to Matthew M. Lyon, the late Assistant Vice Chancellor

for Public Affairs, who championed the idea of tapping into the wealth of events at UC Berkeley and broadcasting them on the Web.

Expanding [webcast.berkeley](http://webcast.berkeley.edu/) to accommodate events made it necessary to redesign the website's user interface (UI) and modify the database behind it. When the webcast system went from a research experiment to full-scale production in fall 2001, there were many changes to the backend of the system, but the UI never got the makeover that it deserved. One year later, with the popularity of the course webcast system continuing to grow and the introduction of the Events section, the opportunity was afforded to make the desired improvements.

The first decision was to have the Courses and Events sections branch from the same [webcast.berkeley](http://webcast.berkeley.edu/) website rather than be two separate destinations. This made sense because both sections use the same backend servers, database, and code. By sharing the same identity, it was a good way to announce the new Events section to the established course-webcast viewership.

New functionality was needed for the Events section to be properly presented. The Events section essentially works the same as Courses, but the addition of a subpage gives users an area to learn more about an event including a description of the event, sponsor information, and a related image such as a speaker photo or event banner. All of these content elements are input by an editor through a new web-based administrative

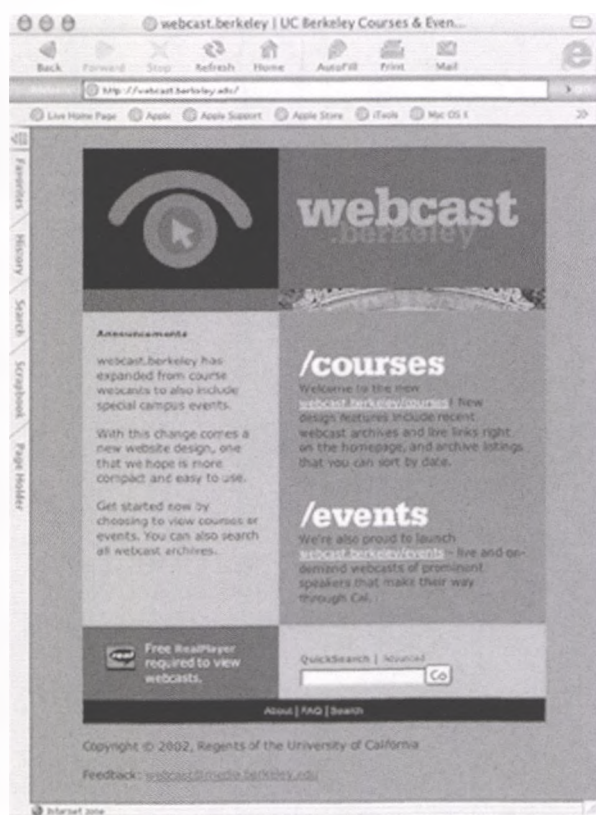
interface. The database also allows for specific events to be highlighted on the home page, as well as a new Announcements area.

The rest of the Events home page is devoted to the schedule: what's happening now (Live), what's recently happened (Recent Webcasts), and what's going to happen (Upcoming Webcasts). Since all three of these elements are date- and time-specific, they are dynamically inserted from the database which matches the date/time with its computer calendar and clock. The webcast system's date and time are presented on the UI so users can be sure that everything's in synch.

Many UI improvements involve new functions that also benefit Courses. For example, the Recent Webcasts feature conveniently presents the latest webcasts at the top of the schedule. Since both Events and Courses share the same database, users can search on both sections, or specify a course in a given semester. Sorting is another new feature useful for both Courses and Events, allowing users to group event archives by date, title, speaker, or sponsor. Sorting archives by date becomes useful for course webcast viewers as the semester list builds. With one click, the page redraws with the latest archives at the top and the oldest at the bottom.

These new functions are part of a general improvement in website usability. The new look-and-feel of the site is geared toward a clean, compact design. New breadcrumb navigation reinforces how a user arrived at a particular page by showing the route they've taken. The layout of content elements was made as horizontal as possible in order to maximize the amount of information presented "above the fold" so the user doesn't have to scroll.

Two designers at Educational Technology Services (ETS) worked on the website redesign. First they mapped how



the Events section should work, careful to build on the foundation of the existing webcast functionality, and utilizing user feedback compiled from users of the Courses section. The new layout and functions were translated into a wireframe illustration for use as reference in meetings with Public Affairs, and ultimately as part of a Functional Specification document that was delivered for review by the programmers at IST's Central Computing Services (CCS). Once accepted, the project scope was established with a work schedule spanning summer 2002.

The ETS designers worked simultaneously on the UI. The first designer created the look-and-feel including new branding, overall layout, color and font selection, and continued art direction. The other designer, more familiar with the backend programming, laid out the database-driven content elements. Finally, the graphics and content were married into an HTML mockup which also served as an interactive prototype.

