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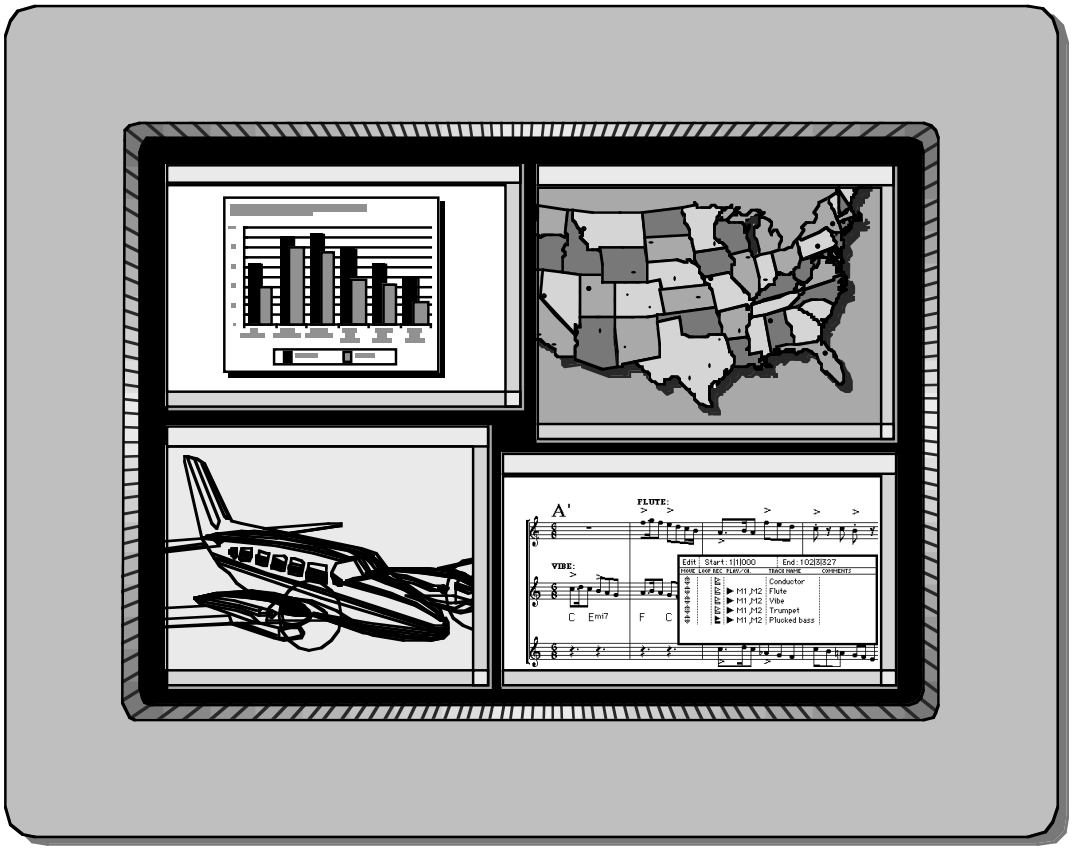
CAMPUS COMPUTING 2010

The 21st National Survey of Computing
and Information Technology in American Higher Education



Kenneth C. Green

The Campus Computing Project

THE CAMPUS COMPUTING PROJECT

campuscomputing.net October, 2010

The 2010 National Survey of Information Technology in U.S. Higher Education

IT Budget Cuts Are Down; LMS Strategies Are in Transition

The budget cuts that have wrecked havoc on college and university IT units and resources in recent years may be abating. New data from institutions participating in the 21st annual Campus Computing Survey reveal that two-fifths (41.6 percent) of colleges and universities experienced a budget cut in central IT services for the current academic year (2010-11), down from fully half (50.0 percent) last year.

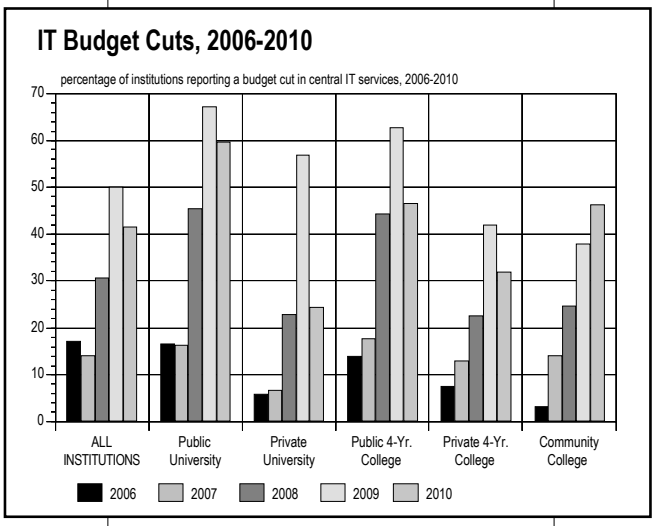
Private/non-profit institutions generally fared better than their public counterparts: the proportion of private universities reporting IT budget cuts fell by more half this past year, from 56.9 percent in 2009 to 24.4 percent in 2010. Among private four-year colleges, the proportion experiencing IT budget reductions dropped from 41.9 percent last year to 31.9 percent this fall.

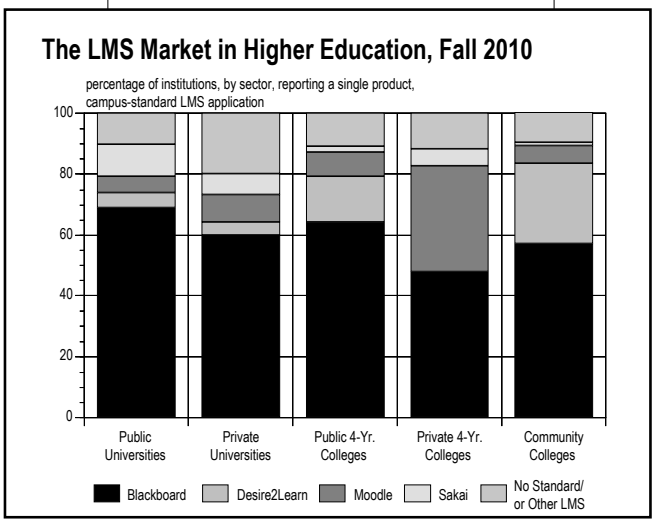
Although the proportion of public four-year colleges and universities reporting IT budget cuts also declined compared to 2009, the numbers actually went up for community colleges. Almost half (46.2 percent) of community colleges experienced reductions affecting central IT budgets this fall, compared to 38.0 percent in 2009. In contrast, fewer public universities suffered IT budget reductions this year than last (59.8 percent, compared to 67.1 percent in 2009), as did fewer public four-year colleges (46.6 percent this fall compared to 62.8 percent in fall 2009).

