
UC 2010
A New Business
Architecture
for the University of California

*July 2000*

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## Executive Summary

Unprecedented growth and an increasingly complex regulatory environment demand a new approach to the University's core business processes and structure. This document recommends a New Business Architecture that will enable the University to:

- Manage growth
- Control costs
- Improve the work environment
- Implement best business practices

Six general strategies will allow the University to achieve these objectives:

- Develop campus **business portals** that will integrate components of the New Business Architecture
- Apply new approaches to how the University recruits, retains, and develops the very best **people**
- Streamline UC's cumbersome **policies and processes**
- Leverage new **technology** to contain costs and improve services to UC's constituents
- Integrate campus **financial systems** and provide enhanced financial reporting through implementation of emerging technology standards, and
- Embed **performance management** systems in UC business processes and focus on the most important **financial controls**

The Planning Group engaged experts both within and outside the University to aid in the design of the New Business Architecture. In addition to contributions from within UC, the Planning Group looked to some of the University's corporate partners for help in designing the key elements of the architecture. Most notable were the contributions from PricewaterhouseCoopers, Cisco Systems, IBM, and Gateway Computers. This report is organized around three focus areas:

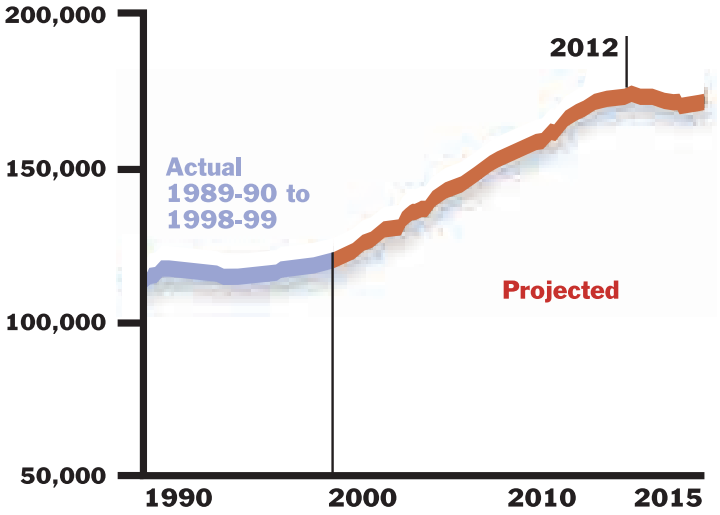
- The key business drivers for change to UC's business framework
- The role of the New Business Architecture in UC's future and its guiding principles
- The six components of the architecture with specific strategies to pursue in each area

This report concludes with a summary of recommendations and a timeline for their implementation. It is the hope of the Planning Group that this report will be viewed as the initial step toward critically evaluating the concepts presented and subsequently launching a series of enabling initiatives on a Universitywide basis.

Many organizations are propelled into strategic thinking when they find themselves on a "burning platform," fighting for their survival. We have the unique opportunity and responsibility to envision the future business and administrative environment of the University from today's vantage point of strong leadership and financial stability. These are the best of times for the University to lay the foundation for the changes that will ensure our continued success in the next decade.

Submitted by the
New Business Architecture Planning Group

## Projections of UC Enrollments



## Introduction

Explosive growth, changing demographics, and a thriving economy driven by advancements in technology have pushed California, once again, to the forefront of a changing world.

In the early '90s, UC administrative leadership, anticipating less support in a time of economic recession, proposed a new blueprint for UC administration.[1] That new vision, a "network" organization model, introduced strategies to reduce administrative costs, overhead and complexity; to decentralize decision-making; to increase collaboration across organizational boundaries; and to harness information technology to improve administrative services.

Today, a decade later, many processes have been streamlined and automated, and desktop applications such as e-mail, Web access, and personal productivity tools are becoming ubiquitous.[2] However, limited resources for administrative support budgets have made it challenging for staff to accommodate changing and growing workloads.

Nevertheless, the changes made to UC's business operations in the 1990s, as significant as they are, will not position UC administration for the anticipated challenges of this next decade, including the unprecedented growth associated with 60,000 additional students and 7,000 new faculty members by 2010.[3]

In order to support this significant projected growth, UC must begin to put into place a New Business Architecture that will scale to meet the challenges driven by enrollment growth, technological advances, and the rising expectations of our constituents. As the New Business Architecture evolves to better support basic administrative operations, it will offer similar opportunities in the administration of such mission critical activities as sponsored research and student services.

1 "Sustaining Excellence in the 21st Century: A Vision and Strategies for the University of California's Administration, Report and Recommendations," New Campus Administrative Support and Ancillary Services Planning Group, March 1991.
2 See the results of the UC Business Process Redesign Inventory Survey discussed in the Processes and Policy section of this report, and included in Appendix D.
3 Current growth projections include 3,000 additional faculty members and 4,000 faculty members to replace those retiring from or otherwise leaving the University.

## The Need for Change

The second-order effects of growth in student enrollment will shape the UC administration's agenda for years to come.

> **"Unprecedented enrollment growth, new demands from our constituents, and innovations in technology compel us to reshape our business functions and processes in a manner that scales to the anticipated University of California in 2010."**
>
> Richard C. Atkinson,
> President,
> University of California

- Enrollment growth will increase workloads and significantly impact all administrative services areas, from payroll, human resources and benefits, to financial management, purchasing, information technology and building maintenance.

- Projected enrollment growth is prompting an explosion in capital projects throughout the University, from the building of a new campus at UC Merced and a second campus at UC San Francisco, to an unparalleled number of new building and renewal projects at the existing campuses.

- Current funding models are marginal cost models that do not scale effectively to the administrative impacts associated with an enrollment increase of 60,000 students. The models do not adequately address future administrative resource requirements necessary to support this growth while maintaining current or better service levels to the campuses. This dilemma is compounded by the fact that University administration has seen significant funding cuts, in "real" dollars, over the past decade.

- As the University continues to forge complex partnerships with California's knowledge-based industries, the need to manage financial and business risk and exposure increases.

- Pressures are unrelenting on academic medical centers to reduce costs without compromising quality.

Additional factors forcing the University to rethink its future strategies include the pace of technology change and highly competitive human resources market.

- The Internet and mobile technologies are changing the way business is conducted and raising the service expectations of UC's customers — the students, faculty, staff, and community.

- The tight labor market in California and nationwide will make it increasingly difficult for the University to attract and retain quality staff, particularly in highly competitive areas such as information technology, administrative staff, and research professionals. UC's maturing workforce and rising turnover rate increase the urgency to address this situation.

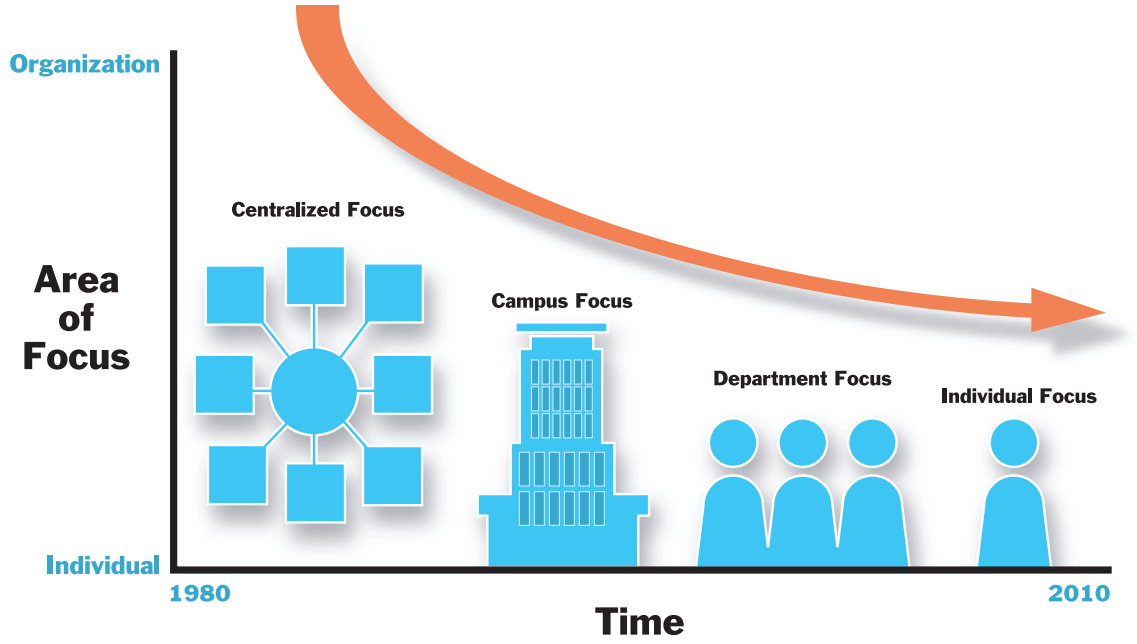
- Federal and State regulations continue to increase in complexity, pushing the responsibility for ensuring compliance (and the expense of noncompliance) deeper into the fabric of the University.

## The Role of a New Business Architecture

The business support structure of the University has changed dramatically over the past 20 years, reflecting the advances in technology that allow for new and better ways of doing business. During this time, UC transitioned from the centralized management structures of the 1980s to the network organization model of the 1990s — a change resulting from the need for doing more with less. That transition was well documented in "Sustaining Excellence in the 21st Century," a report that paved the way for the development of the University's internal and external networks.

Today, the University recognizes the need for a new framework for its business operations, one that focuses on the critical role of individual staff in delivering business and administrative services to the University. The New Business Architecture is more than a technology solution. It outlines a new *work environment* with operational principles, processes and tools designed to expand the productivity and effectiveness of the University's administrative staff.

A new UC business architecture for the first decade of the 21st century will serve as a compass to navigate through a rapidly changing environment. It will create a context for setting priorities and for making administrative investment and allocation decisions. This new architecture will stimulate and guide follow-on initiatives to be spearheaded by the campuses, and contribute to more effective partnership relationships between the Office of the President and the UC campuses.



Seen through the eyes of our faculty and staff, a new business model must:

- Be flexible and scalable in order to accommodate significant workload growth and complexity without compromising quality and service

- Reduce department workload by:
  – simplifying policies and procedural requirements
  – automating repetitive tasks
  – increasing the "intelligence" designed into systems

- Reduce the time it takes to perform work, particularly those functions that deliver key services to external and internal customers.

- Make it easier for staff to learn quickly what they need to know in order to excel in their jobs and to stay current in their areas of expertise.

## Lessons from our Corporate Partners

The University of California enjoys strong relationships with a number of corporate partners, and the New Business Architecture Planning Group consulted a select group of partners to provide valuable insight throughout its deliberations.

While we have borrowed heavily from many corporate partners, the corporations that have been most heavily involved in the development of this report are:

- Cisco Systems, Incorporated
- Gateway Computers, Incorporated
- International Business Machines Corporation
- PricewaterhouseCoopers, LLP

In addition to having significant business relationship with UC, these corporations have shared with the Planning Group their strategies for tackling many of the same challenges UC faces. Throughout the report there are references to concepts and models that are employed by these companies and that the Planning Group believes are relevant to a New Business Architecture for UC.

The "self-service" business model was a common theme to many of these companies when they discussed their internal business strategies with the Planning Group. These and many other organizations are investing in technology platforms to deliver Web-based business systems for their employees — systems designed to enable and support a self-service organization, where managers and staff have, on their desktop, all the tools they need to do their job.

Designed for optimal cycle-time and performance, ease of access, personalized views of information and extensive online help and training, these systems enable staff to learn about and perform a function in a single transaction. Eliminating the intermediate transactional processes between staff and the information and functions they require is the key to containing costs and reducing cumbersome bureaucracy. The University of California will benefit from pursuing similar strategies adapted to its unique environment.

The Planning Group also recognizes the considerable efforts by other higher education institutions, including Boston College,[4] University of Washington, and University of Delaware, to explore information portal-based business models.

**"Cisco has proven that the self-service model works; it increases customer satisfaction, improves employee productivity and reduces costs."**

Peter Solvik,
Sr Vice President IT,
Cisco Systems

4 Bernard W. Gleason, "Boston College University-wide Information Portal: Concepts and Recommended Course of Action", January 26, 2000. See also the work of the Java in Administration Special Interest Group (JA-SIG) to develop a Common Reference Portal.

## The New Business Architecture

The New Business Architecture will create:

- A collaborative environment where staff have ready access to the tools necessary to do their job efficiently and effectively
- A workplace that allows University staff to maintain high levels of job satisfaction while providing the highest levels of customer service
- An environment where technology solutions minimize time spent processing mundane, routine transactions.

We envision a business environment at the University of California where process and policy simplification is rewarded; where acceptable levels of risk are acknowledged and tolerated; and where the interdependency among UC institutions and external entities is recognized and used to the University's best advantage.

