EXECUTIVE SUMMARY

Measures of Success (MOS) is the vehicle through which California State University informs the legislature about the progress and benefits of the Integrated Technology Strategy (ITS). This is the seventh report in the series and the fifth year describing changes from the baseline data (1999–2000). MOS reports measure progress in achieving the benefits associated with specific ITS initiatives in the following outcome categories:

- Excellence in Learning and Teaching
- Quality of the Student Experience (fully implemented; no longer reported)
- Administrative Productivity and Quality
- Personal Productivity

The four outcomes of the Integrated Technology Strategy result from the strategic application of information technologies in support of the core programs and operations of the university. These outcome areas correspond to four sets of ITS initiatives: academic, student services, administrative systems, and technology infrastructure. The MOS also discusses how technology can be used to leverage *existing* physical capacity to help meet CSU enrollment goals.

Institutional and individual user data are collected to inform the MOS process. Institutional data are drawn from systemwide databases and annual campus surveys. Individual data are collected through biennial telephone surveys of representative samples of CSU students, faculty, and staff. Major findings are reported below. In some instances survey mean score ratings are cited based on an 11-point scale of 0 to 10, where 10 indicates maximum importance or satisfaction. This edition of the MOS draws on comparative data from two national surveys and from a CSU funding gap study, conducted in 2005. The latter was based on a sample of six CSU campuses, and a detailed examination of technology expenditures and needs.

The MOS provides an overview of institutional progress in the ITS and an understanding of individual user needs and attitudes concerning information technology. The report documents the growing investment in information technology as a strategic resource of the CSU. The data show that in most of the reporting categories, technology has had a generally positive influence on institutional performance and user access and satisfaction, sometimes dramatically so.

MAJOR FINDINGS

Excellence in Learning and Teaching

The ITS academic initiatives seek to improve academic quality, increase student access, and contain costs.

Technology in the Curriculum

- The number of classes (course sections) supported by Web-based learning management systems (LMS) in the CSU grew from 2.8 percent of all course sections offered in 1999–2000 to over 25 percent in 2004–2005. Enrollments in courses incorporating LMS increased six-fold over the same period, from under 10,000 to more than 60,000.
- In 2005, 3,300 CSU students participated in the first large-scale administration of a new Web-based information and communications technology (ICT) assessment tool developed in partnership with the Educational Testing Service (ETS). Test results will help refine the tool for routine use in the CSU.
- Student and faculty views are strongly at variance regarding the importance of “anytime, anyplace” access to instruction. In 2001, 2003 and 2005 students agreed strongly that access to online instruction was very important (mean scores over 8.00). Three faculty surveys since 2000 produced importance ratings of only 5.80, 5.07, and 5.67, the lowest average ratings of any item in the surveys. On the other hand, students reported taking very few online courses (few are actually offered) and found them only marginally satisfactory when compared to traditional classroom learning.
- While CSU compares favorably with l institutions nationally (i.e., public, four-year, masters level), there is still an annual shortfall of approximately $12.9 million in instructional design staff to assist faculty in developing disciplinary course materials according to the CSU funding gap study. In addition, there is about an $8.3

million gap annually in providing disciplinary (as opposed to core) electronic content (databases, subscriptions, digital libraries, and multimedia learning objects) for teaching and learning, including training and support.

Instructional Resource Sharing

- Since the FY 1999–2000 report, the cost per usage for the Electronic Core Collection (ECC) examined in this study has declined overall by more than half. Total usage of resources available through the ECC rose 22.4 percent in FY 2004–2005 while cost increases grew by 10.8 percent over the previous year. For FY 2004–2005, the cost avoidance attributable to the ECC program is estimated to be just under $650,000.
- MERLOT has grown in quantity and quality in each of the five years since the first *Measures of Success* report was published in November 2000. The number of learning applications available by the end of FY 2004–05 was 12,108, now exceeding the 10,000 targeted for 2008. In 1999, the number of learning applications with sample student assignments was targeted to reach 500 by 2002. By the end of FY 2004–05, the number was 780.
- With the addition of 8,000 new images this year, the IMAGE database provides electronic access to two collections with a combined total of over 50,000 art, architecture, and culture images from around the globe. IMAGE also draws contributions from outside the CSU, with over 4,500 images donated from other universities or individuals. More than 400 portfolios of images with accompanying data enhance the academic value of visual resources in fields such as geography, science and technology, history, music, dance, and commerce.

Instructional Resource Development

- Within the Unified Information Access System project, two new tools (MetaLib and SFX) have been implemented. These allow faculty and students to find and retrieve electronic and print materials far more efficiently.

Administrative Productivity and Quality

The purpose of the administrative initiatives is to increase the accessibility and utility of major administrative information systems to students, faculty, and staff, while improving the efficiency and the quality of administrative services. To achieve this, the goal of the Common Management Systems (CMS) is to have all campuses and the Chancellor's Office use common Oracle/PeopleSoft applications in full production mode, supported by a consolidated data center, by 2007.

Common Management Systems Implementation

- By the end of FY 2004–05, 21 campuses had implemented the financial information software; 21, the human resources application; and nine, the student administration system.