"The new survey data provide a modicum of good news about money: fewer institutions experienced budget cuts this year than last," says Kenneth C. Green, founding director of The Campus Computing Project, the largest continuing study of eLearning and information technology in American higher education. "But the ongoing financial pressures confronting campus IT budgets continue to play havoc with the efforts of campus IT leaders to respond to the rising demand for IT resources and services." Green notes that the current round of budget reductions arrived just as campuses were beginning to recover from the significant budget cuts that came early in the decade.

The 2010 survey highlights the continuing transition in the higher education market for Learning Management Systems (LMS). The proportion of campus CIOs and senior IT officials reporting that their institution uses Blackboard as the campus-standard LMS has dropped from 71.0 percent in 2006 to 57.1 percent in 2010. Concurrently, Blackboard's major competitors have all gained market share during this period. The numbers for Desire 2Learn are up fivefold, from 2.0 percent in 2006 to 10.1 percent in 2010. Moodle, an Open Source LMS, has also registered big gains during this period, rising from 4.2 percent in 2006 to 16.4 percent this fall. And the numbers for Sakai, another Open Source LMS deployed primarily in universities, have grown from 3.0 percent in 2006 to 4.6 percent in 2010.

"The LMS market is a textbook example of a mature market with immature, or evolving, technologies, and that's a recipe for volatility," says Green. "Blackboard's announced plans to terminate support for its legacy LMS applications has served as a catalyst for many institutions to review the campus LMS strategy. This is now a very competitive market for LMS providers."





Linked to the campus LMS strategy, more than two-thirds (70.3 percent) of the survey participants agree/strongly agree that "mobile [LMS] apps are an important part of our campus plan to enhance instructional resources and campus services." However, the survey data indicate that mobile LMS apps are in the early phase of campus deployment: as of fall 2010, just over an eighth (13.1 percent) of campuses have activated mobile LMS apps; another tenth (10.1 percent) report that mobile LMS apps are scheduled to go live at their institutions during the coming academic year, while a quarter (24.8 percent) indicate that the campus mobile app strategy is currently under review.

"The campus movement towards mobile apps reflects trends in the consumer market," says Green. He cites *Student Monitor's* spring 2010 survey indicating that 98 percent of full-time undergraduates in four-year colleges own mobile phones and almost half own smart phones: "students expect their institutions to provide the kinds of resources and services they enjoy as consumers. Mobile apps provide easy, anytime access to instructional resources and campus services from the screen of your smart phone."

The survey data reveal that student activities on social networks can pose social problems for colleges and universities. Almost a sixth (15.4 percent) of the campuses participating in the 2010 survey report a past year student "incident" (cyberstalking; cyberbulling, etc.) linked to social networking sites, up from 8.6 percent in 2006. Moreover, the incident numbers jumped in some sectors this past year, rising from 15.8 percent in 2009 to to 27.3 percent in 2010 for public universities and up from 13.6 percent to 20.8 percent in 2010 in public four-year colleges.

"These numbers suggest it will be difficult for campus officials to ignore the consequences of student behavior on social networks," says Green. "Although Facebook and other social sites are not sponsored or supported by colleges and universities, the activities of individual students can have institutional consequences. Many campuses are likely to expand their student education initiatives to address this issue."

Senior campus IT officials appear bullish on the future of eBooks in academe. Well over four-fifths (86.5 percent) of the survey participants agree/strongly agree that "eBook content will be an important source for instructional resources in five years," up from 73.6 percent in 2009. Additionally, more than three-fourths (78.6 percent, up from 66 .0 percent in 2009) agree/strongly agree that "eBook readers [hardware] will be important platforms for instructional content in five years."

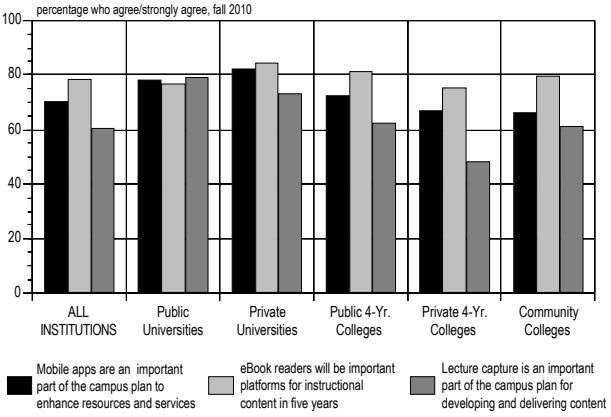
"eBooks remain a much wished for, 'ever-arriving' technology in higher education," says Green. "The platform options, market opportunities, and enabling technologies continue to improve. But Green notes that for most students, eBooks do not yet offer a price-competitive alternative to used textbooks: "eText development and pricing strategies are still evolving. Publishers still develop primarily for print and then port print content into electronic formats. Consequently, eBooks and eTextbooks do not - yet - offer a compelling value proposition for most students."

Campus IT officials also seem bullish on the future of lecture caputure technology to serve both on-campus and online students. Fully three-fifths (60.5 percent) of the survey participants agree/strongly agree that "lecture capture is an important part of our campus plan for developing and delivering instructional context." Yet as with mobile apps, lecture capture is in the early phase of what will probably be broader campus deployment. As of fall 2010, just 4.4 percent of classes make use of lecture capture technologies, up from 3.1 percent in 2008. The deployment numbers are highest in research universities (6.8 percent of classes in fall 2010, up from 4.6 percent in 2008) and lowest in private four-year colleges (3.2 percent of classes in 2010, compared to 2.1 percent in 2008).

The 2010 Campus Computing Report is based on survey data provided by senior campus IT officers, typically the CIO, CTO, or other senior campus IT officials representing 523 two- and four-year public and private colleges and universities across the United States. Survey participants completed the questionnaire in September and early October, 2010.

Copies of the 2010 Campus Computing Report are available from The Campus Computing Project. Price: $37.00 plus $2.00 for shipping and handling for a print copy. Electronic (PDF) copies and site licenses are also available. Please contact Campus Computing for additional information.

Prospects Look Promising for Mobile Apps, eBooks, and Lecture Capture



THE CAMPUS COMPUTING PROJECT

Begun 1990, The Campus Computing Project is the largest continuing study of the role of computing, eLearning, and information technology in American higher education. The project's national studies draw on qualitative and quantitative data to help inform campus IT leaders, college faculty and administrators, policy-makers, and others interested in a wide array of information technology planning and policy issues that affect colleges and universities.

The 2010 Campus Computing Survey was supported, in part, by the following sponsors: Adobe Systems, Apple, Blackboard, Blackboard Connect, Campus Management, CDW-G, The Center for Digital Education, Cisco Systems, Datatel, Dell, Desire2Learn, Follett Higher Education Group, Google, IBM Higher Education, Jenzabar, Longsight Group, McGraw-Hill Higher Education, Microsoft, Moodlerooms, NEC Amerca, Oracle, Pearson Education, Perceptis, Presidium Learning, rSmart Group, SAS, Sonic Foundry, SunGard Higher Education, SONY, Touchnet Information Systems, Turnitin, and WCET.