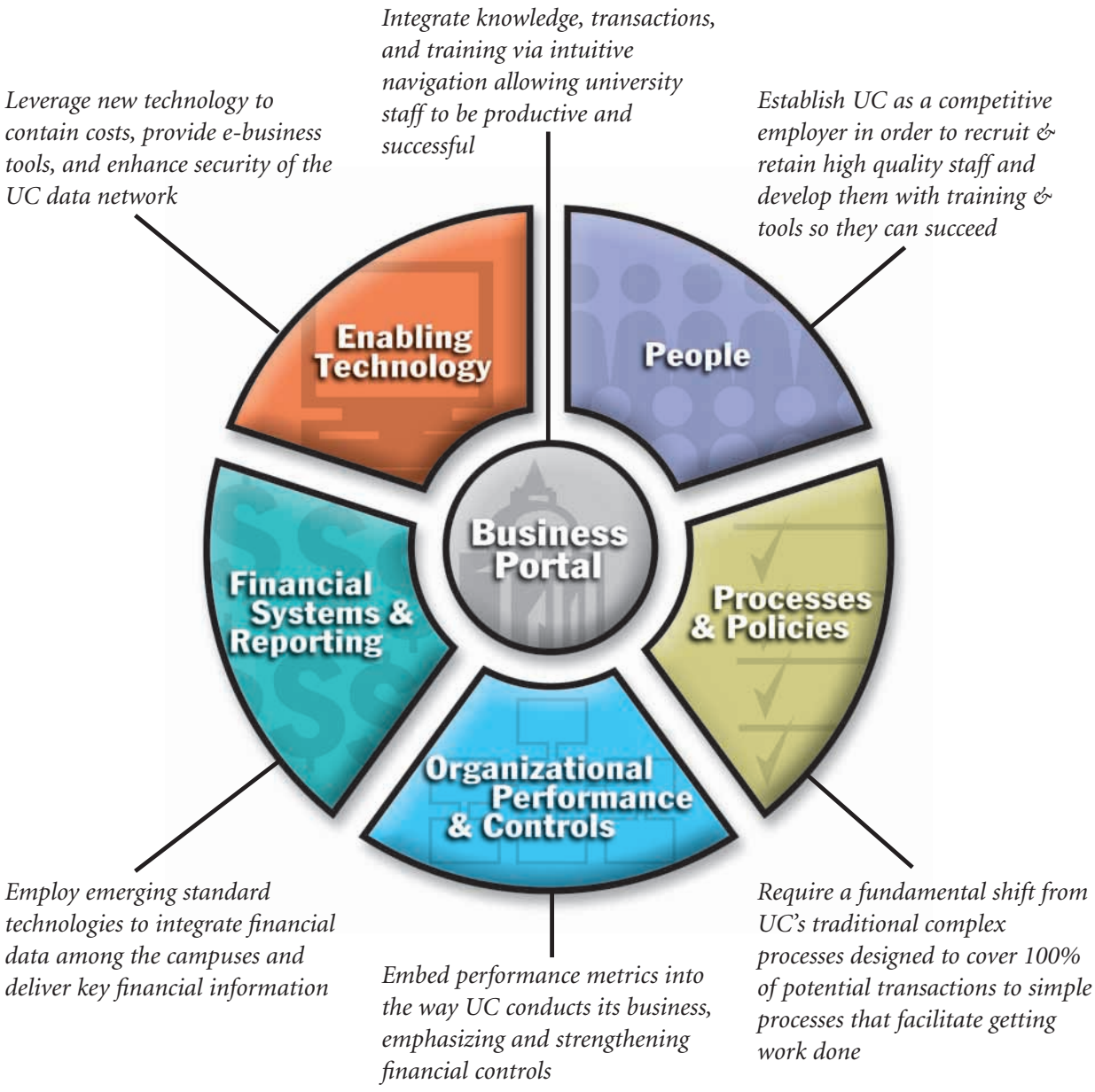
The New Business Architecture requires a set of guiding principles that will help to reshape behaviors and institutional values in the new business environment of the future. These principles are intended to provide direction to administrators in their everyday decision-making activities.

## Guiding Principles of the New Business Architecture

- **Enhance Individual Employee Productivity** — Provide flexible tools that individuals can use to perform their roles more effectively.
- **Encourage Collaboration and Partnerships** — Form alliances with other departments, campuses, institutions, and businesses in order to further the University's goals.
- **Manage Technology as an Investment** — View technology as an investment, rather than an annual expense, that will yield a return in exchange for up-front expenditures and assumption of risk.
- **Focus on Outcomes** — Measure and assess people, projects and teams by what they accomplish.
- **Strive for Simplification** — Develop tools that can be flexibly applied to reduce the complexity of University business processes. Continually measure approval points, hand-offs, waiting intervals, training requirements and cycle times.

## Components of the New Business Architecture

In the following pages, we discuss the six key components of the New Business Architecture and propose new strategies for translating them into reality.



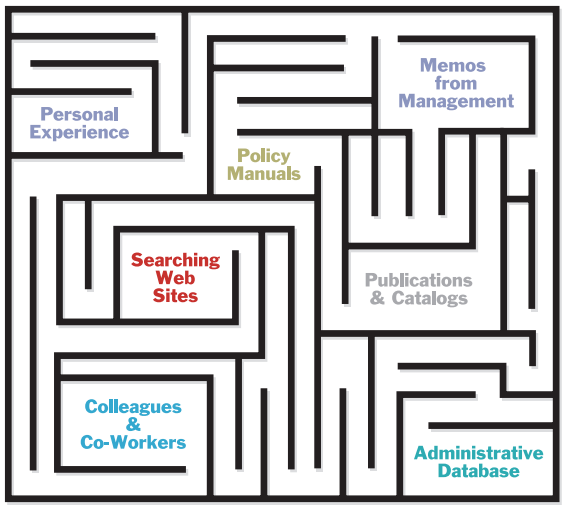
# Components of a New Business Architecture:
# Business Portal


The Business Portal is central to the University's New Business Architecture. The portal's Web browser interface serves as the entry point for UC staff to access information, tools and training necessary to do their jobs. The portal is the integrating mechanism that aggregates technology tools and software applications with internal and external information sources and databases. It serves as the gateway to the University's resources and provides intuitive, personalized access to all information and technology resources in a secure, consistent and customizable manner. [5]

**"Corporate portals must connect us not only with everything we need, but (also) with everyone we need, and provide all the tools we need to work together. This means that groupware, e-mail, workflow, and desktop applications — even critical business applications — must all be accessible through the portal. Thus, the portal is the desktop."**

Gerry Murray
Director of Knowledge Technologies
International Data Corporation

5 Bernard W. Gleason, Boston College, White Paper: "University-wide Information Portal Concepts and Recommended Course of Action", January 26, 2000.




**Current View of Processing Transactions**

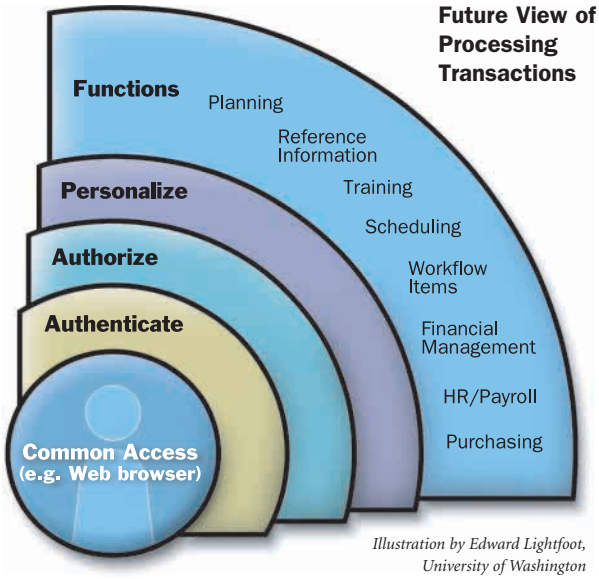
Currently, UC has several disparate departmental and campus Web site initiatives underway. In general, these sites provide static Web pages with infrequent updates and content maintenance. They tend to be "one-size-fits-all" information sources that do not allow users to personalize content according to their own unique requirements.

Navigating the current business environment can be challenging. Routine transactions and processes are easy to perform once they are mastered but it takes excessive time to train and acclimate new staff. Even experienced staff find the UC system difficult to navigate when confronted with new or infrequent transactions and procedures.

To simplify our current environment and improve productivity, the portal will provide seamless integration across all University assets and resources. It will allow staff to quickly find the information needed to do their jobs. All necessary tools will be provided to perform business processes and transactions. And most important, self-directed orientation and training will be available to allow for just-in-time learning and knowledge creation.

The portal will be built using technology to authenticate, authorize and personalize information for the user. Authentication and authorization will allow users to log on once to the UC system and have seamless access to all applications and resources required to do their job. The personalization layer will customize the portal contents to dynamically link users to tools necessary to do their job at that moment.

Critical to the portal's success is the creation and maintenance of easily accessible content that is dynamic and relevant. The content must provide end users with information that helps them determine what to do, how to do it and, when possible, guides them through the process online. The self-service model has the potential to allow the University to economically meet the increased demands on administrative resources associated with anticipated student and faculty growth. Leading companies like Cisco Systems have achieved growth of 50 percent a year through better use of self-service technology. In fact, Cisco attributes its strategic advantage to the self-service model that allows all constituencies doing business (or potentially doing business) with Cisco to




**Future View of Processing Transactions**

*Illustration by Edward Lightfoot, University of Washington*

operate directly with the company without requiring an intermediary.

To maximize the usefulness of the Business Portal, users will personalize their entry point to make content meaningful and relevant to their individual job requirements. Alternative paths to the same destination will provide maximum guidance to entry-level users. Expert paths will provide minimal guidance to experienced users allowing for faster transaction processing and information retrieval. For example, Cisco's corporate Intranet is designed for customization to communities of interest (e.g. new hires, accounting staff, service engineers, etc.), and dashboards list information by organization and topic, providing multiple paths to navigate to the same destination.

Business Portal users will experience a number of key benefits:

- They will have a flexible method of finding useful information, allowing for greater productivity and fewer transaction errors.
- More accurate data will be available for management reporting along with better standardized reporting templates.
- Online tutorials and navigation will reduce the need for conventional training courses.
- Workload will be reduced as more transactions are automated using workflow tools.
- And over time the system will become more user friendly and personalized as feedback is collected from the user.

**"At Gateway, we have five guidelines for creating the Web portal that supports our business applications:**

1. **Organize structured and unstructured information**
2. **Ensure that content is current and relevant**
3. **Put the data into a context that is meaningful to the user**
4. **Build an Enterprise Information Portal which allows for user-friendly navigation to relevant, context-sensitive, dynamic information**
5. **Supplement appropriate people processes to create dynamic communities of practices with the goal to increase revenue and decrease cost."**

Bipin Junnarkar,
Chief Knowledge Officer
Gateway, Inc.

**"Knowledge is experience. Everything else is just information."**

Albert Einstein

Overall, employee job satisfaction should improve, resulting in higher levels of retention. New staff will acclimate to application systems more easily and learn how to do their jobs faster. In the long term, the integrated Business Portal should lead to lower costs of doing business and at the same time provide a more consistent level and quality of service. The portal will also provide access to shared information and knowledge fostering a sense of community that promotes better communication and collaboration among campuses.

### Business Portal Strategies:

- **Develop a portal model that migrates from static Web pages to a database-driven environment with links to UC systems and campus data warehouses.**
- **Develop a prototype Business Portal template, based on best practices in industry and in higher education, for adaptation and use by the campuses and the Office of the President.**
- **Deliver consistent content for core business applications to UC employees via the Business Portal.**
- **Develop a navigation model that allows new employees quick and intuitive access to integrated business information, transactions and online training.**
- **Proceed with the Employee Systems Initiative (ESI) project recommendations as a first step in implementing the Business Portal prototype. (See Appendix E)**

# Components of a New Business Architecture: People


Approximately 100,000 people make up the University of California non-academic workforce — creating and maintaining the infrastructure to support UC faculty and students in renowned teaching, research, and public service.

The University is experiencing severe difficulties in recruitment and retention in many mission-critical occupations, including information technology professionals, development officers, technology-savvy administrative support staff, and nurses and other healthcare specialists. Nationally, unemployment is at a 29-year low and the Wall Street Journal has characterized the shortage of workers across America as "the tightest labor market in memory."

**"In the end, the location of the new economy is not in the technology, be it the microchip or the global telecommunications network. It is in the human mind."**

Alan Webber

The University of California has multiple challenges in the immediate future. We need:

- Aggressive and innovative strategies to recruit and retain the best staff to support the UC mission;
- New problem-solving and teamwork skills in our workplace to support a larger, more complex organization;
- A human resources infrastructure designed to support the best workforce for our mission.

## New Approaches to Recruitment and Retention

**Develop UC as an Employer of Choice.** We must effectively develop and promote UC's inherent strategic advantages as a great place to work. There are many positive things about working at the University of California, including:

- Work that is of vital importance to society
- Intellectual and cultural attractions associated with a vibrant academic community
- Career opportunities throughout the state
- Work/life balance generally superior to that found in private industry
- Excellent training (assuming recommended investments are made)
- Excellent technology tools (assuming recommended investments are made)

**Develop user-friendly job application and recruitment processes.** Electronic recruitment, creative outreach and streamlining the hiring process will free Human Resources staff to assist hiring authorities with job design, outreach, and selection. These new approaches will also help UC compete for the best staff in a competitive environment.

**Expand Diversity Efforts.** Outreach efforts to increase diversity and in-reach strategies to retain diversity will need to be sustained and expanded so our workforce represents the growing diversity of the State of California.

> **"A 1997 global study of the world's most admired companies... found that the world's elite organizations share one thing in common. They don't claim their people are their best asset. They act on it."**
>
> Carla O'Dell and
> C. Jackson Grayson, Jr.

