Creating a UC Cyberinfrastructure

REPORT OF THE UNIVERSITY OF CALIFORNIA

Information Technology Guidance Committee

December 2007

Executive Summary

In January 2006, the Information Technology Guidance Committee (ITGC), a group of University faculty, academic and business leaders, librarians, and chief information officers was charged by UC Provost Rory Hume to engage in a consultative, UC-wide planning process to identify and recommend strategic directions to guide investments in information technology (IT) and the academic information environment. The formation of this committee recognized the increasingly important role that IT plays in sustaining and enhancing the University's academic quality and competitiveness, as well as ensuring essential business effectiveness and efficiencies. Vice Provost of Academic Information & Strategic Services Dan Greenstein and Associate Vice President & Chief Information Officer Kristine Hafner served as ITGC co-conveners.

Through the creation of issue-focused work groups with broad campus representation, the ITGC offered a forum to explore how strategic investments in information technology and systems will advance the University's academic mission. (The scope of the ITGC did not include UC's five medical centers or the national labs, although continued partnerships among the campuses and their IT organizations are crucial). A wide range of campus and UC-wide groups provided input throughout the ITGC planning process (two rounds of campus visits were conducted), and this report's recommendations reflect this extensive consultation within the community.

The need for the University of California to harness the strengths of its 10 distinctive campuses is echoed throughout the final ITGC report (published December 2007). It identifies opportunities to collaborate and co-invest in a UC information technology "cyberinfrastructure" that avoids redundant or incompatible solutions to the University's pressing IT needs. It proposes a foundation in support of research, scholarship and instruction across the campuses, via a shared platform of essential IT infrastructure and services.

The report is also an invitation to UC's IT leaders to play an expanded role in partnership with campus academic and administrative leaders to identify UC-wide IT priorities and mobilize to address them. UC's future IT initiatives must be shaped by systematic planning, collaboration and sharing of best practices and expertise in order to succeed in an environment of eroding public support and increased expectations of IT.

The University's institutional road map increasingly calls for technology-enabled services in every area of our mission. Investment in IT at the institutional level must be considered as fundamental as other infrastructure investments — a part of the cost of doing business for any research university. At the University of California, our local, state, national and global competitive strengths depend directly on our ability to plan for and deploy information technology for strategic advantage.

Summary of Recommendations

The recommendations in the ITGC report are organized in three categories: The Way Forward, Infrastructure and Services.

THE WAY FORWARD

Recommendation 1: Establish the IT Leadership Council as the UC-wide IT governing body

Acknowledging the critical systemwide role of the IT Leadership Council (ITLC), which consists of Chief Information Officers from the campuses, medical centers and Lawrence Berkeley National Laboratory, the ITGC believes the ITLC should be recognized as the UC-wide IT governance body. The ITLC should work in close collaboration with academic and administrative leaders at both the campus and systemwide levels.

Recommendation 2: Fund IT as critical infrastructure

The ITGC emphasizes the necessity to fund information technology as critical infrastructure, and to change current funding models to provide sustainable, renewable funding.

Recommendation 3: Apply proven collaboration models

Collaboration is the way forward. To advance and leverage IT initiatives UC-wide, a variety of proven collaboration models are required, including multi-campus initiatives, functional collaborations and system-led initiatives.

INFRASTRUCTURE

Recommendation 4: Invest in network connectivity

The University must invest in updating UC's network infrastructure, by connecting all UC institutions to the robust backbone network operated by the Corporation for Education Network Initiatives in California (CENIC) and by continually expanding network bandwidth and computing capabilities to anticipate growing faculty and researcher demand.

Recommendation 5: Plan for the next-generation UC data center infrastructure

The University must employ cost-effective and environmentally sound practices for the management of current data center infrastructure. To assess and address future needs and challenges, we must develop a new blueprint for providing scalable data center services to the UC community, services designed to leverage investments to accommodate future growth in computing demands.

Recommendation 6: Develop IT infrastructure, tools and services to support collaboration within the UC community

The University should deploy IT infrastructure, tools and services to support collaboration within the UC community.

SERVICES

Recommendation 7: Develop UC Grid research cyberinfrastructure services

The University should build upon the current UC Research Grid prototype to create and deliver reliable, robust high-performance computing services and tools to research faculty who do not need (or cannot afford) to manage their own separate computing facilities.

Recommendation 8: Create the capacity to manage our digital assets

The University should create the capacity to manage scholarly digital assets in part by adopting strategies to ensure that the information produced in the course of research and instruction is effectively secured, managed, preserved and made available for appropriate use by others.

Recommendation 9: Cultivate organizational leadership for instructional technology and IT in the student experience

The University should cultivate organizational leadership for instructional and student technology to guide and facilitate campuses working together to explore models for providing learners with enhanced and new IT-enabled educational opportunities.

For more information, visit the ITGC web site: http://www.universityofcalifornia.edu/itgc/