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December, 2010

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Additional copies of this report may be purchased from Campus Computing (PO Box 261242 • Encino CA • 91426-1242 • USA). *Price:* US $39.00 (plus $2.00 shipping/fourth-class, book rate) to addresses in the United States, Canada, and Mexico. For overseas delivery, please add US $14 for priority mail air delivery and handling charges. Please include a check payable to *Kenneth Green/Campus Computing* with your order. (Please contact *Campus Computing* for information about credit card orders, quantity discounts, and site licensing options for both print and electronic copies of the report.)

Additional information about The Campus Computing Project is available on the World Wide Web at: campuscomputing.net.

Past (out-of-print) editions of the annual Campus Computing Survey Report (1990-2002) are available on microfiche from the ERIC Clearinghouse Service sponsored by the US Department of Education. Please check the ERIC web site: www.eric.ed.gov

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CAMPUS COMPUTING, 2010

The 21st National Survey of Computing and Information Technology in American Higher Education

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CAMPUS COMPUTING, 2010

The 21st National Survey of Computing and Information Technology in American Higher Education

Begun in 1990, The Campus Computing Survey is the largest continuing study of the role of computing and information technology in American higher education. The 2010 Campus Computing Survey was conducted during late summer/early fall, 2010.[1] The survey results presented here summarize data provided by 523 two- and four-year public and private colleges and universities across the United States.[2]

From its inception two decades ago, the annual Campus Computing Survey has served as an IT benchmarking study and has focused primarily on academic computing, i.e., the use of computing and information technology resources to support and enhance instruction, learning, and scholarship. However, over the past decade the organizational boundaries and the technology resources and services that once separated academic and administrative computing have become increasingly porous. Consequently, the annual Campus Computing questionnaire now includes a number of survey items that address administrative/ERP (Enterprise Resource Planning) issues, campus networks, and related campus IT resources and services.

Who participates in the annual Campus Computing survey? The survey respondents are typically the senior information technology officers at their institutions: these campus officials are specifically responsible for and knowledgeable about the current direction of technology planning, policy, finances, and IT implementation, as well as eLearning activities, initiatives, and priorities for their campuses. The titles of the survey respondents include chief information officer (CIO), chief technology officer (CTO), vice-president/vice-provost for information technology or information services, executive director for information technology, executive director for academic computing, or other similar job title.

As noted above, the 2010 survey data were collected during September and early October 2010. An electronic mail invitation with a hotlink to the online questionnaire was sent to prospective survey participants, typically the CIO or senior campus IT officer, at some 1200 two- and four-year public and private colleges and universities across the United States. Where it was not possible to identify a specific individual with a senior IT title, the questionnaire was sent to the senior academic officer. A total of 523 surveys were completed by early October, 2010. (Additional information about the survey methodology is provided in Appendix A; a list of institutions that participated in the 2010 survey appears in Appendix B.)

Top Campus IT Priorities

A decade ago the Campus Computing Survey began to ask senior campus IT officers to identify the "single most important IT issue confronting their institution over the next two-three years." The question was structured as a forced-choice: pick just one item from a list of ten. During the early years of the decade (2000-2004), survey respondents identified "the instructional integration of information technology" as the leading IT issue for their institution, followed by IT user support. In 2000, instructional integration and IT user support accounted for more than three-fifths (62.8 percent) of the responses on this item (Figure 1).

Instructional integration was the number one "campus IT priority" for four years, from 2000 through to 2003, even as the percentage of respondents identifying this issue as the top IT priority for their institution fell by roughly half, from two-fifths (40.5 percent in 2000) to one-fifth (21.4 percent) by 2003. It is also important to note that instructional integration remained the top IT priority even as IT budgets declined during the "post-dot.com" economic downturn in the early years of the current decade.

Beginning in 2004, the top IT priority shifted from instructional integration to "network and data security." Even as the numbers ebbed and flowed during this period from 20 to 30 percent of the survey participants, IT security issues remained the top IT priority through the next five surveys (2004-2008). And although the absolute numbers varied by sector in fall 2008, the CIOs and senior campus IT officials in four of five sectors identified "network and data security" as their IT leading priority that year.

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[1] The 2010 National Survey of Computing in Higher Education was supported, in part, by the following corporate sponsors: Adobe Systems, Apple, Blackboard, Blackboard Connect, Campus Management, CDW, Center for Digital Education, Cengage Learning, Cisco Systems, Datatel, Dell, Follett Higher Education Group, Google, Hobsons, IBM Higher Education, Jenzabar, Kaplan Education, Longsight Group, McGraw-Hill Higher Education, Microsoft, Moodlerooms, NEC Corporation of America, Oracle, Pearson Education, Perceptis, Presidium Learning, rSmart, SAS Institute, Sonic Foundry, SONY, SunGard Higher Education, TouchNet Information Systems, and Turnitin.

[2] The Campus Computing Project does not report data for private two-year colleges or for for-profit four-year institutions. Please see Appendix A for information about the survey methodology.

2000	2001	2002	2003	2004	2005	2006	2007	2008
Instructional Integration of Information Technology (40.5%)	**Instructional Integration of Information Technology** (31.5%)	**Instructional Integration of Information Technology** (24.3%)	**Instructional Integration of Information Technology** (21.4%)	**Network & Data Security** (21.1%)	**Network & Data Security** (30.9%)	**Network & Data Security** (29.9%)	**Network & Data Security** (25.5%)	**Network & Data Security** (20.3%)
Providing Adequate IT User Support (22.3%)	**Providing Adequate IT User Support** (15.4%)	**Upgrade / Replace the ERP** (18.9%)	**Upgrade / Replace the ERP** (17.6%)	**Instructional Integration of Information Technology** (18.5%)	**Instructional Integration of Information Technology** (17.9%)	**Instructional Integration of Information Technology** (17.3%)	**Upgrade / Replace the ERP** (13.0%)	**Hiring / Retaining Qualified IT Staff** (16.7%)
Financing Replacement of Aging IT (14.6%)	**Upgrade / Replace the ERP** (12.6%)	**Financing Replacement of Aging IT** (15.1%)	**Financing Replacement of Aging IT** (16.1%)	**Upgrade / Replace the ERP** (17.2%)	**Upgrade / Replace the ERP** (16.1%)	**Upgrade / Replace the ERP** (16.3%)	**Hiring / Retaining Qualified IT Staff** (12.3%)	**Instructional Integration of Information Technology** (11.9%)

Figure 1: Strategic Plan for Network Security (percentages by sector, 2002-2009)

The 2010 survey provides a very different profile of IT priorities: as was the case with the 2009 survey, no one issue or item emerges as a clear leader; no one item garners more than a sixth of the "votes" of the survey participants (Figure 2; data tables, p. 26). Rather, the survey data point to six issues that are top priorities for at least 10 percent of CIOs and senior campus IT officers:

- hiring/retaining qualified IT staff (14.3 percent);
- financing the replacement of aging hardware and software (14.1 percent);
- the instructional integration of information technology (12.4 percent);
- network and data security (11.4 percent);
- providing adequate user support (11.0 percent); and
- providing online/distance education (9.9 percent).

