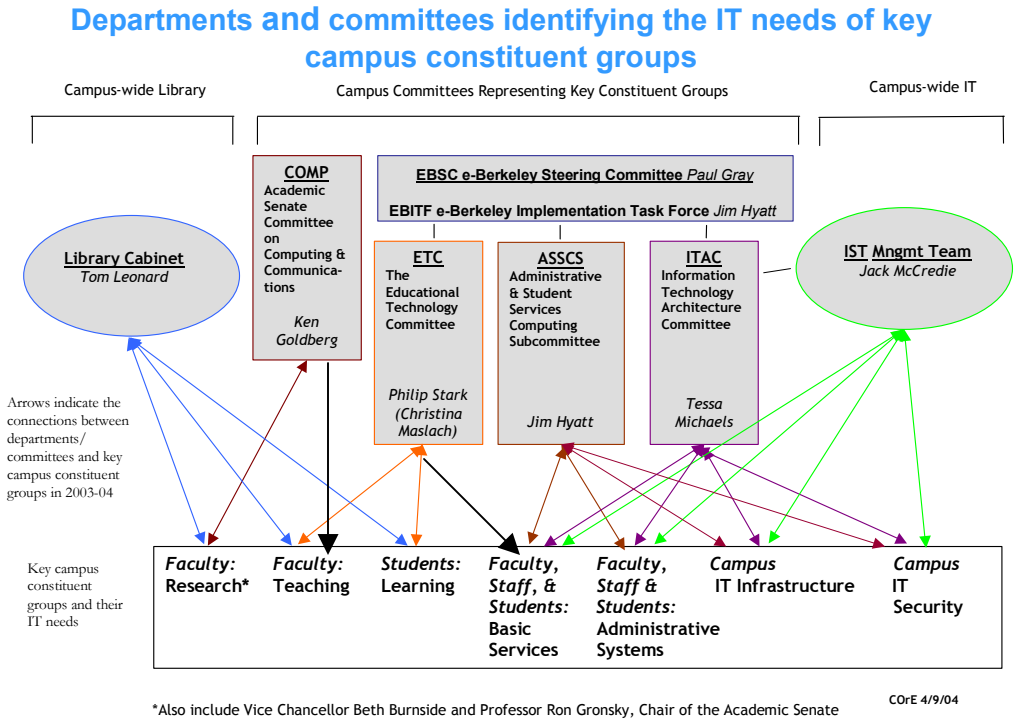
Information Technology Strategic Planning

"The campus of the future must support the seamless interaction of wired and wireless technologies across the domains of education, research and administration."[1]

"UC Berkeley's information technology infrastructure should augment the creative capabilities of all members of the campus community, encourage new modes of learning, teaching and research, help to dissolve boundaries between classrooms and laboratories, and extend the boundaries of the campus by making our treasured collections available throughout the world."[2]

The UC Berkeley Strategic Academic Plan defined the "Essence of Berkeley" and set the overall direction for academic programs and long-range campus development. Since the academic strategic plan did not provide many details about the kind of information technology (IT) infrastructure needed to support its vision, the Academic Senate recommended in spring 2003 that a separate campus-wide IT planning process be undertaken.



In fall 2003, Executive Vice Chancellor and Provost Paul Gray asked Professor Ken Goldberg, chair of the Academic Senate Committee on Computing and Communications (COMP), and Jack McCredie, Associate Vice Chancellor and Chief Information Officer, to lead the process to develop an information technology (IT) strategic plan for UC Berkeley. Katherine Mitchell, an internal campus consultant from the Center for Organizational Effectiveness (COrE), coordinated the process and served as the facilitator for many of the planning meetings.

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[1] University of California, Berkeley Strategic Planning Task Force, UC Berkeley Strategic Academic Plan, 2002, Page 22, http://spc.vcbf.berkeley.edu/document/AcademicStrategicPlan.pdf

[2] Campus Information Technology Planning Team – draft principles and themes, April 2004

The goals for Phase I of the planning process are to define:

- The guiding principles for developing and managing information technology at UC Berkeley
- The most important IT opportunities and challenges that UC Berkeley must address in the next five years in order to survive and thrive
- A prioritized list of initiatives and operational improvements to address the opportunities and challenges

Beginning in February 2004, more than 200 members of the UC Berkeley community, from ten committees that advise and set policies for campus IT activities, were engaged in a collaborative IT strategic planning process. These individuals represent key campus constituencies as illustrated above. In addition, COMP surveyed department chairs about IT needs. Summaries of the IT strategic planning process and outcomes are available at: http://technology.berkeley.edu/

Current and desired future states of IT at UC Berkeley

Each advisory committee participated in an exercise to characterize our current environment, to describe the attributes we would like to have in a desired future, and to define the critical issues keeping us from reaching that desired state. The most common words used in these exercises follow.