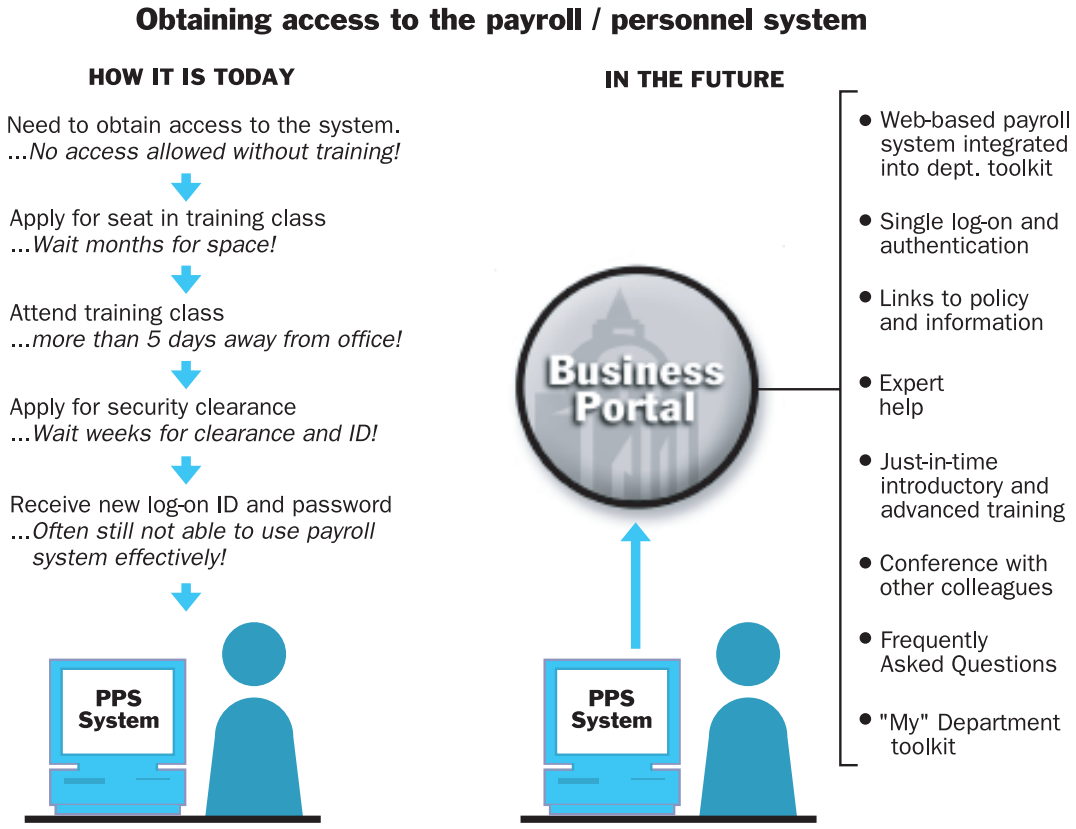
**Explore Flexible Benefits.** Benefits programs need to be enhanced to respond to the needs of the current workforce. There are many options to create more flexible retirement and health and welfare benefits. As an example, historically, the UC Retirement Plan (UCRP) has been a tremendous recruitment and retention tool. However, the current benefits design will not meet the portability demands of today's mobile workforce. Under the UCRP defined benefit plan, if a UC employee leaves the University of California prior to five years of employment or prior to becoming eligible for retirement at age 50, there is no benefit available for the employee to take to another employer prior to retirement age. The University must begin exploring options that would address retirement benefit portability.

**Rethink Job Design and Classification.** Job design must be broader and more centered on competencies and outcomes than on tasks. For example, future job classification criteria cannot be based on size of staff supervised or size of budget that is managed. Job classification systems must focus on the impact of each job on the mission, and define jobs more broadly. This will also improve our capacity to compare UC jobs to titles in other organizations and will facilitate market-based pay practices.

**Improve Market-Based Compensation.** Implement the use of full compensation methodology (salary, benefits, and incentives) to assess UC's compensation packages against competitors, and improve our packages as needed to meet competition.

## Improved Professional Development and Productivity Strategies

In order to sustain and grow our organization and our workforce, UC will need to invest deeply in a different kind of employee training and development for both academic and non-academic personnel throughout the University. We need to provide our employees with just-in-time training embedded in the individual's business portal, as well as classroom training for development of such critical skills as team building and collaboration.



**Customize Training Approaches.** The University will need to develop several approaches to meet organizational and employee needs for training and development. Training needs will include interpersonal skill development, requiring face-to-face training and workshops, as well as technical skills development, where systems, tools and programs can be taught using online tools with just-in-time accessibility.

**Provide User-Friendly Online Training.** For staff who support the business and finance functions of the University, it will be critical to build functional and technical knowledge as well as competency in using specific business applications. Given the trend toward shorter tenure of staff in jobs, these staff will also need to get up to speed quickly. The business portal approach to delivering information and applications to the employee desktop will include both expert help and training at various levels, from beginner to advanced. Staff will be able to learn how to perform a function online, at their desktop, whether they are new to the University, to the department, or they simply need a refresher on a task they perform infrequently. This "just in time" approach to training, at the desktop, will require that the University link training modules to accurate up-to-date policy guidelines in order to provide a single source of "how to" information to the employee.

> **"The most important determinant of success in an organization is the effectiveness of millions of day-to-day interactions between human beings."**
>
> Rosabeth Moss Kanter

**Develop Core Competencies.** Across the organization we will need to assure workforce acculturation (i.e. alignment with the purposes and culture of UC) as well as baseline technical, interpersonal, and managerial competencies.

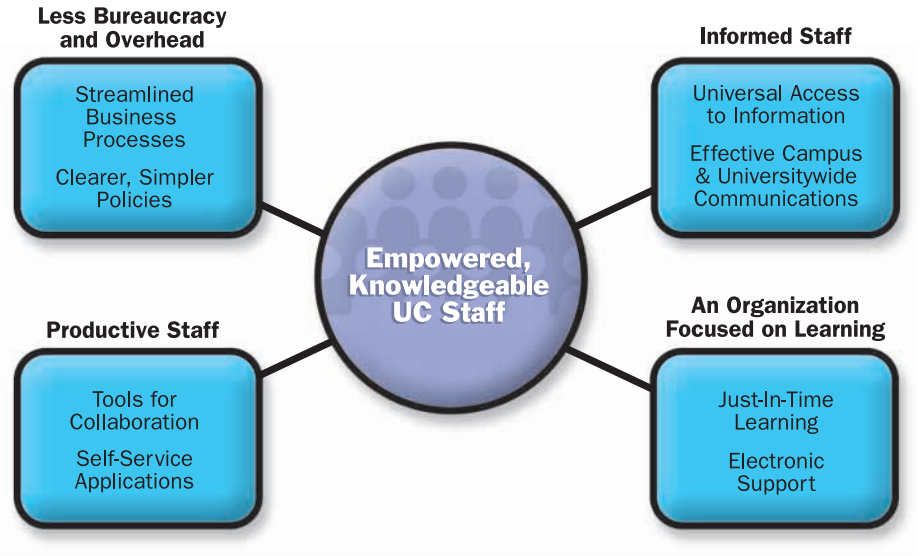
**Create Career Mobility Opportunities.** The University currently faces the retirement of baby boomers from our workforce, many in leadership positions. At the same time, we are experiencing significant growth. It will be important, therefore, to build strategies for transferring institutional knowledge to build leadership skills in our emerging workforce. Examples of such initiatives include internships, fellowships, and career development programs. With a critical shortage of technology professionals, we will need to strengthen opportunities for staff to move into Information Technology roles.

**Recognize the Need for Staff Resources.** In the early 1990s, UC protected its academic programs by reducing administrative staff support in academic departments and central service organizations. As the university faces significant growth in size and complexity, and expanding requirements by federal and state agencies, it must recognize the need for an appropriate investment of staff resources to support its academic mission. While we can continue to make great strides in productivity through streamlining processes and providing new technology, UC must be ready to deploy additional staff resources when necessary.

**Strengthen Skills for Managing Complexity.** The University of California is as large as many Fortune 100 companies and is, by its nature, complex. As we "scale up," we will be faced with the challenge of managing even greater complexity. As the UC population grows, employee challenges go beyond increased workloads (e.g. more payroll transactions, more course sessions), because the University has learned that "economies of

scale" can often be achieved through streamlined systems. In the business environment of the future, UC staff will need new skills for communicating across groups and organizations, both in person and via technology channels. For example, they will need skills for managing the plurality of interests such as negotiation, translation, empathy, and diplomacy. To manage complexity, staff members will need not only new tools but greater knowledge of management skills as well. They will also need skills in process simplification and streamlining.

## Our Staff Hold the Key to Our Future Success




*Based on a model by Cisco Systems*

**Treat Information and Knowledge as a Critical Asset.** As we strengthen the skills and commitments of our workforce and deepen the institutional, professional and technical knowledge of staff and work groups, we need to retain this accumulated knowledge as a critical asset of the University.

**Build and Sustain a Sense of Belonging and Purpose.** The work of each member of the University community supports the mission of the University — teaching, research, and public service. Knowing how each of our roles supports the educational mission gives each staff member a sense of purpose and connection to the whole. Since learning thrives in a strong community, any plan for changing UC's business environment must consider sustaining a strong sense of community as a critical factor in planning for the future. Efforts to build and sustain a sense of belonging (community) and purpose (alignment with our mission), as UC grows larger, needs to be woven into the fabric of all our efforts — from new employee orientation through management development.

**Strengthen and Integrate Overall Workforce Planning and Improve University/Union Relations.** The University has recently instituted several workforce planning efforts. These efforts are intended to improve the quality of workforce data for decision-making, to build deeper understanding and integration within and among functional areas (such as systems, budget, human resources) and within and among locations to solve common problems. Aggressive efforts must be made to improve the relationships with the unions that represent the majority of the University's workforce, and to deepen the dialogue on ways to prepare for institutional growth.

## People Strategies:

### Improve Recruitment and Retention

- Promote UC as an employer of choice
- Streamline the hiring process
- Expand outreach to increase diversity
- Create flexible benefits
- Improve job design and classification
- Institute market competitive compensation

### Improved Professional Development and Productivity Strategies

- Customize training approaches, including an online training and development curriculum to complement and enhance current training offerings
- Expand training and development programs for core competencies in supervision/management, interpersonal skills, and basic technology
- Expand and build upon professional development offerings in leadership and other professional skills for career mobility (classes, internships, fellowships, other experiential learning)
- Create and build upon training programs and internships for employees to become information technology professionals (e.g. an in-house "IT University")
- Deploy additional staff resources when required by significant growth or new requirements
- Develop new on-site and off-site initiatives to deepen skills in managing complexity
- Strengthen orientation and acculturation initiatives to build community
- Improve workforce planning, including labor-management partnerships

# Components of a New Business Architecture:
# Processes & Policies


Business processes at the University of California reflect the complexity of our organizational structures. Processes wind circuitously through work groups and departments, each of which assumes responsibility for its specific contribution to the end result.

UC process redesign efforts over the past decade have focused on improving the performance of administrative processes by analyzing workflow; reducing hand-offs, delay intervals, process variants, and unnecessary approvals; measuring rework and elapsed times; and weighing policy constraints. Process redesign has produced benefits that are broad in scope and significant in their impact on operational effectiveness.

**"In anything at all, perfection is finally attained not when there is no longer anything to add, but when there is no longer anything to take away."**

Saint-Exupery

While the UC campuses and the Office of the President have engaged in process redesign activity in many areas within business administration and operations, not surprisingly, the financial and human resources functions have received the greatest attention.

The strategies described above, as valuable as they have proven to be in the past, will not provide the strategic breakthrough the University needs to meet the growth and complexity challenges of the future. Since the vast majority of administrative costs occur in the departments of the University, (as distinguished from central administration), improving the effectiveness of the University's business processes must begin in the departments.[6] A new business model will need to do more than present users with new windows into old processes.

**Principle Objectives of UC Redesign Efforts**

- **Improve efficiency and productivity**
- **Ensure policy compliance**
- **Automate manual processes**
- **Improve customer service**
- **Improve quality of and access to information**
- **Consolidate and standardize processes and training**
- **Improve communications between departments and units**
- **Accommodate growth and emerging business needs**

"Putting a Web site in front of a flawed process merely advertises its flaws — just as important as having smooth, efficient processes is being able to redesign those processes on the fly. From order fulfillment to customer service to procurement, operating processes are rarely fixed anymore. They must change their shape as markets change, as new technologies become available, as new competitors arrive." [7]

Over the next decade, UC staff will fundamentally change the way they perform their work. The bureaucratic, civil service model of repetitive tasks and highly specialized staff is no longer applicable to the knowledge-based economy in which the University operates today. This report confirms the need for UC business administration and operations to transition to an information-based work environment, where staff can easily find the information they need, learn how to accomplish critical tasks and exercise the judgement necessary to perform their work.

The chart on the following page provides a general characterization of the business process environment at the University of California today. It also identifies the kinds of changes that will occur as the University increasingly associates employee productivity with better access to information, better use of technology and evolving know-how and expertise.

6 Employee Systems Initiative (ESI) Report developed by UC and PricewaterhouseCoopers.
7 "How Process Enterprises *Really* Work," Michael Hammer and Steven Stanton, Harvard Business Review, November-December, 1999 p. 118.