In aggregate, these six items account for 73.1 percent of the 2010 survey respondents; in contrast, in 2000 just three items – instructional integration, user support, and financing IT – accounted for 77.3 percent of the responses from survey participants.

Although the six leading IT priority issues on the 2010 list are identical to the 2009 list, there has been some movement in the rank order: the top IT priority in 2009 was "network and data security (16.2 percent). In contrast, the top IT priority in 2010 is "hiring/retaining qualified IT staff (14.3 percent), closely followed by IT financing (14.1 percent; see Figures 2).

That staffing concerns would rise to the top of the institutional IT priorities in the 2010 survey is interesting and also counterintuitive: 2010 is not 2000 when large corporations and Internet start-ups were actively recruiting talented IT staff from college and university IT organizations. Additionally, the current down economy would seem to bode well for campuses to retain IT talent. Yet the aggregated responses across all sectors (Figure 3) places "hiring/retaining qualified IT staff" at the top of the 2010 list

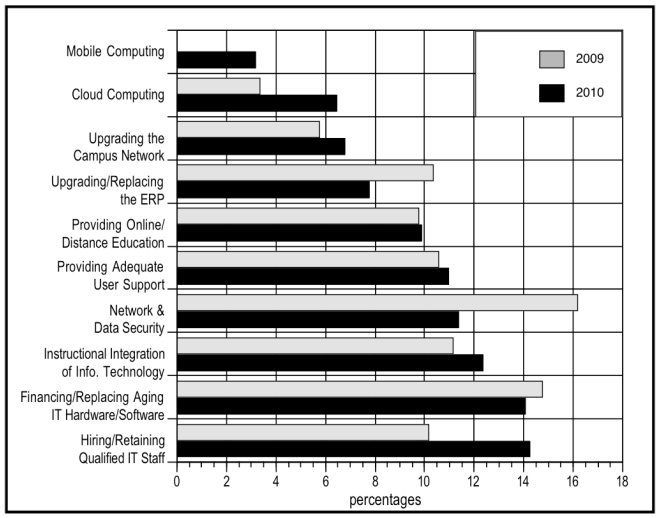

Figure 2: Single Most Important IT Issue, 2009 vs. 2010 (percentages)

All Institutions	Public Universities	Private Universities	Public 4-Yr. Colleges	Private 4-Yr. Colleges	Community Colleges
Hiring / Retaining Qualified IT Staff (14.3%)	**Financing Replacement of Aging IT** (19.5%)	**Network & Data Security** (17.8%)	**Hiring / Retaining Qualified IT Staff** (14.9%)	**Instructional Integration of Info. Tech.** (17.3.4%)	**Providing Adequate IT User Support** (18.2%)
Financing Replacement of Aging IT (14.1%)	**Hiring / Retaining Qualified IT Staff** (18.2%)	**Supporing Online / Distance Education** (15.6%)	**Upgrding the Campus Network & Instructional Integration** (tie:13.9%)	**Hiring / Retaining Qualified IT Staff** (15.1%)	**Financing Replacement of Aging IT** (16.5%)
Instructional Integration of Info. Tech. (12.4%)	**Upgrading / Replacing the Campus Network** (13.0%)	**Financing Replacement of Aging IT** (13.3%)	**Financing Replacement of Aging IT** (11.9%)	**Financing IT & User Support** (tie: 11.2%)	**Hiring / Retaining Qualified IT Staff** (11.6%)

Figure 3: Single Most Important IT Issue, 2010 (percentages by sector)

for the "single most important IT issue confronting my campus over the next two-three years."

As was the case last year, the 2010 data suggest two very different hypotheses about current campus IT priorities. One hypothesis is that the budget cuts affecting postsecondary institutions have made it difficult for senior campus IT officials to identity a "top" priority when so many IT issues compete for executive attention and financial resources: in other words almost *all* issues are a "top" IT priority. An alternative hypothesis, probably less acceptable to CIOs given current budget cuts (see below), suggests that campus IT leaders have a hard time selecting a top priority because institutions have made good progress on a number of key IT issues and priorities over the past few years.

What then accounts for the declining priority for network and data security, which has fallen by almost half (roughly 14 percentage points) from the peaks posted in 2005 and 2006? Without question, campuses have made significant investments in these areas in recent years. So at one level, the declining priority of network and data security may be no surprise: past investments in network and data security are paying off. Too, as noted above, the clustering of IT priorities also suggests more competition for the attention of IT leaders and more competition for IT budget dollars by issues and services that include hiring, emergency notification, and the instructional integration of information technology.

IT Security and Crisis Management

Even as network and data security have become a "declining" (if still high) priority for campus IT officials, the 2010 survey provides ample evidence that IT security presents continuing challenges to colleges and universities and for campus IT leaders.

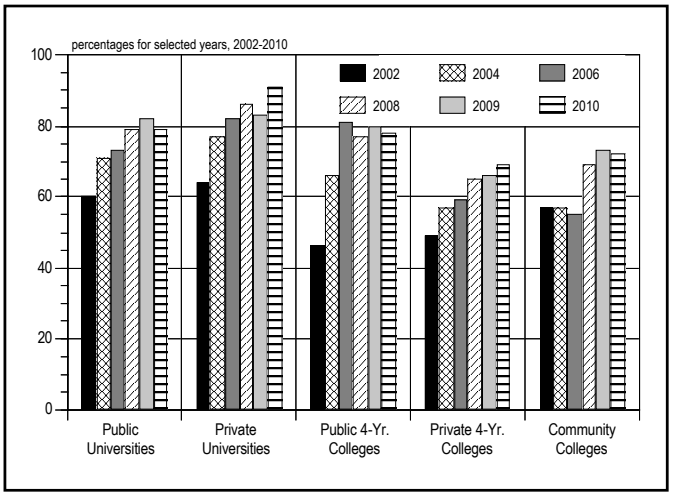

Figure 4: Strategic Plan for Network Security (percentages by sector, 2002-2010)

In the context of strategic planning, three-fourths (75.0 percent) of the colleges and universities participating in the 2010 Campus Computing Survey report a strategic plan for IT security, a slight increase compared to 2009 (73.8 percent), but up significantly from 53.5 percent in 2002. However, here as elsewhere the data reveal important variations across sectors: as shown in Figure 4, universities and public four-year institutions are more likely to have strategic plans for IT security than private four-year colleges and community colleges. However, a fair number of institutions across all sectors still report no strategic plan for IT security – ranging from 8.8 percent in private universities (down from 46.5 percent in 2002), to 27.3 percent in community colleges (compared to 42.7 percent in 2002). Additionally, as shown in Figure 4, some sectors have shown only small increases in the percentage of institutions reporting a strategic plan for network security in recent years, between 2008 and 2010 (data tables, pp. 27-29).