This mockup was fine-tuned and then delivered to CCS for implementation. This included enhancing the database to accommodate the Events section, and creating programs to provide the new functionality. A new web-based administrative interface was built for ETS staff to add and edit event information. After thorough testing and general polish by both ETS and CCS, the new webcast.berkeley was launched for the fall 2002 semester. Stop by the webcast.berkeley site to see the changes, and visit regularly for the latest events and courses. ■

FEATURES

Davis-Etcheverry Computing Facility

Jasmina Vujic, Nuclear Engineering

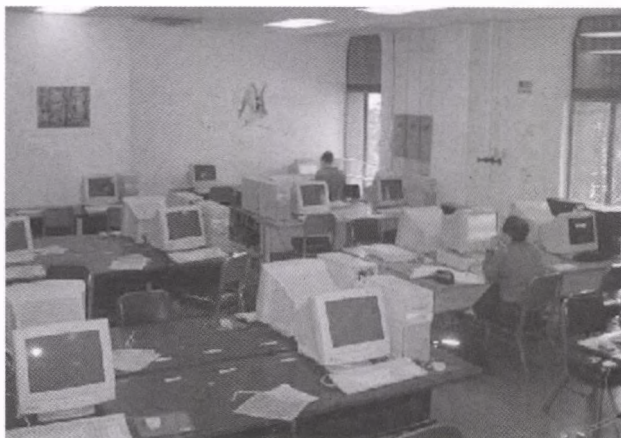
With possibilities of further reductions in the state budget, and the slowdown in the recovery of the state economy, the ability to provide high-quality computing services at UC Berkeley may rapidly decline. One solution is more efficient sharing of the existing computing resources and an increase in collaboration among members of the campus community. Negotiations with sponsors and computer and software vendors are more effective when done on behalf of several departments, an entire college, or the whole campus, than when a single faculty member tries to proceed alone. Another solution, which could be very unpopular but maybe unavoidable, would be to charge students for the use of campus computing resources, access to licensed application software, and online access to class notes and handouts.

An example of efficient use of computing resources, collaboration among several engineering departments, and running on a tight budget for years, is the Davis-Etcheverry Computing Facility (DECF, <http://www.decf.berkeley.edu/>). DECF is an interdepartmental computing facility that provides for the instructional, research, and administra-

tive computational needs of six College of Engineering departments: Bioengineering (BioE), Civil and Environmental Engineering (CEE), Industrial Engineering and Operations Research (IEOR), Materials Science and Engineering (MSE), Mechanical Engineering (ME), and Nuclear Engineering (NE). It was created in January 1988, and its first Faculty Director was Professor Albert P. Pisano (ME).

Over the years, DECF has undergone several changes, striving to fulfill its goals on a tight budget. In 2000, thanks to generous donations from Sun Microsystems and Intel, DECF had a major "facelift". DECF currently operates Sun Ultrasparc Unix and PC servers, which are used for general computing, web serving, and Java development. These servers support 18 Sun Ultra10 workstations, 20 San Rays, six 800 MHz–1.4 GHz PCs, and a multiprocessor cluster of 10 PCs. In addition, it has several black-and-white and color printers, a scanner, a digital camera, and two LCD projectors.

Currently, there are more than 1300 users including graduate and undergraduate students, faculty, staff, researchers, and visiting scholars from the six participating engineering departments. DECF also provides services to the College of Engineering and affiliated groups such as ESRC, CalSol, FSAE, and ACC2003. The facility includes the Open Laboratory in 5101 Etcheverry Hall, the Computing Laboratory in 1171 Etcheverry



5101 Etcheverry

Hall, and the Davis Laboratory in 541 Davis Hall.

The DECF is run by the Faculty Director, Professor Jasmina Vujic (NE), with help from the DECF Faculty Advisory Committee: Professor Kimmen Sjolander (BioE), Professor Filip C. Filippou (CEE), Professor Robert Leachman (IEOR), Professor Van P. Carey (ME), and Professor Daryl C. Chrzan (MSE). The DECF Faculty Director reports to the DECF Board consisting of Chairs from the six participating engineering departments, and to the Dean of the College of Engineering.

DECF currently employs only one full-time staff member, Nancy Lin, and two part-time student assistants, Alice Wang and Dave Sotelo. Nancy Lin, the DECF System Administrator, is responsible for the day-to-day administration of DECF, including software and hardware installation and upgrades, security enhancements, supervision of student assistants, troubleshooting and rectification, and liaison with other campus computing organizations. The allocated 2001-02 budget was only \$27,000, plus the salary of Nancy Lin.

Despite this very limited budget, by making efficient use of its resources and fostering good collaboration among its users, the DECF:

- continues to provide standard computing services,
- strengthens traditional and nontraditional instructional computing, and
- works on creating a dedicated high-end computing environment.

Standard computing services

Standard computer services include:

- Email account services: class accounts, email accounts for any user affiliated with the six participating engineering departments, mailing lists, virus scanner, spam filter support, modem pool, research accounts.
- Web services: web servers, WebMail, WebSSH.
- Instructional support: licensing, installation, maintenance, security and user support of instructional application software; instructional web page development and maintenance; extensive online help in terms of handouts, manuals, and newsletters; consulting.
- Networking administration: maintain name service (DNS) for six subnets in Etcheverry and Hesse Halls; monitor and report all network problems; maintain network infrastructure for DECF labs and servers.
- Security: monitor and report all system break-ins; advise and coordinate with departmental sysadmins.

Traditional and nontraditional instructional computing

DECF continues to have its instructional focus: to train our undergraduate and graduate students in cutting-edge computational methods and on the advanced computational tools they will need to work on cutting-edge engineering development and research. It also includes the development and distribution of class and instructional material using Java and the Web (class notes, class



1171 Etcheverry

assignments, projects, grades, discussion groups, mailing lists). Nontraditional instructional computing includes use of multimedia and Java-Internet-based distance learning.