## UC Business Processes

| Past | Future Direction |
|---|---|
| Core business processes:<br>- Optimized to central office needs<br>- Are paper-driven and labor-intensive<br>- Are characterized by extreme complexity<br>- Resist delegation and simplification | Core business processes will:<br>- Be streamlined to meet campus customer needs<br>- Deliver & process information in electronic format<br>- Focus content delivery and application design on the departmental user<br>- Eliminate costly bureaucracy |
| Processes are designed to:<br>- Rely on complex procedures to ensure compliance and eliminate risk of failure or fraud<br>- Address exceptions without validating the cost and benefits of doing so | Processes will be designed to:<br>- Emphasize simplicity over excessive controls<br>- Accommodate acceptable risk thresholds<br>- Accommodate 95% of standard transactions with exceptions handled outside of process |
| Systems supporting business processes require users to:<br>- Learn and use applications with no common design or user interface<br>- Remember a list of log-on ID's and passwords,<br>- Wade through information they do not (and may never) need | A Web-based business model will allow users to create a personalized desktop in which:<br>- Processes are presented in a series of simple, intuitive steps with templates supported by expert help<br>- Navigation is easy and obvious<br>- A single authentication/authorization is supported<br>- Training is integrated into the application<br>- The user determines what information to receive on the desktop |
| Updating of business processes to incorporate industry best practices occurs infrequently | UC will keep its fingers on the pulse of changing business practices in business, education and other industries |
| UC campuses and Office of the President share new and better ways of working on an ad hoc basis | - UC business area "communities" systematically will share information and innovative business processes and practices<br>- Best-practices databases and other shared knowledge sources will be included in the content delivered to departmental users |
| Organizational barriers create obstacles to process improvement | A new business model will present content and functionality to the user that is not restricted to departmental views and ownership |

Policy provides institutional guidance for effective decision-making and ensures that mechanisms for regulatory compliance are embedded into business practices of the University. The University can do much to improve the maze of complexity that staff must negotiate today in order to determine what is and is not acceptable. The following table contrasts the policy challenges within UC today against the recommended changes required to support the new business model.

## Policies and Policy Development

| Past | Future Direction |
|---|---|
| Policies are difficult for staff to locate and access | UC policies will be incorporated into business processes through decision technologies and rule-based systems |
| Policies are overly detailed and complex. They are difficult for staff to understand and to use as guidance in decision-making | Simple rules and "how-to's," built into applications, will guide employee decision-making. Full text policy will be available when required via online links to the source documents |
| Policies are often outdated and irrelevant due to infrequency of update activity | - Policies will be simplified and more flexible, requiring less frequent review and update<br>- Technology will automate the dissemination and updating of "how to" directories, including policy revisions |
| Policy development and implementation is a complicated and lengthy process | UC will reengineer the process and structure for developing and implementing policies |
| Government regulatory compliance requirements inhibit policy simplification | UC will engage in active collaboration with government agencies to implement regulatory reform |

A new UC business architecture will reinvent the way faculty, staff and students accomplish administrative tasks. The Business Portal will make administrative processes and policies accessible to new and existing staff in a context that includes the necessary tools to allow them to learn and do their jobs more effectively.

The University's ability to pursue the future direction described above will also require a workplace culture characterized by recruitment and retention of appropriately skilled staff, clear definitions of roles and responsibilities, just-in-time delivery of training, effective communications and risk management within the departments.

**"Our HR Web is designed to be a single gateway for access to all related programs, policies and practices. This offers information, interactive tools and the ability to transact — on a 24 x 7 basis. A new-hire Web portal and our technology-enabled telephone service center get employees up and running quickly."**

Silvio Lanaro, Director
IBM HR Technology

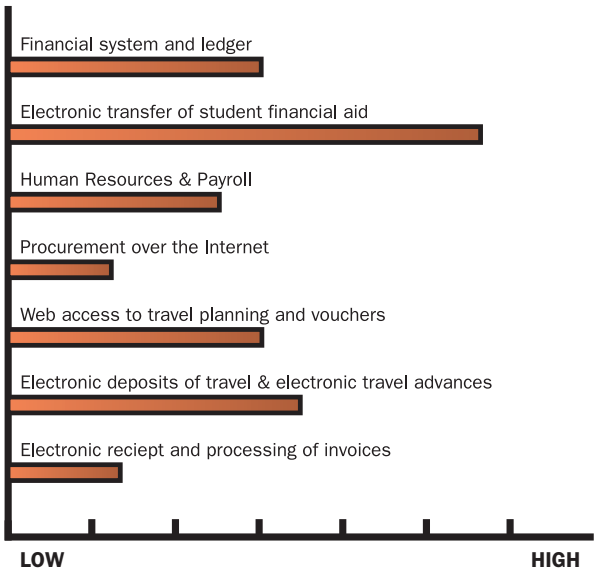
## Processes & Policies Strategies:

- **Engage an external consultant to assist UC in an aggressive examination of current processes, policies and procedures for relevancy and value to the UC mission. Identify the simplest, most effective processes among UC campuses and replicate them Universitywide**
- **Redesign key business processes to the 80/20 rule and estimate the risk-exposure levels that need to be accommodated**
- **Incorporate simplified policies into the "how to" and "expert help" components of the New Business Architecture**
- **Delegate authority and responsibility to the most-informed level of decision-making in the organization**

# Components of a New Business Architecture:
# Enabling Technology


Advances in technology and communications over the past ten years have allowed the University to implement many components of the network organization structure described in the 1991 Sustaining Excellence report. The University now benefits from an environment that is connected and managed using integrated technology and information. Technology has been used effectively as an enabling tool allowing off-line processes and procedures to be transferred online. High-level analysis of the current technology environment reveals that campuses have made significant investments to "Web enable" the University, as illustrated in the graph to the right.

**UC's Current Use of Web-Enabled Technology**



**"The great majority of our customers get their problems solved today via the Web, because they can obtain faster, more reliable information when they need it. However, we will always provide personal assistance to those who ask for it."**

Peter Solvik,
Sr Vice President IT,
Cisco Systems

Consistent with the business world, most campuses first developed Web interfaces in "customer facing" applications such as student services. Students now routinely access grades, schedules and other student information via the Internet. As student Web access becomes commonplace, older types of self-service technology, like voice registration systems, are being phased out or eliminated.

A similar evolution is occurring in the realm of business and administrative services. As the chart on the previous page indicates, the UC is relying increasingly on Web-enabled business applications. Most campuses have implemented electronic transfer to deposit student financial aid funds, reducing physical check printing by as much as 70 percent in some cases.

The University has also made significant advances in providing campuses and departments with electronic access to business information and technology tools. Administrative departments across most UC campuses have Web access to general ledger and payroll/human resources data. Most campuses provide capabilities to order goods and supplies using the Internet, with UCLA planning to offer full e-procurement capabilities by year-end 2000. Many of the campuses provide Web access to their travel planning and voucher systems.

Most campuses have the capability to receive and process invoices electronically. Currently, approximately one-fourth of all invoices are processed electronically, but that number is growing rapidly as standards emerge that allow for easy exchange of information between the University and vendors.

## Ubiquitous Technology Tools

While the University has historically focused on using technology as an enabling tool, the future requires us to see it as a tool to transform and revolutionize our administrative and support infrastructure. Moving forward, more innovative uses of technology will allow for significant productivity improvements that will help accommodate anticipated employee- and student-growth rates.

To accomplish these objectives UC must define an e-commerce strategy that encompasses all areas of the University's computing environment. Common standards and protocols are needed to allow us to fully leverage and harness the potential of emerging technology. Where we have focused on building and expanding our network organization in the past, we now need to shift our focus to the individuals who perform business and administrative functions throughout the University. The emphasis will be on providing each employee (a "market of one") with easy, intuitive access to anything they need to do their job, anytime, and from multiple access points, including wireless data ports.

## Transition to the Web

Today, the University systems and technological resources are accessed by users via their desktop or laptop computers connected via hard-wired access to LANs and the Internet. In the future, access to these systems and underlying data will be far more ubiquitous. As bandwidth capabilities expand and wireless access becomes more common, the University will need to enhance current systems to harness the benefits associated with such improvements. The resulting increase in virtual transactions will result in fewer on-campus, in-person transactions. This will require a corresponding change in processes and procedures that accommodate a virtual environment. The University will need to provide customer service in the online environment, with greater opportunities for customers to access systems and solve their problems on their own time. In order to develop and provide ongoing support for the content and technology infrastructure required for the New Business Architecture, the University will need to be organized to take full advantage of its resources.

## Electronic Commerce

Over the next few years financial and procurement transactions will offer opportunities for cost savings and service improvements. In the near term, common standards will replace the current lack of accepted standards for authentication and payment, raising the level of consumer confidence and promoting greater use of the Web for financial transactions. Such standards will allow for virtually unlimited opportunities for trading-partner arrangements, ranging from online auctions to automated procurement, and more.

**"Tremendous opportunities exist to reduce costs by leveraging the combined purchasing power of the UC System."**

Matthew Faulkner
PricewaterhouseCoopers

Making the necessary investments in e-procurement systems will allow UC staff to manage all aspects of the purchasing process online from their desktop. Purchases will be made over the Internet using electronic catalogs that allow users to search for products and services by price, category, description, supplier reference number or other criteria. Frequently purchased items are automatically maintained on the employee's "quick list" for faster replenishment. Manual transaction processing is minimized as the system generates electronic purchase orders that are automatically matched with electronic invoices received from the supplier. Payment is transmitted electronically in accordance with optimal payment terms once an electronic goods receipt or service verification is received.

The University will benefit from a self-service environment where staff are able to acquire materials and services faster and easier than is possible in today's environment. In addition to saving money, leveraging UC's purchasing dollars will allow the University to put high level skills where it will have the most impact. The reduction in manual and paper transaction processing will allow procurement staff to spend more time negotiating contracts, managing vendor relationships and identifying strategic purchasing

opportunities. The potential cost savings are enormous. As an example, the University of Pennsylvania estimates that its current paper-based requisition system costs about $150 per purchase. In contrast, they expect their electronic procurement system to reduce the same costs to about $10 to $15 per transaction.

## Secure Technology Environment

Along with investments in new business systems, the University must continue to invest in enhanced security. A secure environment is essential for the sharing of financial and other information within the University and with external business partners. Operating in a Web-based environment requires a secure environment capable of:

- Protecting the confidentiality of sensitive data
- Supporting a robust and reliable means of remote access to digital resources
- Supporting e-commerce
- Guaranteeing the authenticity of digital records
- Ensuring that accountability for electronic transactions is authentic and documented

Public Key Infrastructure (PKI) technology was developed to address a wide range of administrative and business processes that require proof of the identity of participants in a transaction; proof that the contents of communications have not been tampered with; and protection of sensitive or restricted data. PKI is based on the use of "digital certificates" that verify the identity of individuals and the integrity of documents, and ultimately enable "signatures" on digital documents.

A Universitywide PKI initiative will allow the University of California to speak with one voice when developing agreements for use of its digital credentials to interact with outside agencies and organizations. It will also avoid the problems of multiple implementations of PKI, where one organization does not recognize the digital credentials issued by another.

## Technology Strategies:

- Develop an electronic commerce solution for the University
- Implement a common UC solution for electronic procurement
- Allocate resources and implement the UC Employee Systems Initiative (ESI) — See Appendix E
- Identify self-service application opportunities for both employees and customers
- Adopt industry technology architectures and standards for Web-based applications, electronic data interchange and wireless and mobile technology
- Eliminate paper-based processes and forms within two years; make data digital from the start to facilitate E-commerce solutions
- Ensure adequate authentication and security by implementing PKI and other digital security tools

# Components of a New Business Architecture:
# Financial Systems & Reporting


The University's financial systems are robust and reliable, but do not provide the type of integration and flexible reporting demanded by the new business environment.

Data warehouses have provided a useful mechanism for departments and divisions to make accurate and current information available to those who need it across the campus and across the University. However, campuses report financial data to the Office of the President in fixed formats and on regular schedules. This limits the uses of the information.

**"Many universities have spent tens of millions, and some have spent over one hundred million dollars, on new financial systems only to realize that these systems will not give them what they need. With today's technology, there are cost-effective ways to leverage the investment in existing systems and achieve more timely and flexible access and reporting.**

Richard Katz,
Vice President, EDUCAUSE
Co-author, *Financial Systems for the Future*

A new Universitywide financial reporting system is needed to integrate financial data from the ten campuses and to address the following issues:

- **Access:** Campuses and the Office of the President are currently required to use multiple accounts and passwords to access systems that present a significant barrier to access and productivity.

- **Form:** Fixed reporting formats prevent ad hoc queries and easy data retrieval and reporting. Reconciliation of data sources and formats is a time consuming "non-value-added" activity today. Fiscal close lead times reflect these financial systems constraints.

- **Content:** Lack of flexibility restricts the content that both campuses and the Office of the President can extract from the University's financial systems. Examples include point-in-time snapshots of financial "health" indicators such as actual versus budgeted expenditures by department.