Related to IT security, just under two-thirds (63.7 percent) of the institutions participating in the 2010 survey report a strategic plan for IT disaster recovery, up slightly from 2009 (62.2 percent) and reflecting only modest gains since 2004 (55.5 percent) or even 2002 (53.0 percent; Figure 5; see also data tables, p. 28). As above, some sectors have shown only small increases in the percentage of institutions reporting a strategic plan for IT disaster planning between 2008 and 2010.

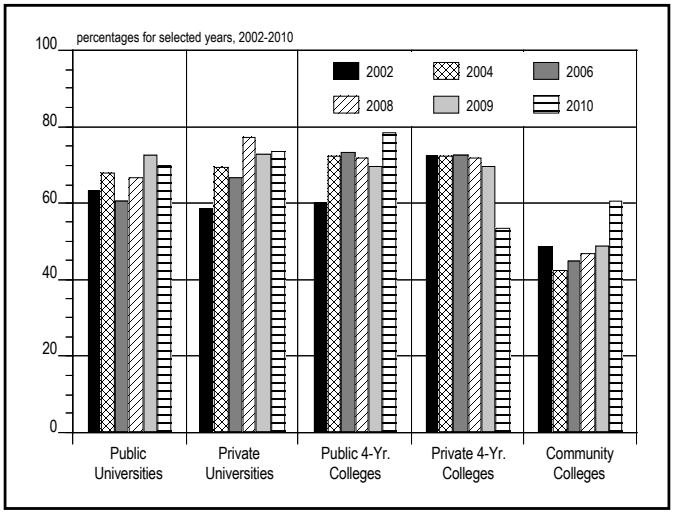

Figure 5: Strategic Plans for IT Disaster Recovery (percentages by sector for selected years, 2000-2010)

The 2010 data on actual IT security incidents is mixed: improvements in some areas, no change in others, and some issues where the security incidents increased from last year to this. The good news is that fewer campuses now report major problems with computer viruses (16.2 percent in 2010, compared to 35.4 percent in 2005) and spyware (14.9 vs. 40.8 percent five years ago; see Figure 6 and data tables pp. 38-39).

There was little change in the area of network attacks: fully half (49.7 percent) of campuses participating in the 2010 survey report hacks or attacks on campus networks, a number that has hovered between 46 and 51 percent over the past five years.

The proportion of institutions reporting stolen computers with sensitive data was virtually unchanged over the past year, (22.5 percent vs. 21.4 percent in 2009 and 22.2 percent in 2008), but has been rising from slowly in recent years, up from 17.1 percent in 2007, 13.5 percent in 2006, and 15.3 percent in 2005. The percentage of campuses reporting a data breach on a distributed server not under the control of central IT services dropped slightly to 15.4 percent, compared to 17.8 percent in 2009, although remains up from 14.6 percent in 2007, and 11.3 percent in 2006.

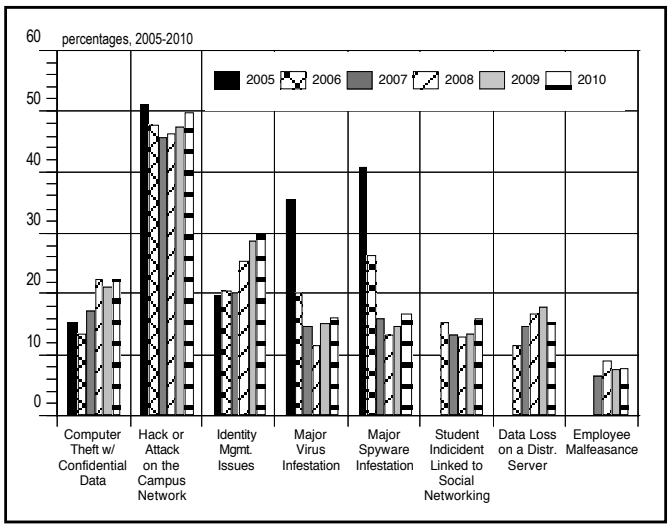

Figure 6: Campuses Reporting IT Security Incidents in the Past Year (percentage of institutions reporting an IT security incident in the past year, by type and sector, 2010)

Yet the mixed news on IT security is also offset by increases in the percentage of institutions reporting a security incident involving identity management: 29.7 percent in 2010 vs. 28.4 percent in 2009, 25.6 percent in 2008, and approximately 20 percent in the preceding three years.

Not surprisingly, public and private research universities were, in general, more likely to report IT security incidents than other types of campuses. These institutions are larger targets for many kinds of IT security incidents (network attacks and identify management) and often have more distributed IT decision-making that can contribute to other problems. For example, more than a third (37.7 percent) of public universities experienced the theft of computers with confidential files over the past year, compared to 31.6 percent in 2009. Similarly, more than two-fifths (46.7 percent) of private universities reported computer thefts this past year, compared to 43.2 percent in 2009. This compares to a fifth (21.8 percent) of public four-year colleges, a sixth (15.7 percent) of private four-year institutions, and a seventh (19.9 percent) of community colleges.

Although not sponsored or supported by campuses, student activities that originate on social networking sites continue to be a source of IT security incidents (Figure 7). Almost a sixth (15. 4 percent) of the campuses participating in the 2010 survey report a past year student security incident linked to social networking sites (e.g. cyberstalking or cyberbullying), up from 8.4 percent in 2006. Moreover, in some sectors the percentage of campuses reporting security incidents linked to social networking jumped this past year: the percentage of public universities reporting security incidents linked to student activities on social networking sites jumped from 15.8 percent in 2009 to 27.3 percent in 2010; a fifth (20.8 percent) of public four-year colleges reported security incidents linked to social network activities, up from 13.6 percent 2009. The unfortunate increase in security incidents linked to social networking sites make it difficult for campus officials to ignore the social networking behaviors of college students and will no doubt prompt many institutions to expand their student education initiatives in this area.