- There were substantial and statistically significant increases in student use for all types of student administration information across the six-year survey period. Satisfaction with use of the student information systems was quite high among students over the same period: mean scores for all five categories ranged between 7.62 and 8.75 on the eleven point scale (these data reflect a combination of both CMS and legacy systems).

Administrative System Data Center Consolidation

- In 2004–05, an estimated cost avoidance of $14.62 million was realized for the year.

Personal Productivity

The information technology infrastructure initiatives seek to provide to each campus a baseline quantity and quality of computing and network resources to enhance the personal productivity of individual students, faculty, and staff.

Network Connectivity

- In 2005, 87 percent of students access the campus network from off-campus, a dramatic increase from 2001 when only one-half did so. Four out of five of these students used a high speed internet connection (DSL or

cable). Eighty-five percent report using the campus wireless network and their satisfaction with it received a 7.5 rating.
- A third of the campuses report full availability of wireless connectivity in their libraries. About one-fourth of the campuses provide wireless access from classrooms and other instructional sites.
- The CSU funding gap study addressed the need for baseline purchase, maintenance, and refresh of campus wireless networks, both within buildings and in open space areas. It indicated that the one-time cost to achieve baseline is $5 million and the additional annual cost is approximately $1.4 million.
- Two intra-campus network issues were addressed in the CSU funding gap study: security and server refresh cycles. For the former, approximately $6 million in additional annual funds are needed to provide core services and support, and for the latter, $3.4 million in one-time expenditures and $4.2 million in additional annual funds are required.

Workstation Environment
- Approximately two thirds of all classrooms in the CSU are now equipped to support the use of multimedia instructional resources. All of the classrooms on five of the smaller campuses are "smart". On all campuses at least one quarter of the classrooms have this capability.
- Systemwide, student satisfaction with the university-provided workstations has remained consistently high since the first student technology survey was administered in 2001.
- Data from the CSU campus technology survey show that while workstation quality has increased for faculty, staff and students from the baseline year of 1999–2000, it has declined over the past two years. The CSU funding gap study found that the one-time cost to achieve baseline in workstation refresh for student, faculty and staff is $11.1 million. The additional annual funding needed to maintain baseline in this category is $6.6 million. When mandated assistive and adaptive technologies are considered, additional one-time costs of $11.4 million and annual support of $3.2 million are required.
- Construction, refresh cycles, and technical support required to achieve baseline for smart classrooms ranked very high in unmet need costs, both one-time ($9.4 million) and $19.3 million annually. Currently, very few funds are devoted to support smart classrooms.

Training and Support
- With one exception, all campuses provide at least 40 hours per week of access to call center support for all user groups. Two campuses continue to make online support accessible 24 x 7.
- In all three surveys, students were asked about several types of technical support available to them. Use of telephone call centers among students rose from 26 percent to 31 percent and requests for computer lab staff assistance rose from 14 percent in 2001 to 47 percent in 2005. In general, students gave very positive satisfaction ratings to all of the support services.
- Average campus spending to provide training declined for all three user groups and for IT staff for the third year in a row.
- The CSU funding gap study showed that the shortfall in annual funding for technical support is $7.2 million for all user groups.

Baseline IT Infrastructure Capability
- As of June 30, 2005, the physical infrastructure (pathways, media, spaces, and electronics) on nine campuses met baseline standards (i.e., 90 percent or higher), and one was above 75 percent of baseline. At the other extreme, the number of campuses at less than 25 percent of standards fell from 13 to six. In 2001–02, no campus was standard compliant and 15 campuses were below 25 percent.
- The number of campuses on which fewer than one-half of the workstations met baseline expectations fell from nine in 1999–2000 to zero in 2004–05, while 10 campuses were above the 75 percent level in 2004–05 compared with five in 1999–2000. Improvements in access to computer hardware and software that meet ITS standards for currency are reflected in the greater number of campuses at baseline or near baseline. Only five campuses were at baseline (90–100 percent) or near baseline (75–89 percent) in 1999–2000; the number had risen to ten campuses in 2004–2005.
- In 2001–02, only three campuses were able to provide network connectivity at the standard defined in the CSU baseline technology infrastructure standards. As of the end of 2004–05, 16 campuses were doing so, a gain

attributable largely to the campus backbone network improvements funded through the Technology Infrastructure Initiative (TII).

- When buildout for all five components of the technology infrastructure (physical, networking, workstations, training, and support) is averaged across all campuses (using equal weights for each component), the CSU has moved from 45 percent of baseline in 2001–02 to 64 percent in 2005–06. The system will have achieved a baseline technology infrastructure when every campus has reached 90–100 percent capability in all five TII components.

Master Plan

One goal of ITS investment in distance and distributed (online) learning technologies is to accommodate additional enrollment without corresponding increases in building construction.

- FTES earned through distance learning accounted for only 3.5 percent of the total within the CSU. The share of that FTES (i.e., earned in distance learning) attributable to *asynchronous* (online) instruction grew from one fifth in 2001 to a third in 2004–05.
- According to projections published in March 2005 by the California Department of Finance, CSU enrollments will grow from more than 400,000 students currently attending CSU campuses to over 500,000 students in 2013. If only traditional, face-to-face methodologies are employed, an increase of some 100,000 students suggests the need for roughly six medium-sized campuses of 12,000 FTES with physical plants worth about $560–$800 million each in construction costs.