## An Integrated UC-wide Financial Reporting System

UC has an opportunity to build upon its investment in campus financial systems by adding capabilities for UC-wide access to data and management information. The Planning Group recognizes that the cost of implementing a single, consolidated UC financial system would exceed the benefits derived from such an effort, particularly in light of recent cautionary reports on large-scale campus administrative systems. Referencing the difficulties many government and private sector institutions have had trying to build complex information systems (including campus administrative systems), a recent National Science Foundation report states that "$100 million failures in large scale administrative systems are all too frequent and need further attention and research."[8]

**"Our industry-standard application middleware is the glue that ties different systems within HR IBM together. It allows us to provide users with access to data that resides on different HR systems via the Web. This strategy has dramatically increased the value of our information infrastructure."**

Silvio Lanaro, Director
IBM HR Technology

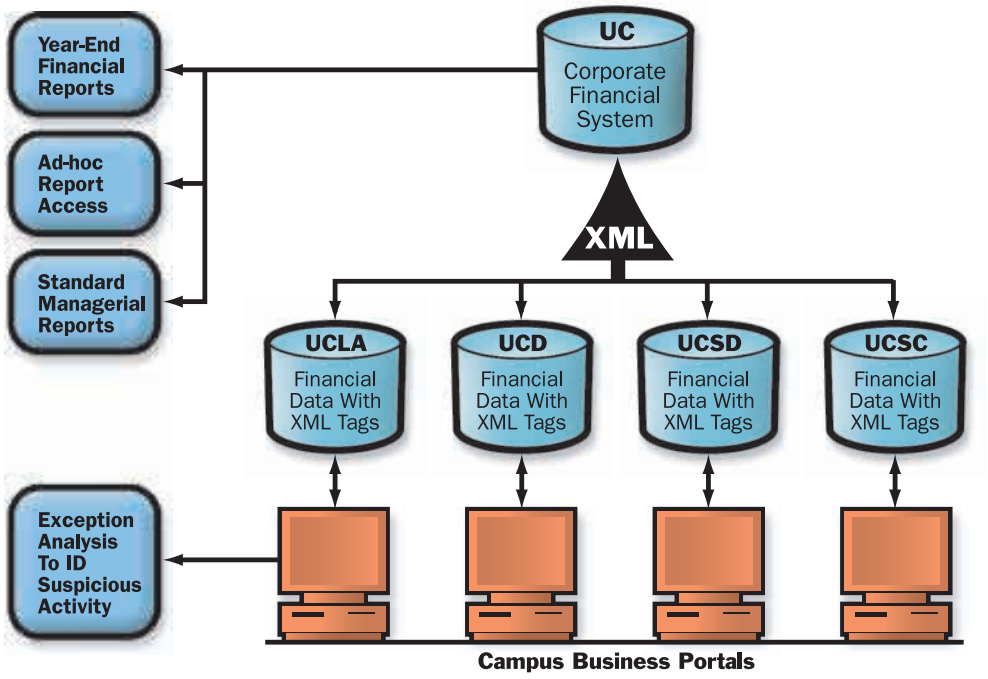
Technology developments today are allowing complex organizations to address data consolidation and reporting needs without exorbitant costs. Many higher education institutions today are leveraging investments in legacy systems by building Web interfaces and data warehouses that allow students and staff to reach and add to existing data more easily.[9]

8 "Making I.T. Better: Expanding Information Technology Research to Meet Society's Needs," National Academy Press, 5/00.
9 Florence Olsen. "As Ever, Computing Officials Ask: Build or Buy?," Chronicle of Higher Education, June 2, 2000.

In a recent recommendation to the UCLA campus to make focused, incremental changes to its existing financial systems rather than implement an entire financial system replacement, KPMG advised:

> *"The complex 'make' or 'buy' decision can be impacted by several factors including the pace of technological change, the life-cycle status of available applications, the institution's view of financial operations, its readiness for change, the availability of financial, human and technological resources, and other issues."*

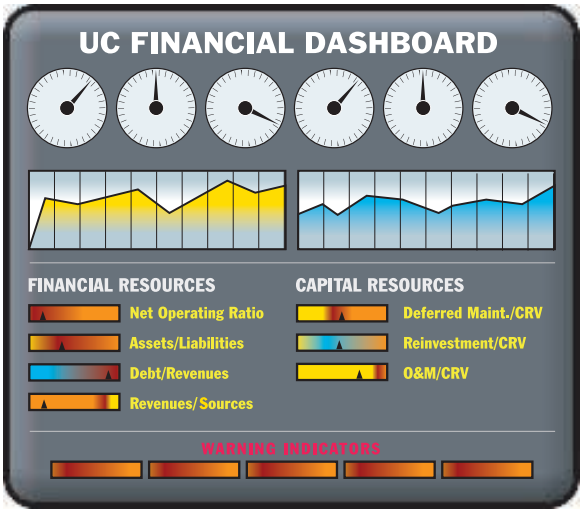
The evolution of the Internet as a viable business transaction environment and the development of new technologies for data sharing and user authentication support the University's move to a New Business Architecture for financial management and reporting. The following strategies will result in integrated, up-to-date, flexible financial information that is accessible throughout the University.




**Use Data Sharing Protocols to Link All Campus Financial Systems.** The first step is to provide an enhanced linkage between the campus financial systems and data warehouses and the systemwide repository of financial data. A UC Corporate Information Warehouse will receive a variety of financial data from campus financial systems. Extensible Markup Language (XML) is the protocol that makes this exchange and data transfer possible.

**Provide All Financial Reporting and Transactions via Web-Based Applications.** Today, many UC campuses have developed interfaces for their financial systems that allow users to enter and receive information on the Web. The business model of the future will be designed to take full advantage of Web capabilities to:

- Facilitate system updates to ensure that information is current and accurate
- Ensure "portability" and sharing of data
- Deliver one-stop shopping to users from different departments and organizations
- Provide easier navigation and access to information




Extensible Markup Language (XML) will also make it easier to enhance existing mainframe-based financial systems by providing Web-based interfaces to these applications via campus business portals.

**"Over the next several years, the Internet will change from being a producer's or publisher's view to a consumer's view. The technology basis underlying that shift is XML, (Extensible Markup Language), which people will use to come up with standard ways for Web sites to present information about themselves, so that other people can write programs that essentially clip together parts of the Web sites and present them in another way."**

Steve Ballmer, President
Microsoft Corporation

**Implement Flexible Tools for Financial Reporting, Projections & Modeling.** In order to make current and relevant financial information readily available to managers across the University of California, the financial information system will require a decision-support system that includes tools and models for the analysis and display of financial information. These tools must be intuitive, easy to access and use, and flexible enough to accommodate data in different formats and protocols. Above all, they must bring the data to life for managers looking to gain a better understanding of their campus or Universitywide financial operations.

**Provide Web-Based Training and Instruction in the Use of Financial Systems Tools.** Departmental Business Officers throughout the University require just-in-time access to training and "how-to" information about processing financial transactions in the course of every work day. Managers need financial systems to guide them through the formulation of financial reports and projections. An integrated financial information system must provide both introductory and advanced level hand-holding for its users.

**Create Opportunities for Feedback on Functionality & Design.** Systemwide sharing of financial information for ad hoc analysis and reporting will create a community of professionals who will have good ideas for the improvement of the financial information system. The new business model will enable these individuals to provide feedback and suggestions about needed improvements and additions to the system.

### Financial Systems and Reporting Strategies:

- **Implement common data-sharing protocols that link existing campus financial systems and provide Universitywide financial reporting and management information**
- **Identify and define UC financial reporting requirements, particularly Office of the President and the Board of Regents**
- **Provide access to all financial transactions and reporting via Web-based applications**
- **Provide flexible tools for financial analysis and reporting, both at the campuses and Office of the President**
- **Guarantee a secure environment for the sharing of financial information within the University and with external business partners**
- **Provide Web-based training in the use of financial systems tools**
- **Provide feedback mechanisms to staff on the design and functionality of the integrated financial system**

## Components of a New Business Architecture:
# Organizational Performance & Controls


Assessing the soundness and effectiveness of UC business operations, both at the individual campuses and Universitywide, demonstrates the University's ongoing commitment to:[10]

- Set goals and assess progress in attaining them
- Identify responsibility and accountability for business processes
- Verify that efforts are producing desired outcomes
- Identify opportunities to reduce uncertainty and to improve operations
- Be responsive to the expectations and needs of those we serve
- Build a foundation for good decision-making with current, accurate information
- Share know-how and expertise among the campuses

10 The Partnership for Performance (http://www.ucop.edu/ucophome/businit/) is a Universitywide initiative that fosters collaboration on organizational performance measurement within business administration and operations. The University's Controls and Accountability Initiative (http://www.ucop.edu/ctlacct/) is responsible for Universitywide implementation of management and assessment strategies to ensure effective stewardship of UC resources.

Measuring the performance and effectiveness of UC business and administrative units and departments consists of:

- Measuring performance in terms of quality of service and results to the customer
- Benchmarking the performance of UC business units to similar departments or functions in other organizations
- Measuring objectives and risks in terms of business impact, timing and probability
- Measuring controls in terms of efficiency and effectiveness

**Diagnostics and Controls:**

Complementary Approaches to Assessing Business Unit Performance

*Mechanism to manage risk and safeguard investments*

**Internal Controls**

*Diagnostics to correct and improve*

**Performance Measures**

Currently, the University faces several challenges that need to be addressed by the New Business Architecture:

- Performance data are not readily available in many business areas
- Organizational boundaries constrain staff's sense of ownership and responsibility for results.
- Department managers do not always recognize risks and weaknesses in the processes they manage
- Anecdotal information (versus performance data) is sometimes used to substantiate business decisions
- Identifying the cause and effect relationships that can lead to change and operational improvements is too difficult

## Internal Controls

The New Business Architecture must ensure that administrative departments have current and meaningful information with which to make good decisions that will result in operational improvements and understood risk and exposure. Responsibility and accountability for financial and managerial controls must be explicit in all business processes and systems in the New Business Architecture. With increased understanding of risk and control issues within the University, a transition to a business portal-based model for the delivery of business and administrative services will ensure that reasonable monitoring and oversight mechanisms are in place and effective.

**"Navigating today's organizations through complex competitive environments is at least as complicated as flying a jet. Why should we believe that executives need anything less than a full battery of instrumentation for guiding their companies? Managers, like pilots, need instrumentation about many aspects of their environment and performance to monitor the journey toward excellent future outcomes."**

Robert Kaplan and David Norton
The Balanced Scorecard
Harvard University Press, 1996

The University of California must engage in continuous self-assessment to clarify business practices and to identify opportunities for control improvement for risk factors at both the Universitywide and individual campus level. Many of the internal controls priorities identified by UC senior administrative management, both in the Office of the President and at the campuses, are critical success factors for the New Business Architecture. These include:

- Managing the impact of enrollment growth on administrative organizations;
- The continued distribution of functions and activities to the campuses;
- The increasing complexity of policy and staff guidelines; and
- The need for a comprehensive approach to employee training and development.

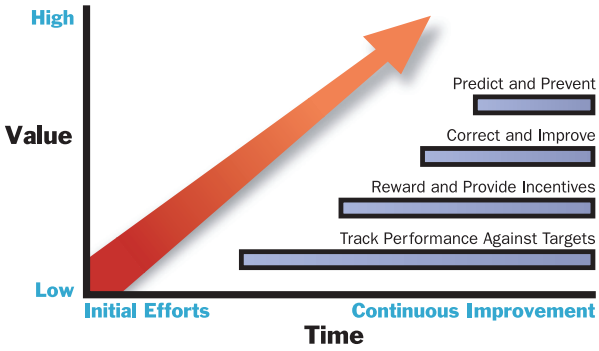
Other focus areas of the UC Internal Controls Initiative include proper stewardship of funds; effective management of UC sponsored research and medical center administration; and critical oversight of business partnerships with external organizations.

### Internal Controls Strategies:

- **Embed controls and related policies into business processes and business systems.**
- **Educate staff about risks and control issues in core business processes, particularly those that deliver critical or confidential information.**
- **Reassess internal controls regularly for proper alignment with business area strategies.**
- **Implement internal controls whose costs are in balance with the corresponding risk exposure.**

11 Developed by Kaplan and Norton, the balanced scorecard is a framework for strategic management of organizations. Building on the organization's vision, the balanced scorecard arrays goals and supporting performance measures in four quadrants, each of which presents a different perspective on performance: customer, financial, internal business and innovation and learning.

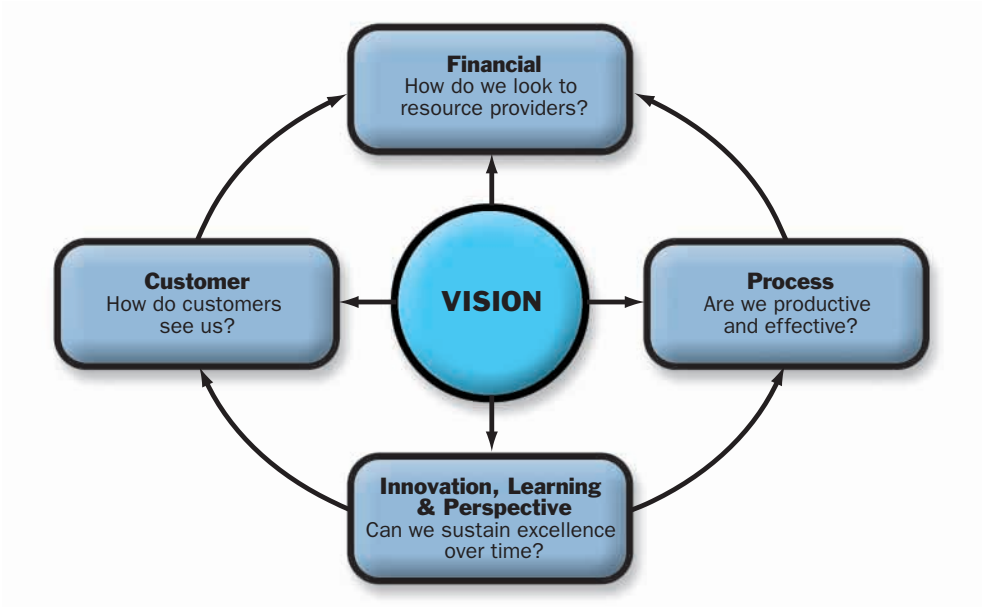
## Organizational Performance




- **Build Performance Metrics into Business Processes.** New and existing application systems must incorporate the tools necessary to capture, analyze and report relevant data pertaining to the overall performance of the University's business processes.

- **Optimize Performance Measures and Internal Controls Mechanisms to the New Business Architecture.** As staff perform more of their work via Web-based systems delivered on the desktop, performance indicators such as quality of work, effectiveness, efficiency, and customer satisfaction will take new forms. For example, measuring the time to complete a transaction may change from minutes, hours or days, to clicks of the mouse or number of times the "enter" key is hit.