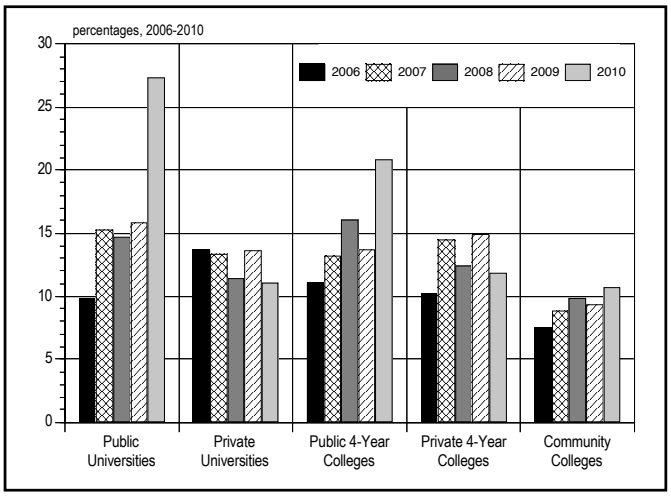

Figure 7: Campuses Reporting IT Security Incidents in the Past Year Related to Social Networking Sites (percentages by sector, 2006-2010)

The 2010 data document generally little change in the proportion of institutions reporting IT security incidents linked to employee misconduct and malfeasance. About one campus in twelve (7.6 percent) experienced one or more IT security events linked to the activities of employees in the past year, essentially unchanged from the number posted in the 2009 survey (7.8 percent), and down slightly from the fall 2008 survey (8.9 percent). Employee misconduct and malfeasance may be an indicator of individual and organizational stress, as budget cuts (see below) impose additional demands on campus IT organizations and personnel.

In sum, the 2010 survey data confirm the continuing IT security and crisis management challenges confronting campus officials across all sectors of American higher education. Five years after Hurricanes Katrina and Rita and nine years after the 9-11 attacks, it is still surprising that so many colleges and universities – more than a third – have yet to complete IT disaster plans, while an unknown number have yet to update these plans in recent years. Similarly, a fourth of the institutions participating in the 2010 survey do not have a strategic plan for IT security, and as noted above, no doubt many others have yet to updated their IT security plans developed several years ago.

Emergency Notification

In the wake of the tragic campus shootings at Virginia Tech in April 2007, many institutions expanded the role of IT security to include campus security. As part of this expanded definition, colleges and universities moved quickly to enhance and exploit IT communication and notification services and resources as part of a larger crisis management plan.

Although the numbers vary by sector, seven-eights (87.8 percent) of the institutions participating in the 2010 Campus Computing Survey report a strategic plan for emergency notification, up from 80.2 pct in 2009, 70.8 percent in 2008, and 44.0 percent in 2007. Concurrently, almost all (98.3 percent) of the campuses participating in the 2010 survey report an "operational emergency notification system," compared to 97.2 percent in 2009, 94.5 percent in 2008, and 75.0 percent fall 2007. As elsewhere, the aggregated numbers mask some differences across sectors: 4.1 percent of community colleges and 4.4 of private universities do not have an operational emergency notification plan as of fall 2010, compared to less than two percent for institutions in other sectors (data tables, pp. 36-37).

percentages, fall 2010

active as of fall 2010	Public University	Private University	Public 4-Yr. College	Private 4-Yr. College	Community College
Sirens	58.4	40.4	53.5	39.7	36.4
PA System	54.5	53.3	59.4	38.0	62.8
Electronic Signs	41.6	48.9	49.5	28.5	52.1
eMail	100.0	93.3	94.1	96.6	88.4
Notice on the Campus Portal	97.4	88.9	90.1	84.9	82.6
Text Messages	97.4	95.6	91.1	96.1	79.3
Campus Phones	68.8	88.9	82.2	77.7	58.7
Off-Campus Phones	54.5	73.3	56.4	55.3	39.7
Mobile Phones	62.4	86.7	65.3	65.9	47.1
Twitter	19.5	15.6	19.8	12.3	19.8

Figure 8: The Operational Components of Campus Emergency Notification Services (percentages by sector, fall 2010)

The operational components of campus notification plans vary by sector in 2010 (Figure 8; data tables, p. 36), even as they reflect gains compared to 2009. For example, the proportion of campuses reporting sirens as part of the emergency plan rose to 44.3 percent for fall 2010, up from 39.7 percent in fall 2009, and 23.4 percent in 2007. Similarly, the percentage of institutions reporting email as part of the campus emergency notification system increased to 94.1 percent, compared to 91.8 percent in fall 2009, and 66.4 percent in 2007. Voice mail to campus phones rose slightly to 73.6 percent, up from 71.5 percent in fall 2009, and 44.6 percent in 2007; text messaging for notification is now operational at 91.3 percent of campuses participating in the annual survey, vs. 87.2 percent in fall 2009, and 43.3 percent in 2007. Almost nine-in-ten campuses (87.7 percent) can now post emergency messages on their primary web sites or portals, compared to four-fifths (81.2 percent) in 2008 and almost two-thirds (62.6 percent) in 2007.

Additionally, the percentage of campuses reporting voice mail notification to off-campus phones and to cellular/mobile phones continues to improve. More than half (53.0 percent) of campuses can now send emergency messages to off-campus land lines, up from 18.0 percent in 2007 and 48.9 percent in fall 2009. Concurrently, as of fall 2010, more than three-fifths (62.4 percent) of institutions participating in the 2010 survey report they can send emergency messages and other kinds of notifications to mobile phones, compared to a fifth (22.5 percent) in 2007, and almost half (48.5 percent) in 2008, and 57.5 percent last year.

Third-party service providers now play a major role in campus efforts to integrate emergency notification services. All the campuses participating in the 2010 survey report using a third-party provider for emergency notification services, up from more than four-fifths (83.6 percent) in fall 2009 and, of course, zero percent in 2006. The campus market appears to be competitive, as reflected in the number of firms – including Blackboard Connect, E2Campus, MIR3, National Notification, and Rave, among others – that offer integrated notification software and services to postsecondary institutions (data tables, p. 36).

Many colleges and universities are exploring options to leverage their investment in notification services beyond campus emergencies. However, emergency notification remains the primary use of notification services: more than nine campuses in ten (93.7 percent) report that when they deployed their notification service in the past year it was for emergency purposes; in contrast, just 5.9 percent used the system for student services (i.e., academic services for current students), and just 2.9 percent used it for student recruitment (data tables, p. 37). Part of the challenge in leveraging the investment in notification services is that campus officials are understandably concerned that the repeated use of the notification system for non-emergency messages might lead recipients to ignore all campus notification alerts, viewing them as spam and thus defeating the intent of the service.

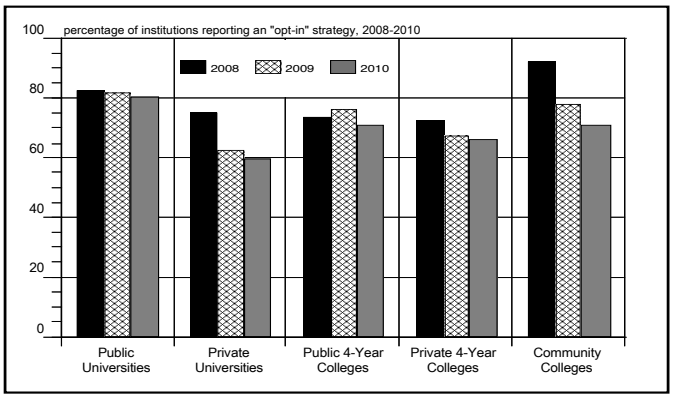

Figure 9: Opt-In (Voluntary) Registration Policy for Emergency Notification Services (percentages by sector, 2008-2010)

Campus policies and practices regarding participation in the emergency notification system continue to be a key issue for most institutions. As shown in Figure 9, the 2010 survey

reveals that the vast majority of institutions still depend on voluntary ("opt-in") for notification: overall, more than two-thirds (69.8 percent) have a voluntary ("opt-in" or must register) participation policy for their notification systems, down from 73.5 percent in 2009 and 76.8 in 2008. Voluntary (opt-in) vs. involuntary (opt-out) policies are important because the benefit and effectiveness of a campus investment in various emergency notification technologies such as text and voice messaging to student and staff mobile phones will be limited if only a quarter or a third of students and campus personnel are registered for the service.

