January 8, 2004

To: Chancellor Carnesale

From: Jim Davis, Associate Vice Chancellor - Information Technology
Christopher Foote, Chair - Information Technology Planning Board
Sam Morabito, Administrative Vice Chancellor

Re: Response to May 16, 2003 Message on Cost Reduction Measures

This memo summarizes a series of immediate and near term recommendations about information technology at UCLA for reducing costs, freeing up staff and facilities resources for realignment, avoiding future costs, and providing greater functionality, availability and reliability without increased costs. In this review, we have focused on on-going procurement and infrastructure expenditures for which preliminary estimates indicate impacts greater than $250,000 per year. Opportunities for increased productivity, better management of security risks, and general positioning to meet the technological demands of the future are strongly factored in.

Given the current fiscal and management structure of UCLA, the resource impacts of these recommendations accrue locally as direct savings, reductions in needed expenditures, and/or staff and facilities realignment opportunities. Our analysis did not include reviews of existing or planned campus workflow or data access applications. Those evaluations are being conducted by the units responsible for the services or as part of the assessment and planning process established through the ITPB.

The analyses are categorized by timing of implementation, type of savings, and impact. Where it became obvious to proceed, actions have been initiated.

**FY 03/04 and Early FY 04/05 Impact**

**Estimated procurement savings – $1.3 million per year**

1. **Microsoft Software** - UCLA is to a large degree Microsoft centric. The vast majority of approximately 25,000 active campus-owned client machines use Microsoft software. The broader UCLA client community, which is on the order of 80,000, accesses many UCLA services provided on Microsoft-based servers. At the time of the May 16th memo, UC, with heavy contribution from UCLA, accelerated and completed a negotiation of a UC-wide licensing agreement. With an aggressive marketing campaign, the agreement went into effect Fall 2003 with UCLA participation at 12,000 FTE out of 35,400 FTE UC wide. As of the current FY, UCLA expects to save $425,000 per year.

   - **Recommendation** – Proceed with plans to increase awareness and encourage use of the contract with the goal of increasing the UCLA usage of the contract by 2000 FTE (increasing to 33% of eligible participation) and increasing UC usage to 50,000 FTE (increasing to 25% of eligible participation), a threshold for increased discount. If these conservative goals are met, UCLA savings will increase to $600,000 per year.

2. **IT Staffing** - Strategic deployment of IT to generate workflow savings, improve data for decision-making, increase productivity and provide necessary capability for research, education and service ultimately depends on appropriate staff expertise, availability and distribution. The functionality and utility of IT services will require focused attention to staffing levels and continued training while opportunities for optimizing staff resources are sought. We are recommending a three-part plan to optimize both the use of UCLA’s internal staff expertise and capacity and the use of outside vendors.
- **Recommendation 1** - Establish an internal posting process that will allow managers to bid temporary assignments internally before pursuing outside vendors.

- **Recommendation 2** - Encourage use of a recently completed, strategic sourcing contract for temporary IT staff in the event requirements cannot be met internally. Even in a deteriorating budget climate, UCLA's spending on temporary IT workers for FY 02/03 is conservatively estimated at $3 million. The expected level of savings with use of the contract is $275,000.

- **Recommendation 3** - Save an estimated $125,000 in training and travel costs associated with off-campus training by aggregating and organizing training on campus. This has the additional benefit of reducing lost productivity associated with IT staff training off-campus.

3. **Remote Access Services** - UCLA spends an estimated $2.7 million per year for commercial remote access services that include commercial dial-in, DSL and cable modem connectivity services, cell phones and pagers. In addition, the campus maintains 2100 dial-in modems that are seeing decreased use because of the increase in broadband connectivity to the home.

- **Recommendation 1** - Proceed immediately to review the use of any distributed modem pools and the potential for reducing the BOL modem line service costs.

- **Recommendation 2** – Review the potential for more favorable contracts or alternative delivery approaches for connectivity, cell phone and pager services. The combination of these actions is expected to produce a savings that could approach $300,000 per year.

- **Recommendation 3** - Review policies on payment or reimbursement for essential and non-essential services. The gain in personal productivity needs to be weighed against direct expense.

We note that the strategic sourcing contract established in FY 02/03 for the purchase of computers and printers has now been used for $19 million in purchases. Based on expenditures prior to the contract, the campus is already saving about $1 million per year on average. Continued use of the contract will be encouraged.