High-end computing environment

Two areas of advanced computing of growing interest in engineering and applied science are supported by DECF: development of applications for network environments using advanced (Java and other) programming tools, and parallel distributed computing on networked multiprocessor clusters (MPI, PVM,...). Two clusters of workstations and PCs are available for parallel distributed applications: a cluster of 10 PCs is located in 1171B Etcheverry, and a cluster of 18 UltraSparc 10 workstations is located in 5101 Etcheverry. ■

FASDI business security rules

Patricia Mead, *Business and Finance* — *Space Management and Capital Programs*

Pamela Drake and Rob Johnson, *Business and Finance* — *Computing Operations and Information Systems*

This article is the first of three to cover aspects of creating a secure, web-based data integration project. Here we summarize the project and its processes. In the second article, we'll address integrated FASDI data and authorization database design supporting security and standards. The third article will present our ColdFusion authorization framework.

Facilities and Spatial Data Integration (FASDI)

FASDI is a campuswide, geography-based management information system designed to support decision making and institutional reporting. The premise was favorably received by the Chancellor's Cabinet in summer 2001 and, with funding from the Vice Chancellor—Budget and Finance, combined with support from various departments and individuals, a limited phase-one project was initiated.

The overall FASDI design provides two paths to integrated data: spatial (CAD and GIS) and tabular (Web and SQL). The spatial path presents a multilayered campus map and environs. Users can choose which layers to view and drill down to detailed spatial data, or click on a building or an object linked to a web-based data page. The tabular path allows the browser to select data from predefined queries, again linked to a web-based page. Regardless of path, the data presentation is a dynamic combination of tabular, graphic, and spatial information displayed on one preformatted web page.

FASDI integrates any data that can be associated with a building or physical area. To see what this initial phase of the project will accomplish, visit the FASDI Project website (<http://fasdi.vcbf.berkeley.edu/>).

Data integration and risk assessment

How to identify the problem? Management and line staff have consistently expressed frustrations about the difficulty in managing limited campus resources owing to decentralized systems, departments' not sharing information, or shadow systems containing conflicting data. There are also concerns about

reacting to rather than anticipating problems. These problems, when viewed from a campus perspective, can be attributed to a lack either of data or of timely and accurate information. Single-source publishing of integrated data seems an obvious response. But first, we need to define what data to integrate.

How to define the data? Define a specific problem, set up a workgroup with individuals from affected departments, and have them discuss what information could have prevented or lessened work impacts. This will identify data to target for integration; however, publishing some data can be risky.

How to conduct a risk assessment? Very simply, identify potential threats facing the campus, should a specific dataset become public. Evaluate the likelihood of such threats, and rank the values (criticality, sensitivity, or magnitude) of at-risk administrative and academic operations. Then estimate, in real operational terms, potential losses and identify mitigation. Mitigation can be achieved through a series of decisions: Should these data be on the Web? Is the dataset secure? Should the data be read-only? Do we design for page-prints or for easy downloads? etc.

Security levels and descriptions

If the decision is to publish the data on the Web, FASDI guidelines help define which levels of security should be applied.

Nonsecure data: Defined as data published on the Web, freely printed and distributed, or data easily accessed by anyone without restrictions. Examples are directional maps, class schedules, and departmental office locations. These are any data considered public, generally available, reproducible, and deemed

nonconfidential. They may be reproduced wholly or in part without specific authorization. In general, aggregation of nonsecure data is at the campuswide level.

Secure data low: Defined as data to be accessed by verified or authenticated campus members. If printed, the data are available to those with campus identification and, if on the Web, are limited to campus IP addresses or require CalNet authentication. These data may consist of information that can be easily interpreted from existing and readily available means. These datasets are considered campus data, and may be referenced or published in written documents or printed as attachments in response to queries. In general these are data consisting of building aggregates.

Secure data medium: Defined as data to be accessed by groups of people or departments, rather than individuals. These datasets are more detailed and access is based primarily upon membership in processing units where this detail is needed to complete job tasks. The data may be published by others, but only for internal departmental workflow requirements or only with approval of the data owner. In general these are data of floor-level aggregation.

Secure data high: Defined as data deemed so confidential that they are to be accessed only by approved individuals or data providers. These data have the most detail and are restricted to individuals who demonstrate a "need to know." These data have the highest potential to raise mischief, life, significant property, or other safety concerns, should they be readily available. Any access to this level

Continued on page 18

CCS begins business resumption planning

Barbara Cortese, IST-CCS

You may be familiar with business resumption under other names — disaster recovery or contingency planning. The term “resumption” is used to signify that the goal is not just to survive the first hours and days of a disaster, but to be able to resume operations and return to normal. This year, Central Computing Services (CCS) began business resumption planning in order to be able to restore services that support important campus functions should a disaster strike the campus or the data center.

The CCS project was initiated with publication of the University of California, Berkeley, Business Resumption Plan, which was issued by the SAFER Business Operations Seismic Recovery Committee in December 2001. This document identified and prioritized the functions performed by campus student and financial service units. Working from the committee’s report, and with special funding provided by the Chancellor, CCS hired a Business Resumption Manager and began its business resumption planning.

Business resumption objectives

IST’s primary business resumption objective is to be able to recover Priority 1 functions within seven days of a disaster. The first step CCS took was to inventory the equipment, software, and applications that would be needed to support the functions that were identified as Priority 1 in the campus Business Resumption Plan. This inventory serves two purposes: it identifies the equipment and capacity the campus needs to reserve in a hotsite subscription (see following), and it specifies the hardware, software, databases, and applications for which technical recovery procedures need to be written. A hotsite is a fully equipped data center that is available for emergency operations at a distance from the disaster location. Hotsites are supported by subscriptions that allow multiple

organizations to reserve annual test time on shared facilities and to use the site to recover operations during a period of up to six weeks after a disaster.