- **Provide Incentives, Via Financial (and Other) Recognition and Reward Systems, to Staff Who Perform at the Highest Level.** When individuals, teams and units assess their operations, establish targets for improvement and achieve those targets, it is important that their efforts be appreciated and rewarded.




**Balanced Scorecard**
*Source: R. Kaplan & D. Norton*

- **Use Results for Action Planning & Intervention.** When data reveal performance problems or intolerable risk in critical business processes, this information must be readily available to the unit planning process during which future priorities and action plans are established and resources are allocated.

- **Communicate Results Back to Stakeholders.** Administrative units should define their service commitments based on customer needs and on realistic expectations. They then must communicate these commitments to their customers and stakeholders, and report periodically on their success (or failure) to meet these performance thresholds.

- **Keep It Simple & Easy to Maintain.** For many departments, a simple, concise model helps to communicate both future direction and current performance. A small number of key metrics that convey results from several different perspectives suffices, in most cases, to tell the story of the unit's effectiveness. The Balanced Scorecard will continue to provide a useful framework for UC campuses in the future.

- **Develop a Culture of Continuous Improvement.** A long-term strategy to track and manage organizational performance will provide the essential links between institutional goals and individual performance criteria.

### Organizational Performance Strategies:

- **Build performance metrics and internal control mechanisms into UC's key business processes and optimize them to the New Business Architecture**
- **Use performance data to develop and implement action plans for improvement**
- **Pursue performance measurement methodologies (e.g. balanced scorecard) that will reinforce a culture of continuous improvement by building on the UC Partnership for Performance initiative**
- **Recognize and reward business unit improvement initiatives and results**
- **Identify mechanisms to assess the effectiveness of the New Business Architecture**

## Next Steps

The Planning Group intends this document (and the New Business Architecture Web site — http://uc2010.ucsd.edu) to provide a vivid sketch of a new way of conducting the business of the University of California in the future. The recommendations in this report assume our collective ability to transform this vision into action. To move forward, we must commit to the following:


**Consultation** with campus business officers, Chancellors, and others to solicit ideas about the impact of the New Business Architecture and implementation issue.

**Financial strategies** that recognize the need to invest in UC's administrative infrastructure and provide a means to:

- Develop an analysis to determine the magnitude of the multi-year resource commitment required to implement the New Business Architecture;
- Identify investment priorities;
- Allocate seed money to fund proof of concept models and prototype development;
- Ensure the University's long-term commitment to provide the resources required to develop and deploy the systems referred to in this report.

**Strong leadership and sponsorship** for the guiding principles and strategies proposed in this report from the President, Chancellors and other University leaders at the Office of the President and the campuses.

**Strategic investment in training and tools** that will enable University staff to become Web-literate, and self-confident working in the new business model.

**Support for a culture that rewards innovation and embraces change** to continually improve UC business and administrative operations.

## Recommendations

### 1. Create Steering Committee and Action Teams

Create a UC2010 Steering Committee, chaired by the Senior Vice-President, Business and Finance, to oversee the implementation of recommendations outlined in this report. The Steering Committee will:

- Coordinate new and existing committees to pursue recommended strategies
- Establish timeframes and deliverables from implementation teams
- Provide communications within UC and external constituents
- Publish progress reports on the UC2010 Web site
- Solicit input and suggestions from business officers and other stakeholders
- Coordinate resource requirements and monitor budgets for initiatives
- Provide sponsorship, guidance, decision-making, and support of implementation activities

### 2. Refine the New Business Architecture Strategies Included in this Report

Following is a summary of the New Business Architecture strategies presented at the end of each report section. The Web-version of this document will facilitate the regular update, over time, of the above action plans to address the full range of strategies listed below. A rolling horizon of two to three years will serve to identify priorities, focus resources, and clarify the next courses to action that will be required.

#### A. Business Portal

- Develop a portal model that migrates from static Web pages to a database-driven environment with links to UC systems and campus data warehouses
- Develop a prototype Business Portal template, based on best practices in industry and in higher education, for adaptation and use by the campuses and the Office of the President
- Deliver consistent content for core business applications to UC staff via the Business Portal
- Develop a navigation model that allows new staff quick and intuitive access to integrated business information, transactions and online training
- Proceed with the Employee Systems Initiative (ESI) project recommendations as a first step in implementing the Business Portal prototype (See Appendix E)

#### B. People

- Improve Recruitment and Retention
  - Promote UC as an employer of choice
  - Streamline the hiring process
  - Expand outreach efforts to increase diversity
  - Create flexible benefits
  - Improve job design and classification
  - Institute market-competitive compensation

- Improved Professional Development and Productivity Strategies
  - Customize training approaches, including an online training and development curriculum to complement current training offerings
  - Expand training and development programs for core competencies in supervision/management, interpersonal skills, and basic technology
  - Expand and build upon professional development offerings in leadership and other professional skills for career mobility (classes, internships, fellowships, other experiential learning)
  - Create and build upon training programs and internships for staff to become information technology professionals (e.g. an in-house "IT University")
  - Develop new on-site and off-site initiatives to deepen skills in managing complexity
  - Deploy additional staff resources when required by significant growth or new requirements
  - Strengthen orientation and acculturation initiatives to build community
  - Improve workforce planning, including labor-management partnerships

### C. Processes & Policies

- Engage an external consultant to assist UC in an aggressive examination of current processes, policies and procedures for relevancy and value to the UC mission. Identify the simplest, most effective processes among UC campuses and replicate them Universitywide
- Redesign key business processes to the 80/20 rule and estimate the risk exposure levels that need to be accommodated
- Incorporate simplified policies into the "how to" and "expert help" components of the New Business Architecture
- Delegate authority and responsibility to the most-informed level of decision-making in the organization

### D. Enabling Technology

- Develop an electronic commerce solution for the University of California
- Implement a common UC solution for electronic procurement
- Allocate resources and implement the UC Employee Systems Initiative (ESI) — See Appendix E
- Identify self-service application opportunities for both staff and customers
- Adopt industry technology architectures and standards for Web-based applications, electronic data interchange and wireless and mobile technology
- Eliminate paper-based processes and forms within two years; make data digital from the start to facilitate E-commerce solutions
- Ensure adequate authentication and security by implementing PKI and other digital security tools

### E. Financial Systems & Reporting

- Implement common data-sharing protocols that link existing campus financial systems and provide Universitywide financial reporting and management information
- Identify and define UC financial reporting requirements, particularly Office of the President and the Board of Regents

- Provide access to all financial transactions and reporting via Web-based applications
- Provide flexible tools for financial analysis and reporting, both at the campuses and Office of the President
- Guarantee a secure environment for the sharing of financial information within the University and with external business partners
- Provide Web-based training in the use of financial systems tools
- Provide feedback mechanisms to staff on the design and functionality of the integrated financial system

### F. Internal Controls

- Embed controls and related policies into business processes and business systems
- Educate staff about risks and control issues in core business processes, particularly those that deliver critical or confidential information
- Reassess internal controls regularly for proper alignment with business area strategies
- Implement internal controls whose costs are in balance with the corresponding risk exposure

### F. Organizational Performance

- Build performance metrics and internal control mechanisms into UC's key business processes and optimize them to the New Business Architecture
- Use performance data to develop and implement action plans for improvement
- Pursue performance measurement methodologies (e.g. balanced scorecard) that will reinforce a culture of continuous improvement by building on the UC Partnership for Performance initiative
- Recognize and reward business unit improvement initiatives and results
- Identify mechanisms to assess the effectiveness of the New Business Architecture

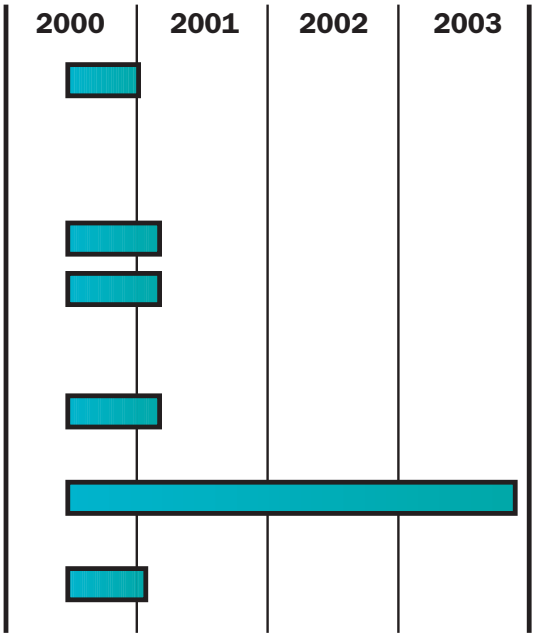
## 3. Develop a Timeline for Recommended Strategies Over the Next Two Years

Each section of this report contains a set of strategies for implementing changes that will ensure the future success of the New Business Architecture. Some strategies are long-term and directional in nature; others are specific and immediately actionable. In total, they present a roadmap that the University can follow to translate strategies into action.

The following chart presents a three-year horizon for initial planning and implementation of key components of the New Business Architecture. Regular reviews of and updates to this action plan will ensure that it is current and in alignment with the strategies and objectives discussed in this report.

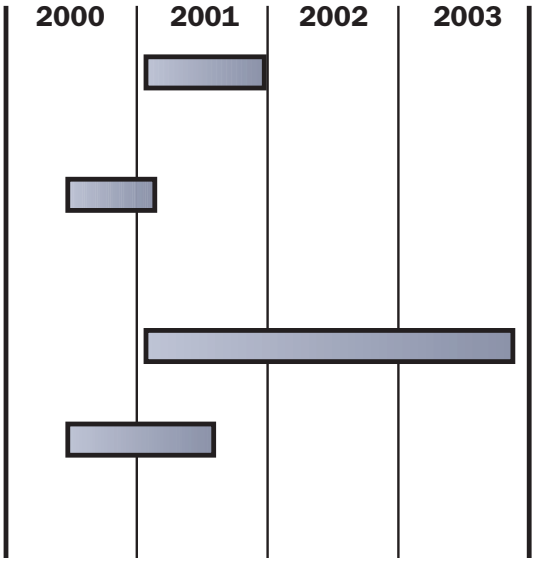
### UC2010 Steering Committee

- Convene the UC2010 Steering Committee (Senior Vice President, Business and Finance) and:
  - form new implementation committees
  - identify linkages to existing UC committees
- Identify investment priorities and resource requirements
- Establish timeframes and deliverables for the components and activities associated with the New Business Architecture
- Consult with business officers, chancellors, and others on new business architecture
- Provide sponsorship, guidance, decision-making, and support of implementation activities
- Establish Web site for progress reports, and soliciting input




### Business Portal Team

- Develop a portal model that migrates from static Web pages to a database-driven environment with links to UC systems and campus data warehouses
- Develop a prototype Business Portal template, based on best practices in industry and in higher education, for adaptation and use by the campuses and the Office of the President
- Deliver consistent content for core business applications to UC staff via the Business Portal
- Develop a navigation model that allows new staff quick and intuitive access to integrated business information, transactions and online training



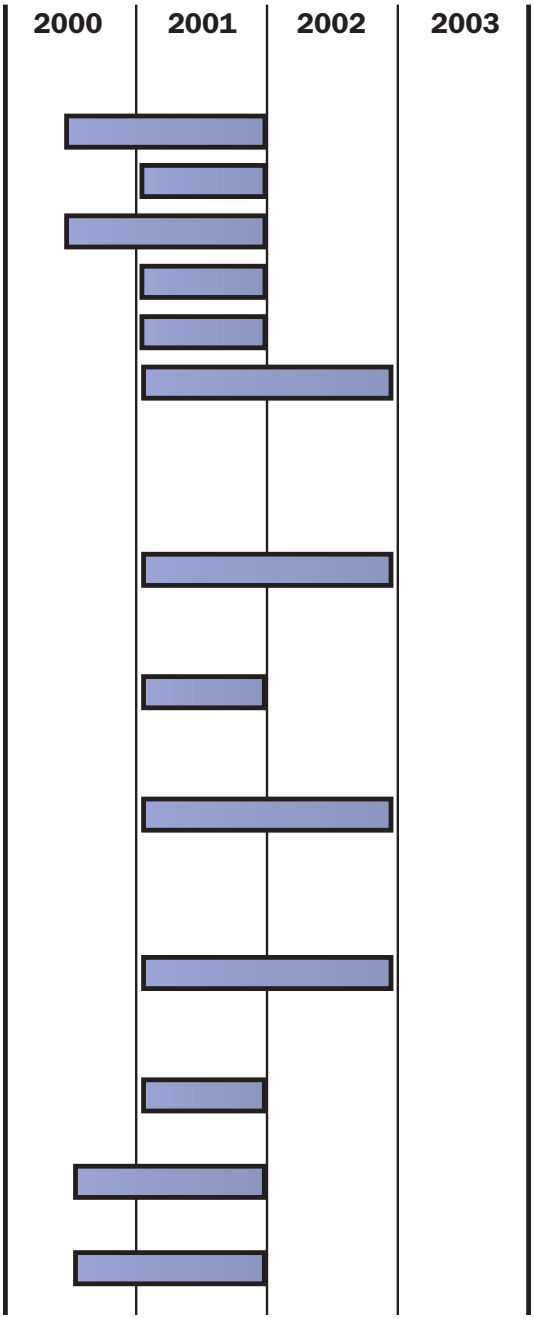
**People Team**

**Improve Recruitment and Retention**

- Promote UC as an employer of choice
- Streamline the hiring process
- Expand outreach to increase diversity
- Create flexible benefits
- Improve job design and classification
- Institute market competitive compensation