Budget issues notwithstanding, technology is clearly the easy (or an easier) part of emergency notification planning for colleges and universities. The hard part involves implementation: here the key issues are system testing (how fast will the messages be delivered? how reliable is the delivery?), user education for both campus officials and student recipients, having students provide and then update their contact information, decision trees about who activates a notification message and under what circumstances, and making sure that students who receive emergency alerts do not view them as spam.

IT Budgets

The 2010 survey suggests that the budget cuts that have wrecked havoc on college and university IT units in recent years may be abating. In some sectors the percentage of institutions reporting cuts in the central IT budget more than doubled from fall 2007 to 2008, and then doubled again from 2008 to 2009. Moreover, the IT units most adversely affected by the economic downturn appear to be in public universities and public four-year colleges, followed by private universities (Figure 10). However, just two-fifths (41.6 percent) of the campuses participating in the 2010 survey report budget cuts in central IT services for the current academic year, down from fully half (50 percent) in fall 2010 (data tables, p. 33). Private/non-profit institutions generally fared better than their public counterparts: the proportion of private universities reporting IT budget cuts fell by more half this past year, from 56.9 percent in 2009 to 24.4 percent in 2010. Among private four-year colleges, the proportion experiencing IT budget reductions dropped from 41.9 percent last year to 31.9 percent this fall.

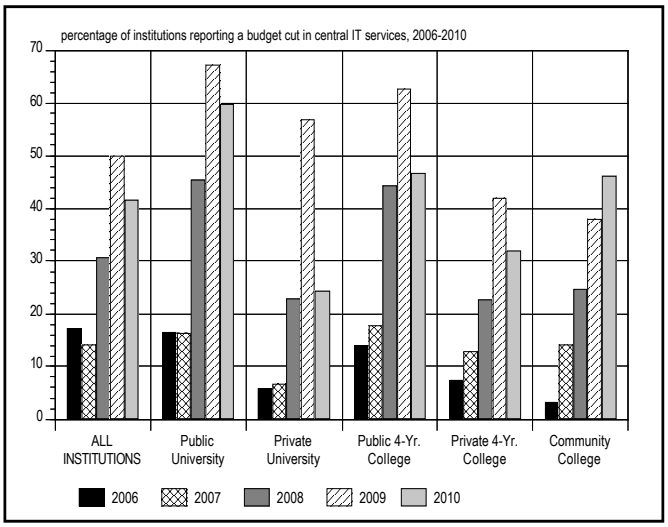

Figure 10: Budget Cuts Affecting Central IT Units, 2006-2010 (percentage of campuses reporting budget cuts, by sector, selected years)

Although the proportion of public four-year colleges and universities reporting IT budget cuts also declined compared to 2009, the numbers actually went up for community colleges. Almost half (46.2 percent) of community colleges experienced reductions affecting central IT budgets this fall, compared to 38.0 percent in 2009. In contrast, fewer public universities suffered IT budget reductions this year than last (59.8 percent, compared to 67.1 percent in 2009), as did fewer public four-year colleges (46.6 percent this fall compared to 62.8 percent in fall 2009).

Another sign of abating budget cuts is the decline in the percentage of campuses reporting central IT budget reductions that were greater than five percent. Among public universities, "just" 14.3 percent report central IT budget cuts exceeding five percent in fall 2010, compared to 29.0 in fall 2009. Similarly, the percentage of public four-year colleges reporting central IT budget cuts greater than five percent also dropped dramatically, from two-fifths (38.3 percent) in fall 2009 to just over a fifth (22.8 percent) in fall 2010. The decline in "five percent cuts" was even greater among private universities, tumbling from 18.2 percent in 2009 to 4.4 percent in fall 2010. However, the "five percent cuts" actually increased in community colleges this past year, rising from 16.7 percent in 2009 to 19.8 percent in 2010.

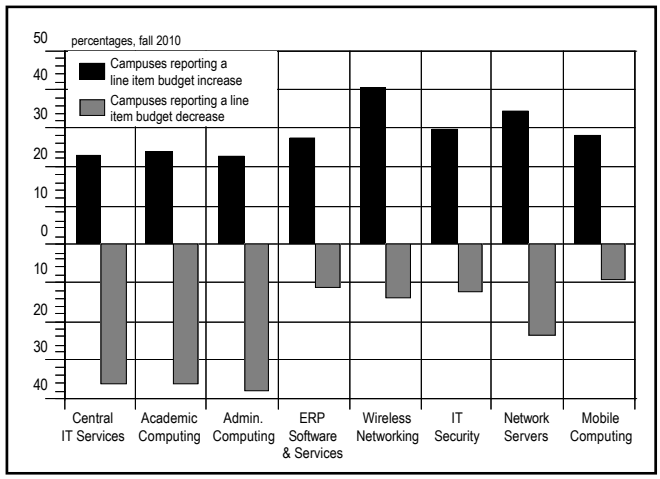

Figure 11: Budget Gains and Reductions for A/Y 2010-11, by Category
(percentage of campuses reporting increased or reduced finding by budget line)

Even as overall IT budgets suffer, the distribution of funds across key operational areas continues to reflect some of the key shifts in IT priorities discussed above (Figure 11). For example, it should come as no surprise that many campuses are increasing their spending on wireless networking, IT security, and mobile computing. The investment in network servers shown in Figure 11 may reflect an investment to replace aging IT infrastructure,

coupled with new, cost-effective investments in server technology such as virtualization (data tables, pp. 34-35).

Not surprisingly, the 2010 data show some shifts in targeted budget priorities. For example, two-fifths (41.5 percent) of campuses reported increased funding for IT security in fall 2010, down slightly from 2009 (44.1 percent), but also down dramatically from 56.2 percent in 2008 and 64.6 percent in 2007.

Yet the abating budget cuts have allowed some campuses to add a little money to the budget lines used to purchase equipment for public computer labs: in fall 2010, 14.2 percent of campuses increased budgets for public labs, compared to 11.7 percent in 2009. On a similar topic, a fifth (20.5 percent) increased allocations for desktop and notebook computer purchases in 2010, compared to 17.2 percent in last year. Conversely, just under two-fifths (37.8 percent) reduced budgets for desktop and notebook computer this year compared to 43.0 percent in 2009.