A second business resumption objective is to be able to restore data to a point no earlier than 24 hours before the disaster. CCS contracted with business resumption consultants to review its operations in order to assess its ability to recover critical systems this quickly. A team of experts from IBM came to the campus at the end of August; it interviewed about 45 staff members, paying particular attention to backup schedules, procedures, and storage. CCS has used the resulting analysis to improve daily backups and offsite storage, thereby improving our recoverability.

Business resumption procedures

Two sets of procedures must be written to recover Priority 1 functions. First, CCS will develop technical recovery procedures (also known as recovery scripts) to restore the operating systems and utilities on each of its platforms: MVS, Unix, and NT. Second, the Administrative Systems Department (ASD) and Student Information Systems (SIS) will develop comparable procedures to restore the software, databases, and transaction files for each of their applications. CCS began work in July and has already completed the technical recovery procedures for the MVS platform. ASD is currently working on technical recovery procedures to restore the payroll system. The MVS procedures will be reviewed by the IBM consultants, who will also provide advice on the development of recovery procedures for applications.

IST units plan to do a hotsite test of the payroll system during spring 2003. Payroll was chosen as the first application for business resumption planning because it is the only application that runs on a single platform. In addition, the Office of the President already had hotsite recovery procedures for payroll that could be

adapted for the Berkeley campus computing environment. These two circumstances greatly simplify the task of developing technical recovery procedures for payroll, and the experience developed in the process can then be applied to other applications.

It will take at least three years for IST units to develop the technical recovery procedures for all the Priority 1 student and financial applications for which they are responsible. Campus units that maintain and operate independent systems and applications will also need to develop recovery strategies and procedures. In the interim, campus units are advised to develop alternative procedures to perform critical functions in case of a disaster.

Other business resumption efforts

Navigating UC Berkeley’s Business Environment: A Guide to Administrative Responsibilities (<http://controllerfs.vcbf.berkeley.edu/ResponsibilitiesGuide/>) assigns responsibility for business resumption efforts to the administrative officials of each department. These responsibilities include developing business resumption plans, training personnel, and conducting an annual business resumption exercise. In the aftermath of a disaster, administrative officials are responsible for implementing their department’s business resumption plan. The campus Business Resumption Coordinator is available to provide assistance to departments in the above activities.

While business resumption efforts are being conducted with regard to campus business operations, the SAFER Oversight Committee, chaired by the Vice Provost for Academic Planning and Facilities, oversees ongoing committees that are working on three other areas of business resumption: recovery of classrooms, research facilities, and utilities infrastructure. ■

Requesting access to CalNet Directory services

Lucia Tsai, IST-CCS

CalNet is the central campus system that provides a combined authentication and directory service for securely identifying online customers. The CalNet Directory allows campus web applications to obtain authoritative information (e.g., employee number, student ID, email address, employee department code) about campus staff, students, and affiliates.

Departments that wish to incorporate CalNet Directory services into their applications will soon be able to submit an online form to request access to the campus CalNet Directory. Registering your application with us will enable us to keep you better informed about updates or maintenance changes to the Directory.



The form will ask you to provide the application name, a brief description of the application, technical and functional contacts, information about who will use the data, and if the data will be stored. The form will also ask you to identify any "private" attributes that you wish to access. CalNet Directory attributes are designated as either "public" or "private". Private attributes are generally those

populated with data "owned" by other units (such as the Office of the Registrar or the Payroll Office). If your application requires access to any private attribute, we will request approval from the appropriate data owner, and establish a privileged account bind specific to your application. The list of CalNet attributes can be found on the CalNet Directory Schema for UC Berkeley LDAP Service page (<http://ldap-project.berkeley.edu/design/dictionary.html>).

For more information about CalNet Directory Services for Application Developers, and to register your application, go to the CalNet Information for Application Developers website (<http://ldap-project.berkeley.edu/>). ■

FASDI

From page 16

of data can only be granted by the owners of the data, and the expectation is that these data will not be published in any form except by data owners. In general this is room-level detail, or any data that can identify something or someone uniquely.

Authentication and authorization processes

Authentication process: FASDI's web security starts with authentication, and there are only three choices: either the website is IP restricted, requires a Kerberos-based CalNet login, or both. IP restriction creates a physical campus where users are limited by the machine's IP address. This allows access to restricted sites by anyone using a campus computer, but will not allow eligible users access if they are located off-campus. The CalNet login, a virtual campus, allows users to access sites independent of physical

location or service provider. Implementing both processes provides the most secure authentication-based security. For FASDI, however, this only provides the browser with a keychain — half of what is needed to access data.

Authorization process: FASDI then uses Lightweight Directory Access Protocol (LDAP) data to pull authorization objects from our SQL authorization database. The objects are packaged into a user-specific session variable and are associated with a person or processing unit as keys. Thus, with this set of keys attached to their keychain, each user is sent in a controlled manner through the FASDI website to unlock and view various datasets.

Additional security tidbits: Data owners control access to their datasets. FASDI publishes in order from the least to the most secure, thereby allowing time for

thorough application testing. Appropriate web pages display security information and relevant distribution and publication expectations. Protocols are employed for secure, encrypted data transmissions. No direct logins are allowed into any system. Daily random password encryption and time-out/log-out features are implemented. Physical server safety is maintained and appropriate software is updated. Finally, a controlled migration to production was developed to assure application integrity from development, to staging, then QA testing, and finally production. ■

IDMS conversion is underway

JR Schulden, IST-SIS

The University of California, Berkeley, along with the Mantech Corporation, have joined forces to migrate UC Berkeley's IDMS/MVS based administrative systems to DB2's relational database management system on the MVS platform. Converting existing systems has the advantage of establishing a common administrative environment without reinventing the business logic of the systems, along with a manageable cost and time frame. We will also be better positioned for the future, particularly for web-enabling applications. The only disadvantage is that this conversion does not increase the functionality of the systems. The goal to convert from Computer Associates' IDMS/DB/DC 14.0 database management system to IBM's CICS version 4.1 and DB2 V6.1 processing environment will put all UC Berkeley administrative systems in a common database.