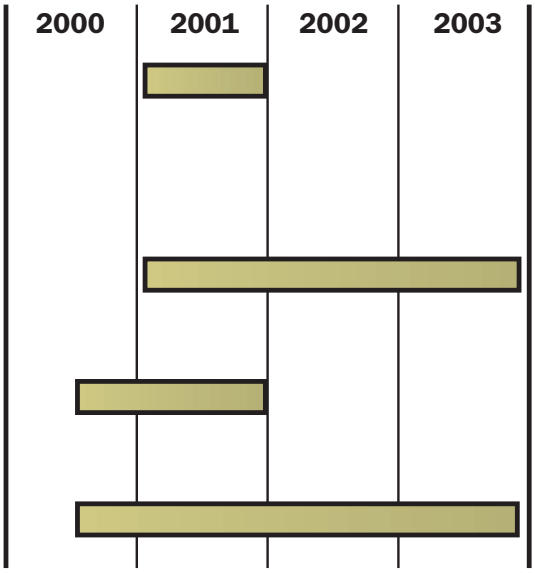
**Improve Professional Development and Productivity Strategies**

- Customize training approaches, including an online training and development curriculum to complement and enhance current training offerings
- Expand training and development programs for core competencies in supervision/management, interpersonal skills, and basic technology
- Expand and build upon professional development offerings in leadership and other professional skills for career mobility (classes, internships, fellowships, other experiential learning)
- Create and build upon training programs and internships for staff to become information technology professionals (e.g., an in-house "IT University")
- Develop new on-site and off-site initiatives to deepen skills in managing complexity
- Strengthen orientation and acculturation initiatives to build community
- Improve workforce planning, including labor management partnerships



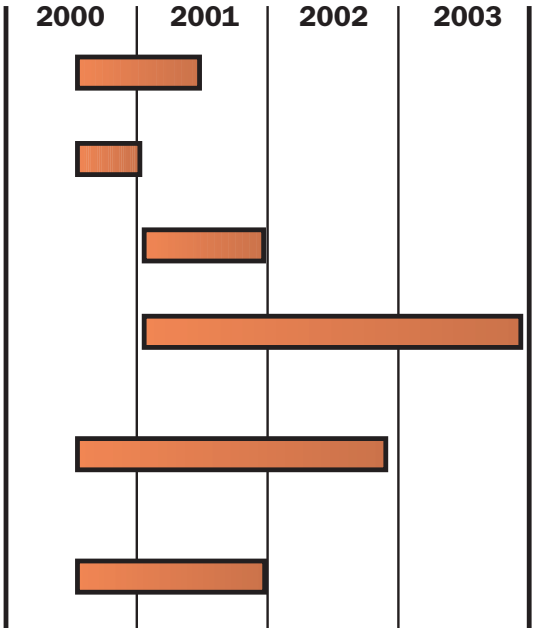
### Process and Policy Team

- Engage an external consultant to assist UC in an aggressive examination of current processes, policies and procedures for relevancy and value to the UC mission; identify the simplest, most effective processes among UC campuses and replicate them Universitywide
- Redesign key business processes to the 80/20 rule and estimate the risk exposure levels that need to be accommodated
- Incorporate simplified policies into the "how to" and "expert help" components of the New Business Architecture
- Delegate authority and responsibility to the most-informed level of decision-making in the organization




### Enabling Technology Team

- Develop an electronic commerce solution for the University of California
- Allocate resources and implement the UC Employee Systems Initiative (ESI)
- Identify self-service application opportunities for both staff and customers
- Adopt industry technology architectures and standards for Web-based applications, electronic data interchange and wireless and mobile technology
- Eliminate paper-based processes and forms within two years; make data digital from the start to facilitate e-commerce solutions
- Ensure adequate authentication and security by implementing PKI and other digital security tools



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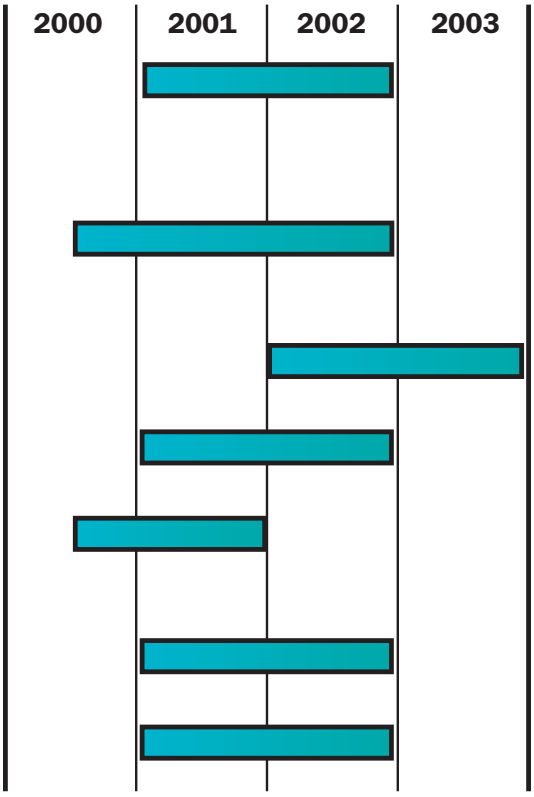


### Internal Controls Team

- Embed controls and related policies into business processes and business systems
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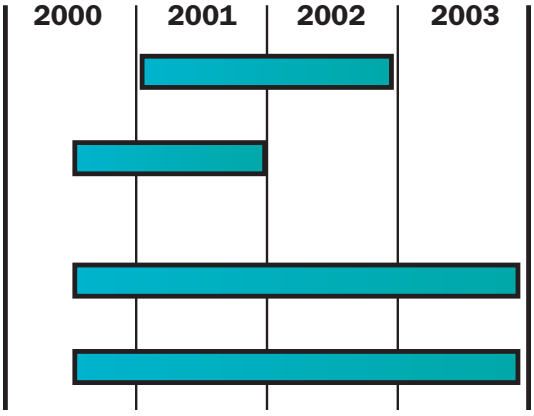

**Organizational Performance Team**

- Build performance metrics and internal control mechanisms into UC's key business processes and optimize them to the New Business Architecture
- Use performance data to develop and implement action plans for improvement
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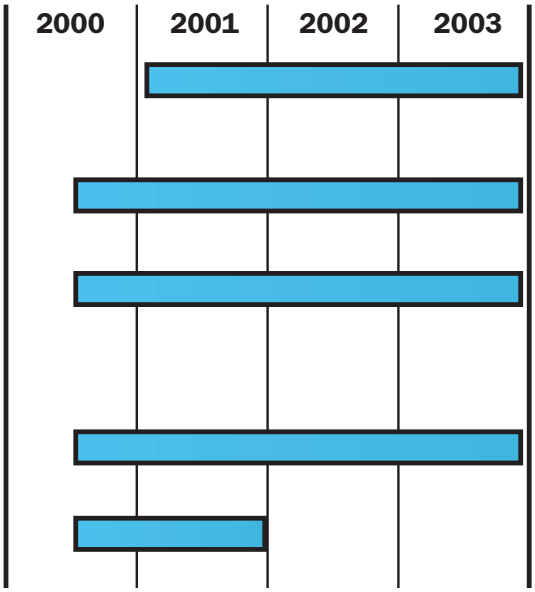



UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO • SANTA BARBARA • SANTA CRUZ

SENIOR VICE PRESIDENT —
BUSINESS AND FINANCE

January 3, 2000

VICE CHANCELLOR BARCLAY
VICE CHANCELLOR BLACKMAN
ASSOCIATE VICE PRESIDENT BOYETTE
VICE CHANCELLOR BRASE
VICE PRESIDENT BROOME
ACTING ASSOCIATE VICE PRESIDENT DOLGONAS
VICE CHANCELLOR RELYEA
VICE CHANCELLOR VANI

Subject: A New Business Architecture for the University of California

There has been much discussion about the impact of enrollment growth on the University of California from now until the year 2010. This discussion has focused primarily on the impact on student growth, the capital program, faculty recruitment, academic programs, and other related issues. However, there also needs to be serious consideration given to the impact of this growth on the business functions of the University.

Between the years 2000 and 2010, significant enrollment growth will be accompanied by growth in innovative industrial partnerships, philanthropy, sponsored research, complexity of government regulations, and increased scrutiny by our constituents. These factors will markedly increase business transactions on the campuses and the Office of the President. It is also likely that during the coming decade, we will not see a proportionate investment in the administrative infrastructure to adequately handle this increase in transactions and workload.

At the recent Administrative Vice Chancellor retreat, we discussed the need to begin thinking about a New Business Architecture that would allow campus departments, administrative operations, and UCOP to support the growth of the University over the next decade. I ask that you participate in a small planning group to consider elements of this architecture, which may include the following seven components:

- ***Process Redesign Component:*** A focused approach to redesign a core set of business processes, common to all campuses, in order to reduce the transactional workload of campus academic departments and functional offices;

- ***HR Component:*** A Human resources strategy that increases UC's competitiveness in a tight labor market and includes aggressive recruitment approaches, flexibility

in compensation, and work life policies that will attract and retain the next generation of staff;

- ***Web Business System Component:*** A Web-based infrastructure for business processes that provides intuitive navigation and seamless integration among business applications, policies, expert help, and online training;

- ***Internal Controls Component:*** An internal controls framework that ensures continuation of an appropriate stewardship of UC's resources, is driven by risks identified by the campuses, and is responsive to the Office of the President and Regents' oversight of University assets;

- ***Financial Reporting Component:*** A new model for consolidating and communicating campus financial, payroll, and personnel information to UCOP utilizing emerging internet-based standards, resulting in improved resource management and more timely and flexible reporting;

- ***E-Commerce Component:*** A coordinated effort to leverage e-commerce strategies to streamline campus transactions with vendors, staff, and the Office of the President;

- ***Organizational Performance Component:*** A management tool that will allow campuses to collect key metrics that assess the effectiveness of the overall business architecture including financial performance, process effectiveness, and our ability to meet the needs of our customers and constituents.

I anticipate that the report of this planning group will serve as a context and starting point for a series of strategic initiatives that will reshape how the University conducts its business in order to support UC's growth over the next decade. I have asked Vice Chancellor Steve Relyea to chair the planning group and Director Kris Hafner has agreed to staff the group. I ask that you provide your report to me by June 1, 2000.

I am prepared to meet with the committee on a frequent basis to further develop the above components. Your participation in this important effort is appreciated.

Sincerely,

V. Wayne Kennedy
Senior Vice President

cc: President Atkinson
President's Cabinet
Chancellors
Vice Chancellors for Administration

## University of California
## Control Initiative Priority Focus Areas

(No order of importance implied)

**Impact on administrative functions as a result of growth**
Administrative impacts on the University's teaching, research and public service mission as a result of the anticipated "Tidal Wave II". This risk factor may be greater for campuses with higher growth targets.

- Increase in number of faculty and department sizes
- Increasing administrative workload with limited resources
- Student enrollment related to administration (e.g. housing and registration systems)
- Equitable resource and space allocation to accommodate growth

**Effects of a decentralized environment**
The University's decentralized campus environment, coupled with the increased need for understanding of roles, responsibilities and accountability standards.

- Coordinated approach to training and maintaining a trained workforce
- Complex policy and guidelines for staff
- Control culture in the work environment
- Duplication of effort and inconsistency in departmental operations
- Pricing effectiveness of decentralized purchasing and travel

**Sponsored Research**
As a research institution, accurate management of all aspects of contracts and grants is a key function.

- Complex pre- and post-award processing (e.g. cost transfers and effort reporting)
- Increased regulations and compliance requirements for public and private awards
- Accountability to sponsors and the public (e.g. overspending, research misconduct)

**Stewardship of Funds**
Two broad areas include appropriateness of expenditures (how the funds are spent) and systems to make the expenditures (accuracy and completeness of payments, data security).