**Estimated staff savings – $200,000 per year; potential to increase**

**Email Systems** - UCLA has between 40 and 50 distinct email and calendaring systems serving its community of 68,000 (faculty, staff, and students) who presently use email regularly as part of completing university related tasks. Spot data on individual mailbox costs ranges dramatically from system to system as a result of different economies of scale, variations in acceptable performance, widely varying levels of individual support, some specialized functionalities, differences in addressing security and SPAM, and varying plans for upgrading technology. Most of the cost is associated with staff support that generally is accounted for as a number of partial FTE. While there are many factors to consider, best practice shows there is significant potential to converge on functionality, raise performance and achieve savings through economies of scale. The campus has at least 19 Microsoft Exchange systems each supporting fewer than 1000 mailboxes. As a working demonstration, Administration and the Office of Information Technology, together representing 10 Microsoft Exchange systems, have agreed to consolidate email systems and in so doing consider alternatives. The immediate savings, mostly in partial FTE, is estimated to be between
$200,000 and $300,000 per year. Plans are already proceeding to structure BOL and the integrated Administration/OIT system as campus options on which units can consolidate.

- **Recommendation** - As a campus strategy, implement a process by which all email system administrators can evaluate the potential of consolidation.

**Workflow savings – sustained savings of $50,000 to $100,000 per application**

**Electronic Business** - UCLA and UC have made significant strides with electronic, self-service processes that offer compelling convenience and reduced transaction costs. Access to current and active email addresses and robust authentication and authorization services are two vital underpinnings of individual and self-service processes. There are already numerous applications completed or planned for which sustained savings of $50,000 - $100,000 per application-year can be achieved by moving to electronic notification and away from paper. Examples of current or potential applications include Deans and Directors memos, travel vouchers and reimbursement, E-bills for students and W2's on “UC for Yourself.” There is further significant dollar savings potential with external campus constituencies that do business with the University. Examples include researchers at other universities, VA Hospital personnel, vendors, parents, prospective students, and UC faculty and staff at other UC campuses.

At present the campus email address directory is not supported such that campus email business can be conducted with reasonable confidence. The ITPB is in the process of setting campus standards for email business and establishing a campus of current and active email addresses.

- **Recommendation 1** – Encourage all low investment conversions to email based processes.

- **Recommendation 2** - Proceed with the Enterprise Directory Services project to provide expanded authentication, authorization and identity management services to accommodate non-UCLA constituencies. In addition (and not directly estimated in the dollar savings), the directory service will provide an accessible and robust campus approach to managing security risks with web applications and reducing duplicative individual directory and security implementations for each application.

**Cost Avoidance – estimated $400,000 in staff time per major incident; requires investment**

UCLA’s institutional cost of combating internet worms and viruses is now estimated to be approaching a million dollars annually, primarily in staff time. Roughly 30% of this is spent in prevention and the remainder in remediation. Recent trends indicate a sharp acceleration in the release of high-impact worms and other security exposures that threaten to raise remediation costs beyond manageable levels. A new campus wide approach to, and investment in, prevention is needed to contain not only remediation costs but also institutional risk of legal and financial liability. This involves optimizing expenditures and procurement in security, coordinating management and operational practices and ensuring appropriate institutional security policy is in place. While the costs of remediation cannot be driven to zero, investment in prevention – staff time and effort, tools and facilities – can contain those costs and associated institutional risks.

- **Recommendation 1** - Proceed immediately with actions to address Windows computers. Patch management for Windows computers will require an investment of an estimated $40,000 per year to complement existing contracts for specific campus units and staff time for implementation. An RFI/RFP process
for patch management products is under way to determine the necessary investment. Ubiquitous deployment of patch management for Windows computers is expected to significantly limit the damages arising from a worm or virus, remediation costs for which can reach $400,000 per incident or more for a successful virus.

The increase in security risks is such that the campus is already anticipating the need for additional services - intrusion detection, scanning of systems and networks, configuration management and vulnerability assessment services. An RFI/RFP is planned for early 2004 to determine the necessary additional investment.

In parallel, policy and management practices need to be established in which each campus unit is accountable for its impact on the overall institution. Furthermore, campus security is of such a priority that central and distributed units must work together to realign staff and operating resources to raise the security level of the campus and all of its distributed units as whole.