The conversion of the application software and database schemas will be performed off-site by the conversion vendor, Mantech. Bids for the conversion were received from six vendors. The two most desirable bidders were the most experienced at doing this kind of conversion work, had the most sophisticated tools, and had knowledgeable staff on the two platforms and the problems/differences between IDMS and DB2. Administrative Systems Development (ASD), Student Information Systems (SIS), and Systems Programming and Data Administration (SDA) have redeployed existing staff to the effort for the next 18 months. In addition to IST staff working with Mantech on the conversion, staff are also busy learning the new environment and the tools for managing it.

Mantech is responsible for providing the hardware, support/systems software, applications software development tools, and any other equipment, services, or products that would be required to effect the software conversion at their site. UC

Berkeley is responsible for providing the hardware, support/systems software, applications software development tools, and any other equipment, services, or products that would be required to test and implement the converted Accounts Receivable and Student systems. These systems involve seven IDMS schemas, 350 subschemas, 23 systems, and approximately 2,700 programs in six different programming languages (ADSO, COBOL, PL1, Assembler, EZ-Trieve, Culprit) plus related JCL and copylibs. These systems are batch and legacy online update and query programs with access using 327x terminal emulation and web screen scraping.

The project started in April 2002, with Mantech personnel spending three weeks in Berkeley going over seven IDMS data schemas. DB2 table structures and data conversion programs; all the Undergraduate Admissions and Transfer Course programs were converted this past August. This included the mapping of 47 IDMS records to DB2 and the conversion of 175 programs. Unfortunately, the testing did not go as well as desired and the decision was made to run this year's admissions in the IDMS system. After required annual admissions changes are complete for this year, SIS will retrofit the changes into the converted systems and resume testing. The next window for implementing the DB2 admissions system is summer 2003.

While SIS staff work on the annual admission changes, ASD staff have been working with Mantech on converting the Accounts Receivable system (CARS). Data structures and data conversion programs are already complete. The first bundle of converted programs is scheduled to arrive October 4. The CARS system consists of 421 programs. Completion of the conversion is expected by December 2002. The DB2 system will become the production system by the President's Day holiday, February 17, 2003.

As part of the conversion process, each of the 23 systems are being reviewed for ability to meet UC Berkeley business needs and to clean up any obsolete code. As a result of the reviews, not all IDMS code is being converted. The Course Approval system currently does not meet UC Berkeley's business requirements. Consequently, the Academic Senate and SIS believe there are compelling reasons to rewrite and reengineer this application. This work has begun with the Academic Senate, through e-Berkeley funding, carrying out a business process analysis and redesign.

Finally, despite the intensity of the effort, we have compelling reasons for doing this conversion:

- UC Berkeley's IDMS contract renewal is two years away, August 2004. Since UC Berkeley already has a license for DB2 and this is the DBMS of choice for UC Berkeley's applications, eliminating the IDMS license would provide a significant savings annually.
- UC Berkeley would like to eliminate its usage of screen scraping and the Periphonics Periweb environment. This would be easier to do with the applications converted to a relational database, especially if the user interface portion of the program exists as a separate presentation module, which is being proposed.
- It is becoming difficult to find experienced IDMS programmers and developers. In DB2 UC Berkeley would have the ability to recruit necessary expertise to support systems. UC Berkeley would be in a better position of cross-functional IT support both for application programmers and DBAs.
- As the IDMS user base diminishes, Computer Associates has been decreasing its budget for support and enhancements.

Continued on page 20

CalNetAD: Update

Mike Blasingame, IST-CCS

It has been nine months since the CalNetAD service was first announced in the Winter 2002 *BC&C* article "CalNetAD: UC Berkeley's Active Directory plan". During that time, CalNetAD has matured from a pilot project into a production service.

What is Active Directory?

Active Directory (AD) is Microsoft's implementation of a unified directory service and authentication system for Windows-based computers. In many ways AD is like CalNet itself, using many of the same technologies as CalNet does to form a basis for the AD system. Unlike Windows NT 4.0, the Windows 2000 server products which are integrated with Active Directory fall squarely into the category of enterprise software. Because AD uses common standard technologies like LDAP3, DNS, and Kerberos 5, we are able more easily to integrate AD into the CalNet system and existing campus DNS infrastructure.

IDMS conversion

From page 19

- Sustainable position to maintain and enhance core student systems.

The goal is to have the IDMS to DB2 conversion complete by February 2004. My thanks to those who have contributed so much to this effort so far: Caprice Elias (SIS), Linda Pratt (ASD), Truc Nguyen (SIS), Madelyn Sano (SIS), Michael Wong (SIS), Helen Tu (SIS), Bonnie Hariton (ASD), Tom McCorkle (ASD), Elaine Look (ASD), Tony Sowell (ASD), Jai Singh (CCS), Nancy Fan (CCS), Tai-Yen Pao (CCS), and Ting-Ing Ho (CCS).