- Complex and numerous financial systems, subsystems, related processes and reporting requirements
- Compliance (e.g. tax, small business program)
- Financial system controls and data integrity

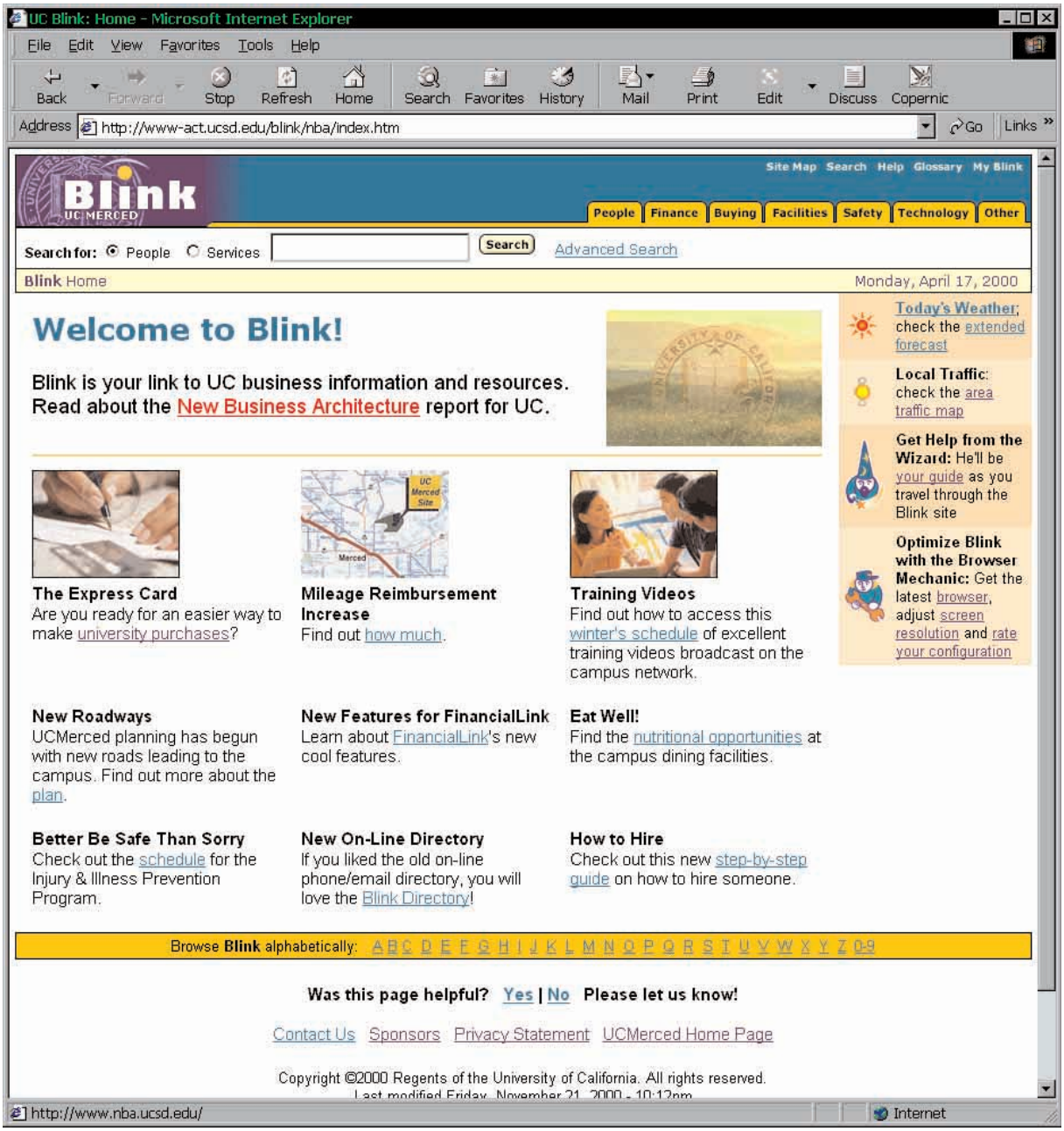
**Health Services**
For those campuses with medical center operations, three broad areas of risk include:

- Funds at risk (e.g. health care reimbursement, medical center profitability)
- Compliance with regulations (e.g. billing practices)
- Patient care mission

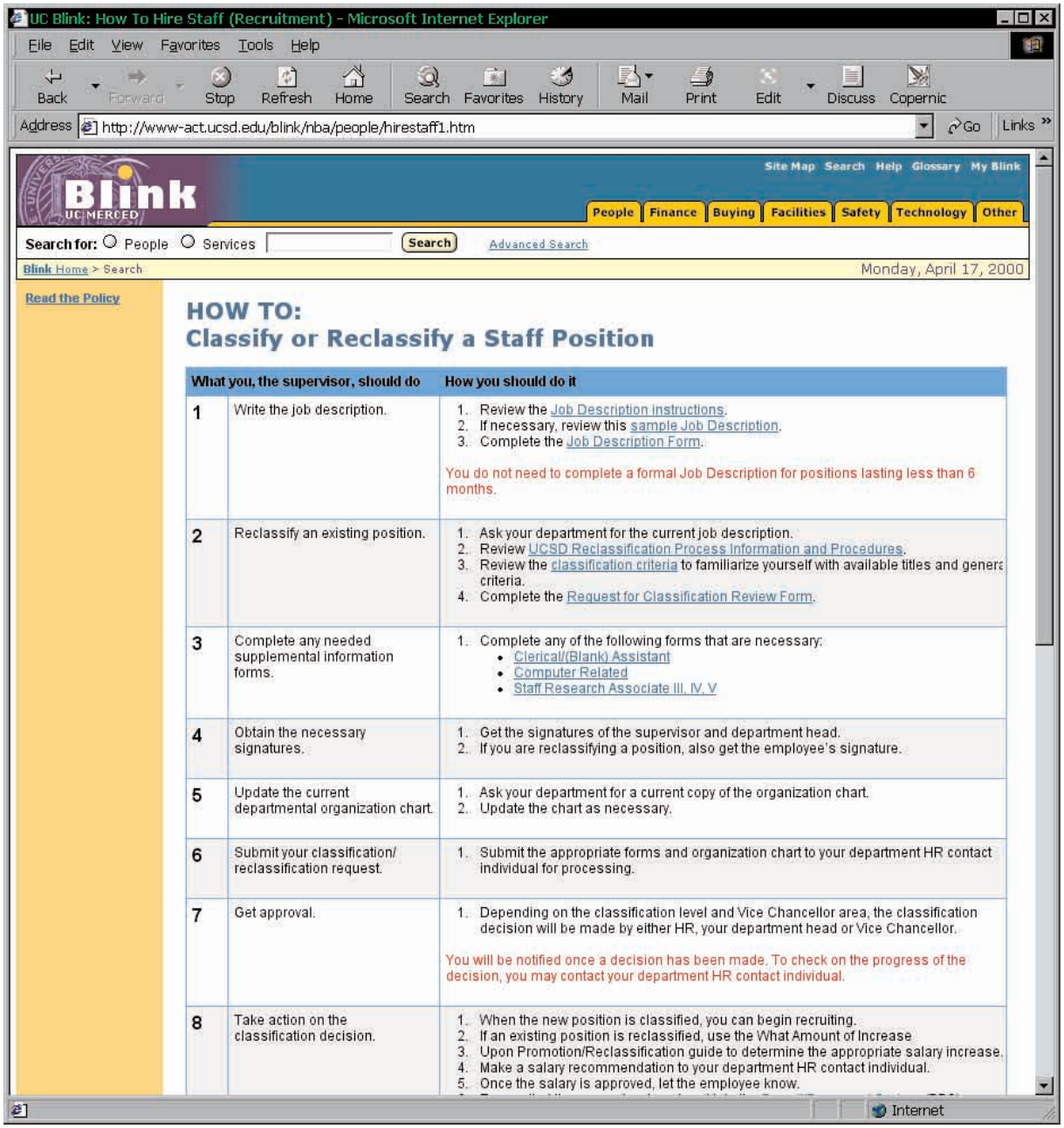
**External Partnerships**
The potential risks involved in forming business partnerships with external organizations and committing University resources to such arrangements.

- Technology transfer
- Faculty / industry private partnerships, due diligence processes
- Conflict of interest / conflict of commitment

## University of California
## Illustration of Portal Concept



## University of California
## Illustration of Portal Concept



## Summary of Recent UC Business Process Redesign Activity

### Survey Design

When considering courses of action to improve the University's business processes and accompanying policy and guidelines, the Planning Group decided to deploy a survey to the nine UC campuses and Office of the President to gather information on recent business process redesign efforts. The survey asked each respondent for the following information about the 5-10 most significant business or administrative processes redesign efforts over the past decade:

- Description of the redesign effort
- Redesign objectives
- The extent to which these objectives were achieved or not achieved
- The effects of UC administrative and business policies on the redesign effort
- The effects of the campus (or Office of the President) workplace culture on the redesign effort
- New risks identified during the redesign effort and how they were addressed.

### Summary of Survey Results
### Types of Redesign Efforts Reported

| Campus | Budget/ Accounting | Human Resources | Purchasing/ Procurement | Info Systems Infrastructure | Student Services | Travel | Parking | Equipment Management | Sponsored Research | Other |
|---|---|---|---|---|---|---|---|---|---|---|
| **Berkeley** | 4 | | 1 | | | | | | | |
| **Irvine** | 1 | | 1 | | 1 | 1 | 2 | 1 | 3 | |
| **Los Angeles** | 2 | 2 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 7 |
| **San Diego** | 2 | 3 | 1 | 2 | | 1 | | | 1 | 2 |
| **San Francisco** | 1 | 3 | 2 | 2 | | | | | | 3 |
| **Santa Barbara** | 3 | 1 | 2 | | | 1 | | | | |
| **Santa Cruz** | 3 | 1 | 2 | | 1 | | | 1 | | 1 |
| **Office of the President** | | 5 | | | | | | | | |
| **TOTAL** | **16** | **15** | **12** | **5** | **5** | **4** | **3** | **3** | **2** | **14** |

## Objectives of UC Campus and Office of the President Redesign Efforts

**(The following chart includes multiple objectives for some individual redesign efforts)**

| Objective | Instances |
|---|---|
| Streamline process, improve efficiency/productivity | 43 |
| Improve customer service | 23 |
| Improve accountability, compliance with policies, internal control, or reduce errors | 22 |
| Improve access to information | 18 |
| Automate manual, paper-based portions of process | 15 |
| Improve quality of information | 12 |
| Eliminate/reduce redundancy | 8 |
| Improve process functionality | 6 |
| Consolidate disparate processes, support, training | 5 |
| Improve reporting system | 3 |
| Consolidate information in a single location or system | 2 |
| Enhance flexibility of information system infrastructure | 2 |
| Improve communications between depts/units | 2 |
| Accommodate emerging business needs | 1 |
| Accommodate growth | 1 |
| Enhance flexibility | 1 |
| Improve work environment | 1 |
| Obtain more favorable pricing, vendor terms | 1 |
| Process transactions in central office | 1 |
| Standardize process | 1 |

## Survey Response Summary

### Effects of UC Administrative and Business Policies on Redesign Efforts*

- UC policies do not adequately address electronic transaction processing issues. (3 campuses)
- UC transaction approval policies impede some redesign efforts. (2 campuses)
- Controls of marginal value are implemented in redesigned processes to comply with UC policy requirements.
- Financial reporting requirements are overly complicated.
- Audit and documentation retention requirements adversely affect process redesign.
- Accommodating the processing requirements imposed by multiple personnel merit programs requires making extensive modifications to new systems.
- Supporting a variety of computing platforms across the campus created additional challenges in redesigning processes.
- Security and access policies have to be taken into consideration in allowing the appropriate staff access to data.
- Federal agency requirements affect the process redesign effort.
- Process owners need to coordinate policies to facilitate redesign efforts.
- Definition of data elements needs to be changed.

### Effects of Campus Workplace Culture on Redesign Efforts*

- Redesigned processes often require a greater level of accountability among staff (process operators).
- Variation in staff skills and knowledge requires additional training and support. (4 campuses)
- Some staff are resistant to change. (4 campuses/OP)
- The redesign effort is sometimes perceived as a way of transferring workload from central offices to departments. (2 campuses)
- Earlier, ultimately successful redesign efforts smoothed the way for later redesign efforts. (2 campuses)
- Providing open communication among parties of interest is important. (2 campuses)
- Some staff are not willing to adapt to a redesigned process/system that meets overall campus needs, but not necessarily their specific needs. (2 campuses)
- Process owners and process operators have different perspectives as to what constitutes good/adequate "customer service."
- The redesign effort improved communication, student service and provided greater autonomy to student service departments.
- As a result of departmental staff initiating transactions online, they expect faster transaction turn-around times.
- Campus-wide teams provide ongoing direction for the redesign efforts.

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✶ Bernard W. Gleason, Boston College, White Paper: "University-wide Information Portal Concepts and Recommended Course of Action", January 26, 2000.

- The success of redesign efforts is dependent on support from campus executives.
- In implementing a one stop "help desk" service, staff who formerly provided customer service felt a loss of control when inquiries were directed through the centralized "help desk."
- Access to data is limited due to security concerns.
- Focusing too much on roles and responsibilities in the redesign process results in introducing too many controls.
- An "open workplace" culture helped to achieve buy-in by encouraging broad-based participation in redesign effort.
- The technical infrastructure was in place to support redesign effort.

Several campuses provided comments related to the results of their redesign efforts. They include the following:

- Improved accountability
- More opportunities for cross-training
- Departments having greater control over the timing of the process
- Empowering system/process users
- Improved communications
- Awareness of costs

## UC Employee Systems Initiative (ESI) Overview

As part of the Employee Systems Initiative (ESI) project, plans are already being developed to design and implement several components of the New Business Architecture report. These include the following:

- Streamlining and simplification of HR and Payroll policies, processes and procedures, leading to the selection and implementation of an HR system
- Development of the HR and Payroll components of an integrated Business Portal and campus-wide data warehouse

The ESI project will begin with simplification of HR and Payroll policies and processes. Looking first to lessons learned from previous policy and process projects performed at UC, a series of guiding principles for process change will be developed. These principles will be used to identify and categorize system-wide and local-campus policies and processes.

Following the identification stage, the team will work across campuses to streamline and optimize local-campus policies and procedures based on best practices across the UC system. At the same time, the team will be working across the University to synchronize and streamline system-wide policies and processes. The expected outcome will be both process and policy improvements and an understanding of campus and institutional HR system requirements. This will allow the team to evaluate HR solutions in the market place and make recommendations regarding the best HR system strategy to pursue. As part of the second phase of the ESI project a HR system will be implemented across all UC campuses.

At the same time as the policy and process work is being performed, another team will be focusing on developing HR and Payroll components of the integrated Business Portal and institutional data warehouse. The team will begin by developing an HR / Payroll Business Portal Strategy. To aid in the development of the portal, the team will refine UC's HR data warehouse strategy to meet the needs of both system-wide and local-campus needs. Next, a system-wide data model will be developed that accommodates both Business Portal and information reporting requirements at the local-campus and system-wide level. This will allow the team to develop an enhanced corporate HR data warehouse and also to prototype and implement the HR and Payroll components of the Business Portal.

In addition to the above, plans are being made to extend the life of the existing payroll system, PPS. System enhancements will be developed to provide for missing functionality, including unlimited appointments/distributions and effective dated transactions. Also, implementation of an automated time and attendance system is being considered.

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