CURRENT STATE

complex	distributed	networked
confusing	diverse	siloed / stovepiped
constrained	expensive	slow
decentralized	fragmented	unaligned / uncoordinated
disorganized	inefficient	underfunded

DESIRED FUTURE

accessible	easy-to-use	seamless
adequate	efficient	secure
collaborative	excellent / exemplary	ubiquitous
customer focused & friendly	innovative	well-funded
cutting edge / state-of-the-art	integrated	wireless

Critical opportunities and challenges

Each committee then identified several areas in which the campus faces significant IT-related opportunities or challenges. The coordinating group for the process then organized these areas into five main categories.

LEARNING / TEACHING ENVIRONMENTS

Learning and teaching are at the heart of UC Berkeley's mission. However most of the teaching activities on our campus, and in most universities, are performed much as has been done in the past. Technology has been introduced in our classrooms only at the margins, and slower than at other leading institutions. The resulting state of our classrooms, with respect to learning technologies, is significantly below that of our peers. UC Berkeley faculty and staff have a great opportunity to explore new modes of learning and to contribute to the development of how IT technologies can augment the learning experiences of our students.

INFORMATION TECHNOLOGY SUPPORTING RESEARCH

UC Berkeley is an engine of discovery and advancement for society. Our IT infrastructure needs to support this vital role and take advantage of our location in the Bay Area. IT is now used for research in almost all disciplines for activities including communication (e.g., email), scholarship (web/library access), mentoring/training, experimentation, publication and reporting, presentation, data collection, archiving, fundraising, administration, and budgeting. The campus must support a baseline of IT resources for all faculty to enable them to carry out their diverse research agendas. The campus must also better support its information intensive research centers such as the Center for Information Technology Research in the Interest of Society (CITRIS), the Institute for Biomedical Research (QB3), and its five major "New Ideas Initiatives."

CUSTOMER DEMAND FOR SECURITY, RELIABILITY, AND ACCESS

The Internet as it has existed for the past 30 years is no longer viable; the open, unauthenticated, unconstrained environment is no longer meeting the mission critical demands everyone is placing on it. We have a long way to go to make our environment more secure and reliable while maintaining the kind of access required of an open university. Balancing security and access poses one of the greatest threats to our ability to achieve our IT strategic vision.

IT FUNDING AND GOVERNANCE

Clearly California's current financial crisis is exacerbating problems UC Berkeley faces in modernizing its campus-wide IT infrastructure. Funding was the challenge most often cited, by a wide margin, in our campus discussions. Demand for more and better IT services continues to expand rapidly while available resources are shrinking. Without a sustainable funding model to support IT, the campus infrastructure will lag further behind our competition and then deteriorate significantly. The complex web of committees that has evolved to advise and to set IT policies includes representatives from all corners of the campus. All parties involved, however, agree that campus procedures for making IT-related decisions need to be reviewed, and that the allocation of technical responsibilities and budgets (between central and department, or college-related units) needs to be better coordinated.

IT EXPERTISE AND COORDINATION

UC Berkeley is blessed with a dedicated cadre of faculty and staff who love Cal. However, the campus faces a severe problem in recruiting new IT professionals to replace the many individuals who will be retiring in the near future and who are leaving the campus because of the significant, and growing, gap between University of California compensation and the external marketplace in the Bay Area. Without an excellent staff, the IT infrastructure will collapse.

IT Guiding Principles for UC Berkeley

The University of California, Berkeley is complex in both its organization and its technology, requiring that competing information technology (IT) needs be carefully evaluated to ensure the optimal use of limited resources. Information technology decisions makers must therefore balance**:**

innovation vs. stability/reliability
standardization vs. autonomy/experimentation
accessibility vs. security/privacy
consensus vs. efficiency in decision making
centralized vs. distributed services
proprietary vs. open source

In this context, the following principles emerge:

- **SUPPORT FOR TEACHING AND RESEARCH:** We will provide a responsive IT environment that enriches and enhances learning and creativity.
- **INTEGRATION AND INCLUSION:** Information technology will help UC Berkeley fulfill its teaching, research, and public service mission—to create, apply, and share knowledge with the citizens of California and the world—by allowing members of the campus community to communicate, collaborate, learn, and disseminate, within and across disciplines and campus borders.
- **SECURITY AND RELIABILITY:** Increasingly, the intellectual property and resources of our students, faculty, and staff are in electronic form, requiring that the campus IT infrastructure be stable, safe, and secure.
- **UBIQUITY:** We will ensure essential connectivity for the entire campus, with basic standards of support for all departments and classrooms.
- **EASE OF USE:** Campus applications, systems, communications devices, and classroom technologies will be integrated and easy to use.
- **ALIGNMENT:** Campus priorities will drive UC Berkeley's IT strategies and investments. Information technology requirements differ among fields, and UC Berkeley will strive to allocate resources appropriately and accountably, anticipating and adopting IT innovations and standards where beneficial to the campus as a whole.
- **INFORMATION TECHNOLOGY EXCELLENCE:** Teaching, research, and public service require information technology that meets the highest standards of excellence. We will evaluate the quality of IT with the same rigor as the rest of our university programs.