Related articles

- IDMS applications conversion to DB2. *BC&C*, Winter 2002.
- IDMS to DB2 conversion. *BC&C*, Summer 2002. ■

Current CalNetAD members

- IST-CCS-SDA (HRMS servers)
- College of Chemistry
- College of Engineering, Deans Office
- Chancellor's Office Information System
- IST-DOCS
- Haas School of Business
- International and Area Studies
- Industrial Engineering and Operations Research
- Institute of Industrial Relations
- College of Letters & Science
- Ocean Engineering Graduate Group
- IST-CCS Operations
- IST-WSS Workstation Microcomputer Facilities

Infrastructure improvements

The CalNetAD service has made infrastructure improvements in two areas:

- Additional Domain Controllers have been added to the UC and CAMPUS domains in locations outside of Evans Hall. This means that CalNetAD services will be available in the event that the equipment located in the Evans machine room becomes unavailable.
- Integration of user accounts with the CalNet directory is complete. This means that CalNetAD single sign-on accounts will be automatically created and synchronized with CalNet.

Service Improvements

The following improvements have been made to the CalNetAD service:

- The CalNetAD website (<http://calnetad.berkeley.edu/>) has been revised. Among the information on the website you will find information for current administrators, information for prospective users, and

information on how to join the CalNetAD service.

- The CalNetAD service can now offer assistance to units who wish to migrate their existing NT 4 structure into CalNetAD using the Microsoft Active Directory Migration Tool (ADMT).
- Additional scripts have been created to help CalNetAD administrators with some of their administrative duties.

Future Improvements

The CalNetAD service is looking into improvements in several areas:

- **Certificates.** The use of certificates within Active Directory will be evaluated.
- **Security.** CalNetAD plans to improve the security of member workstations and servers by establishing minimum security templates and automatic software update services.
- **Software distribution.** CalNetAD can be used to distribute site-licensed software.
- **Administrative tools.** The CalNetAD team is continuing its effort to make third-party and custom tools available to CalNetAD administrators.
- **Macintosh integration.** CalNetAD is working with Workstation & Microcomputer Facilities to integrate Macintoshes into the CalNetAD service.
- **.net enhancements.** This new release of the Microsoft operating system will be evaluated and tested.
- **Smart Cards.** CalNetAD has received a grant from the e-Berkeley Project to investigate the use of Smart Card technology to secure access to CalNetAD servers.

For more information about the CalNetAD service, please send email to calnetad-info@uclink.berkeley.edu. ■

CALAGENDA TIPS

Tips for opening or searching for agendas and resources

Javier Mendoza, University Relations

"CalAgenda Tips" is a regular feature of BC&C for people on campus who are using the CalAgenda online calendar service (<http://calagenda.berkeley.edu/>) or just want to learn more about the service. Not all topics will be of interest to all readers; some topics may be too basic for some readers and others too technical, but we hope to address the concerns and issues of as broad a segment of the campus community as possible. If you have suggestions for topic ideas, please send email to sarah@socrates.berkeley.edu.

Do you find that you are often opening other users' agendas to view their schedules? Or that you are often working with resources so that you can schedule meeting rooms or equipment? CorporateTime's built-in search functionality can help you accomplish this task. Whether or not you do this often, or use the built-in search, here are some tips that should prove helpful to that end. While the search directory window is effective and necessary in certain situations, sometimes it is easier to work right from within the Open Agenda window.

Opening user agendas

In the Open Agenda window, if you know that a user's last name is unique in CalAgenda, simply type in the last name and click "OK". This should automatically open that user's agenda. If the last name is not unique, then CorporateTime will generate a list of names. To narrow CorporateTime's search, you can add the user's first initial plus their last name (it is not case sensitive):

j mendoza

If this is still not unique enough, add another letter:

ja mendoza

You do not need to completely spell out the user's first name. In fact, you do not need to completely spell out the user's last name either:

ja mend

This would also open my agenda. In some cases, you will find that you can open an agenda using only three to four letters.

Opening resource agendas

This also applies to opening agendas for resources. In the Open Agenda window, you can open a resource by including "r:"

at the beginning. For example, to find a resource in 2440 Bancroft Way, you would type:

r: 2440

However, if you know the room number of the resource, you can add that as well:

r: 2440/202

In fact, because there is only one resource on the second floor, you do not need to write the complete room number:

r: 2440/2

This would also open the resource. Although this works for user agendas and resources, it does not work with groups since groups do not own an agenda of their own.

More on searching resource agendas

Functionally, the above tips will assist you in searching for individuals and resources. However, doing a more general resource search such as "conference room", for example, will not work. Because the search engine tries to match your entry exactly, unless the first words of the resource name are "conference room", it will not find any matches. Many resource names begin with an abbreviation of the name of the department that owns them. This abbreviation is called the admin domain, and information on determin-

ing what it is for your department was discussed in a previous column (see "CalAgenda Tips: Admin accounts — what they are and why you want to use them" in the Summer 2001 issue of BC&C). For instance, you can search for resources for Housing and Dining Services by entering "r: HDS". CorporateTime returns a list of 25 resources from which you may choose. Other resource names begin with either the building name (i.e., Dwinelle, Tang, etc.), or the building address (i.e., 2000 Carleton, 2440 Bancroft Way, etc.). With time and practice, you will figure out what works best for you. ■

CorporateTime (Oracle Calendar) client	Last Steltor version	Same version rebranded by Oracle
Windows	6.0.3	6.0.4
Macintosh	5.2.2	5.2.3
Motif for Linux	5.0.1	5.0.2
Motif for Solaris	5.0.1	5.0.2
CorporateSync for Palm-Windows	3.0.1	3.0.2
CorporateSync for Palm-Macintosh	2.1.3*	2.1.4*
CorporateSync for Pocket PC	3.0.1	3.0.2
OutLookConnector	3.3	3.3.1
Web	3.0	3.1

On June 21, 2002, Oracle Corporation acquired Steltor Corporation, the company that produced the CorporateTime software. Oracle has released new versions of all the CorporateTime (now called Oracle Calendar) software to display the Oracle name. In all other respects, the client software is identical to the previous version.