- **Recommendation 2** - The ITPB coordinates the formation of a task force to address the policy requirements, review resource opportunities and make shared resource recommendations.

**FY 03/04 Analysis and Planning**

**Network infrastructure**

UCLA has reached the time where it is necessary to upgrade its business and delivery models for voice and network services across the campus. Voice and network service costs together are on the order of $50 million per year. The “Connected” project is essentially complete and the funding is exhausted. Declining traditional telephone service and an increasing demand for network-based communications have created a need for updated voice and network delivery and funding models. However, an expanding and increasing demand for network-based communication services is not the only driver. Rapidly increasing demands for campus web, data, media, resource access, and security services are also dependent on the network and communications infrastructure.

There is a need to examine the campus network and service models. Optimal service delivery for the future will require examination of standards and configuration, deployment approaches and practices, and funding and cost allocation models. Further complicating the situation, UCLA’s data network and a number of other campus services are funded from surcharges on traditional phone lines and voice services. Any future funding model will require disaggregating the funding of these services and developing rationalized funding sources.

- **Recommendation** - The ITPB and the Committee on IT Infrastructure (CITI) support (1) the completion of a cost and funding analysis of the current suite of telephone and surcharge services initiated this summer and a transition to disaggregate network funding from surcharge services and (2) examination of alternative voice and network deployment and funding models.

**Data centers**

A data center constitutes the physical space where the machine and software facilities reside that run the various applications. It also includes the staff responsible for the operation, performance, maintenance and security of the facilities. UCLA currently operates with many distributed data centers. These data centers cover a broad spectrum of physical environments in terms of data back-up and archival facilities, back-up power, physical security, air...
conditioning, fire suppression and staffing for monitoring and operations services. Performance requirements, availability (increasingly 24/7), criticality to the unit and/or the university, audit requirements, downtime and recovery requirements and operating standards and policy for a given application should be reconciled with the level of data center in which the application resides. Practice shows clearly there are operating advantages, reduced operational risks, economies of scale and significant savings by operating with a minimum number of data centers.

- **Recommendation** – Proceed with existing plans established by the ITPB and the Office of the Controller to assess the risks associated with the current UCLA data centers housing campus-wide applications.

**Funding IT in the educational environment**

Regardless of the budget situation, UCLA is not adequately funded to provide and sustain a technology-enhanced, high quality teaching, learning and research environment for our students and faculty. This is not a new problem for UCLA. The Instructional Enhancement Initiative (IEI) was created by the College in 1997 precisely to address some of the core IT needs in instruction. From data collected in 1997 and 1999 as part of a UC-wide analysis on instructional technology resource requirements, it was already evident there was a significant gap in funds needed and funds available. The current budget cuts are exacerbating a pre-existing problem.

This increasingly wide gap between need and resource is not unique to UCLA. As of 2002, nearly 70 percent of public universities have implemented a mandatory student technology fee, in order to provide a steady, guaranteed stream of revenue to support the educational environment both inside and outside the classroom. While universities vary widely on the how the fee is used, at the heart of these mandatory fees is the concept of direct student benefit and a process that enables students and faculty to participate meaningfully in significant aspects of the implementation. The value to the institution that accrues from such a process is of comparable value to the resources it generates.

During this period when the entire funding model of UC is changing, it is timely and prudent to research and assess the value to UCLA students of developing alternative funding approaches for IT in the educational environment. A technology fee should be one model evaluated closely. Even in preliminary discussions on the need to review a technology fee, the ITPB recognized and expressed strong commitment to the IEI cost materials fee that by definition guarantees the direct and dedicated use of these fees for instructional purposes in departments and divisions.

- **Recommendation** - Working with the ITPB and the Faculty Committee on Educational Technology, proceed with an evaluation of a technology fee and alternative IT funding approaches for meeting the current and future requirements of IT in the educational environment. This process must include working with schools and divisions at UCLA to define the educational vision and requirements. Minimizing the impact on students' cost of education should be a key constraint.

**cc:** Executive Vice Chancellor & Provost, Dan Neuman
Administrative Vice Chancellor, Pete Blackman
Finance & Budget Vice Chancellor, Steve Olsen
Information Technology Planning Board
Information Technology Coordinating Committee
Committee on Information Technology Infrastructure
Faculty Committee on Educational Technology
Common Systems Group