No new version will be issued until second quarter 2003.

* New Macintosh client will be released soon. No date has been set.

QUICK GUIDE

Basic IT services at UC Berkeley

IST DEPARTMENTS

Administrative Systems Department (ASD, http://socrates.berkeley.edu:4100/)	642-0239
Associate Vice Chancellor's Office: (AVCO, http://socrates.berkeley.edu:2001/avco/)	642-4083
Central Computing Services (CCS, http://ccs.berkeley.edu/)	642-3043
Communication and Network Services (CNS, http://cns.berkeley.edu/)	642-8080
Interactive University Project (IU, http://interactiveu.berkeley.edu:8000/IU/)	642-5801
Museum Informatics Project (MIP, http://www.mip.berkeley.edu/)	642-6533
Social Science Computing Laboratory (SSCL, http://socrates.berkeley.edu:7500/)	642-6592
Strategic Technology Planning (STP, http://stp.berkeley.edu/)	642-5567
Student Information Systems (SIS, http://bearlink.berkeley.edu/sis/)	643-8355
Workstation Support Services (WSS, http://wss.berkeley.edu/)	642-4775

COMPUTER FACILITIES

General access facilities (http://facility.berkeley.edu/facilities.html) Current schedule for general access facilities (http://facility.berkeley.edu/labs/hours.html)	643-6253
Dwinelle Microcomputer Facility, B-3 Dwinelle Hall	
Evans Microcomputer Facility, Evans Hall Basement	
Life Sciences Microcomputer Facility, 2105 VLSB	
Moffitt Microcomputer Facility, First floor Moffitt Library, north	
Wheeler Microcomputer Facility, 211 Wheeler Hall	
Instructional facilities — reservations required Instructional facilities reservations (http://facility.berkeley.edu/reserve.html) 213 Evans Hall	reserve@socrates.berkeley.edu, 643-6248
Calculus Microcomputer Facility, B-3 Evans Hall Basement	
Humanities Microcomputer Facility, 212 Wheeler Hall	
Tolman Microcomputer Facility, 1535 Tolman Hall	
Valley Microcomputer Training Facility, 2103 VLSB	
Print and email stations (http://facility.berkeley.edu/labs/cesar.html) César Chavez Student Center Atrium	
Social Science Computing Laboratory (http://socrates.berkeley.edu:7500/facilities.html) Instructional Facility, 64 Barrows Hall	642-7901
Graduate Student Drop-In Facility, 61 Barrows Hall	642-7762

TROUBLE STATUS AND REPORTING

Central systems machine status	642-4774
ASD Technical Help Desk for central business systems, BFS, BAIRS/BIS, HRMS, Payroll, Kronos, etc.	asdhelp@berkeley.edu, 643-2113
Trouble Desk for central systems and network	trouble@socrates.berkeley.edu, 642-4920
Telephone problems	642-9053
Misuse	abuse@berkeley.edu
Security incidents	security@berkeley.edu

HELP WITH PROJECT DEVELOPMENT

e-Design: design, development, and application consulting	edesign@uclink.berkeley.edu, 642-6679
Departmental Technology Solutions (DTS, http://dts.asd.berkeley.edu/dts/)	bearsgst@uclink.berkeley.edu
e-Berkeley Project Registration (http://eberkeley.berkeley.edu/)	conhaim@uclink.berkeley.edu
IST e-Berkeley Work Group	adobson@uclink.berkeley.edu

HELP WITH COMPUTING / NETWORKING / TELEPHONES

Email / webmail service UCLink (http://www-uclink.berkeley.edu/)	consult@uclink.berkeley.edu
BearMail (http://bearmail.berkeley.edu/)	bearmail@uclink.berkeley.edu
Socrates (http://socrates.berkeley.edu/), central academic computing	consult@socrates.berkeley.edu
Central web services Central Computing Services (http://webhosting.berkeley.edu/)	webmaster@socrates.berkeley.edu
General inquiries, computer accounts, applications, changes User & Account Services (http://uas.berkeley.edu/) M-F, 10 a.m.–4 p.m. 206 Evans Hall	accounts@uclink.berkeley.edu, 642-7355
Fax	643-3114
Business / Human Resources services BFS BAIRS Functional General Help Desk	643-4250
HRMS Functional Help Desk (http://hrweb.berkeley.edu/hrms/hrmshelp.htm)	643-4443
Network connections Student Computer Consulting Service (http://facility.berkeley.edu/labs/scs.html), help with network access, C@B, Home IP, AirBears M-F, 10 a.m.–2 p.m. First floor Moffitt Library, north Connecting@Berkeley Faculty and Staff Consulting, formerly Dr. Micro (http://cab.berkeley.edu/), help with network access M-F, 10 a.m.–3 p.m.	consult@cab.berkeley.edu, 642-8899
Internet Access Subscription Home IP Service (SHIPS, http://rts.berkeley.edu/ships/) AirBears (http://airbears.berkeley.edu/faq.shtml), wireless network access Communications Consulting Unit (http://cns-cs.berkeley.edu/faq/csr.shtml) M-F, 8 a.m.–5 p.m. 2484 Shattuck Avenue	ccu@socrates.berkeley.edu, 642-8080
Communication and Network Services (CNS, http://cns.berkeley.edu/)	642-8080
Workstation backup service UCBackup (http://ucbackup.berkeley.edu/)	ucbackup@socrates.berkeley.edu
Telephone service Communication and Network Services (http://cns-cs.berkeley.edu/)	ccu@socrates.berkeley.edu, 642-8080

ONLINE SERVICES

Computing resources

- BC&C online (<http://istpub.berkeley.edu:4201/bcc/>)
- Campus IT portal (<http://compresources.berkeley.edu/>)
- Information Systems and Technology (<http://ist.berkeley.edu/>)

Email service

- UCLink (<http://www-uclink.berkeley.edu/>)
- Free electronic mail service for students, faculty, staff.
- BearMail (<https://bearmail.berkeley.edu/>)
- Webmail service for students, faculty, staff.

Online services sign-up page

- Berkeley Internet Link (<http://bilink.berkeley.edu/>)
- One-stop sign-up page for campus Internet services, including UCLink and Home IP.

CalNet ID

- Calnet Gateway (<http://calnet.berkeley.edu/>)
- Set up a personal network ID for accessing campus online services.

Online calendar service

- CalAgenda (<http://CalAgenda.berkeley.edu/>)
- Electronic scheduling and personal calendar software for faculty, staff.

Campus directory

- CalNet Directory Services (<http://directory.berkeley.edu/>)
- Berkeley Campus Directory.

Faculty assistance with educational technology

- Educational Technology Services (ETS, <http://media.berkeley.edu/>)
- Help with course websites, multimedia, classroom technologies.

Online information services

- UC Berkeley Home Page (<http://www.berkeley.edu/>)
- Links to registered campus websites.

DIALUP NETWORK CONNECTIVITY

The following is a list of dialup numbers for access to systems on the campus network. A Home-IP account name and password are required to access all campus dialup services except **library**, **infocal**, and **home-ip**. Report problems to the 24-hour Trouble Desk at 642-4920. All of the modems below provide PPP service via the Home IP Service.

Free services

- Shared High-Speed Service 510-848-5298
- 300 to 56000 bps, 240 modems. Two-hour connection time limit, one-hour idle timer.

- Lucent Test Modems 510-647-5117
- 56000 bps, 672 modems. Two-hour connection time limit, one-hour idle timer. This service is a test being run in collaboration with Lucent Technologies. Send email to lucent@cafe.berkeley.edu if you need help. Lucent Technologies may contact you directly to diagnose any problems.

- Faculty Service 510-848-1107
- 300 to 56000 bps, 384 modems. Eight-hour connection time limit, one-hour idle timer.

Subscription services

- Internet Access Subscription Home IP Service
- (SHIPS, <http://rts.berkeley.edu/ships/>) 510-848-1107
- 300 to 56000 bps, 384 modems. Eight-hour connection time limit, one-hour idle timer.

HARDWARE / SOFTWARE SALES AND SUPPORT

The Scholar's Workstation (TSW, <http://www.tsw.berkeley.edu/>)

The campus computer store offers a large variety of computers, peripherals, and software for sale at academic prices to the campus community. You can also find recommended configurations for Macintosh and Windows computers on the TSW website.

Store walk-in hours: M-Th, 10 a.m.–4 p.m.; F, 10 a.m.–12 noon; closed last Friday of each month.

41 University Hall info@tsw.berkeley.edu, 642-8424

Software downloads for Windows and Macintosh

(<http://software.berkeley.edu/>)
Distributes antivirus, email, file transfer, and other network-related software at no charge to UC Berkeley affiliates. CalNet ID required.

Software Distribution (<http://softdist.berkeley.edu/>)

Sells and distributes software covered under campus site and UC-wide licenses, deals, or contracts. This software is available to campus faculty and staff for academic, educational, or organizational use.

238 Evans Hall products@socrates.berkeley.edu, 643-9725

Technology Resource Center (<http://www.gotrc.com/casystemsstore.htm>)

Sales of volume licenses to departments that need to make bulk purchases of software from vendors such as Microsoft, Apple, and Adobe.

Departmental On-site Computing Support (DOCS, <http://docs.berkeley.edu/>)

Provides computing support to campus departments at their sites on a recharge basis. docs@socrates.berkeley.edu, 643-3272

Workstation Hardware Support Group (<http://www-whsg.berkeley.edu/>)

Provides warranty and post-warranty service and support of Apple, Dell, and IBM computers as well as Hewlett-Packard printers. Provides a complete range of support services for operating systems, applications, and connectivity including Ethernet and dialup for Macs and PCs.

50 University Hall caltec@socrates.berkeley.edu, 643-6937

CNS Equipment Management

Warehouse and inventory control of telephone, wireless, and data equipment.

M-F, 8 a.m.–5 p.m.

2484 Shattuck Avenue 642-8080

M-F, 1–3 p.m.

B2A Evans Hall (campus pickup and drop-off facility)

USER GROUPS

CalLUG (<http://callug.cs.berkeley.edu/>)

Cal Linux Users Group.

jNet (<http://www.lhs.berkeley.edu/jnet/>)

User group for J2EE and Java developers who are working on e-Berkeley applications.

MAGNet (<http://magnet.berkeley.edu/>)

User group for campus staff who support Macintosh users or manage networks of Macintoshes.

Micronet (<http://micronet.berkeley.edu/>)

Campus user group for campus microcomputer and workstation support people.

PCSystems (<http://pcsystems.berkeley.edu/>)

User group for departmental administrators of Novell NetWare, Windows NT, and other networking technologies.

USAG: Usenet newsgroup ucb.sysadmin

Campus Unix System Administrators' Group.

Webnet (<http://webnet.berkeley.edu/>)

User group for website management, design, and maintenance issues.