Even as budget cuts show some signs of abating, the budget reductions affecting IT resources and services that began in 2008 and accelerated in 2009 arrived just as most American colleges and universities were beginning to recover from several years of annual IT budget cuts and mid-year budget rescissions that marked the economic downturn during the first years of the current decade. Then as now, the irony is that the demand for IT resources and services continues to rise, even as the dollars supporting campus IT resources, services, and personnel are cut from institutional budgets. Moreover, the experience from the recession in the early years of the current decade suggests that the current budget cuts will be followed by mid-year budget rescissions, compounding the impact of the continuing budget reductions.

Phasing Out Public Computer Labs

Closing campus computer labs would appear to be an obvious budget strategy given the large proportion of students who now own computers and the budget pressures affecting campus IT units. However, the 2010 survey reveals that few colleges or universities have closed their public labs, and the majority of colleges and universities have no plans to do so: two-thirds (67.5 percent, roughly the same as in 2009) of institutions report decisions not to phase out public computer labs. In contrast, just a tenth (10.3 percent) report progress on "phasing our public computer labs" and 2.9 percent plan to begin doing so during the current academic year (data tables, p. 31). A fifth of campuses (19.4 percent) report they are reviewing the status of public computer labs in the current year.

As with so many items on the survey, the numbers on phasing out public computer labs also vary by sector (Figure 12). For example, a fifth of public universities (19.5 percent) and public four-year colleges (19.8 percent) report phasing out some of their public labs (already underway or beginning this year), compared to 15.5 percent for private universities, 12.3 percent for private four-year colleges, and just 3.3 of community colleges.

Given current budget pressures, why *not* phase out public labs? Public computer facilities are used by large numbers of students, even those who own their own computers: two-thirds of the undergraduates participating in Student Monitor's fall 2009 survey report using campus-owned computers at least once a week.[3] While the operating costs of

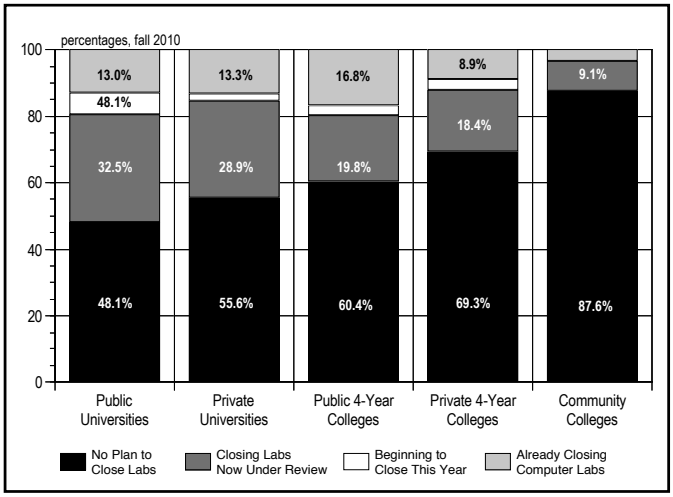

Figure 12: Phasing Out Public Computer Labs, 2010 (percentages by sector)

public labs may be seem significant for some institutions, the actual savings realized from closing public labs may be just a miniscule portion of the larger campus IT budget. Moreover, in many instances, public labs provide access to specialized software or other unique IT resources, as well as access to computers and IT resources for students who do not own a computer. Too, a small but growing number of campuses are repositioning their public labs, converting them into collaborative work environments or simply work areas where students can bring their own computers to connect to the campus network.[4]

Reorganizing Campus IT Units

As in past years, the 2010 data confirm that many campuses are reorganizing or restructuring campus IT units. A third of campuses (33.5 percent, down from 38.8 percent in 2009) report reorganizing academic computing units in the past two years, while more than a fourth (28.8 percent, up from 25.2 percent in 2009) anticipate reorganizing these units within the next two years. The survey data also reveal significant, short-term churn on IT organizational issues: a seventh of the campuses (14.8 percent, compared 15.8 percent in 2009) that reorganized IT units in the past two years expect to do it again in the next two years (Figure 13; data tables, pp. 37- 38).

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[3] Student Monitor, *Computing and the Internet: Fall 2009.* (Ridgewood, NJ), October 2009. www.studentmonitor.com

[4] Terris, Ben. "Rebooted Computer Labs Offer Savings for Campuses and Ambiance for Students." *Chronicle of Higher Education,* 6 Dec 2009. http://chronicle.com/article/Computer-Labs-Get-Rebooted-/49323/

The reorganization numbers are similar for administrative computing units: 32.9 percent of the survey participants have reorganized administrative computing in the past two years, 27.0 percent anticipate the reorganization of administrative IT units within the next two years, and 14.8 percent of campuses in the survey will have done both – reorganized administrative computing in the past two years and will reorganize again in the next two years (data tables, pp. 37-38).

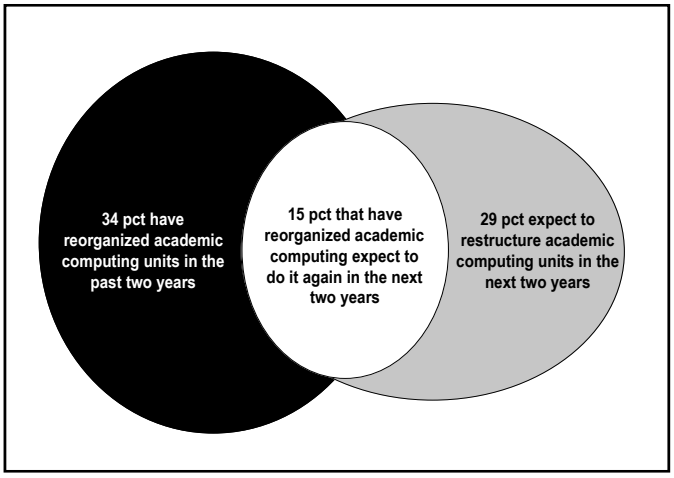

Figure 13: Reorganizing Academic Computing Units (percentages, fall 2010).

The changes in (some might say churning of) the IT organizational chart may reflect several factors: a key retirement may be a catalyst for change, as might the arrival of new president or provost who has the prerogative to redraw the campus organizational chart. The financial pressures confronting all institutions may also be a catalyst for consolidating or reorganizing IT units.

Copyright, Illegal P2P, and Campus Codes of Conduct

Despite the well-publicized media industry outcry (and accompanying Congressional concern) over the past decade about copyright violations and illegal peer-to-peer (P2P) file sharing involving college, the 2010 data continue to confirm that American colleges and universities are making serious and sustained efforts to address the problem of illegal P2P downloading of copyrighted content – primarily music and movies – on campus networks. As noted in past surveys, the vast majority of colleges and universities – 90.8 percent in fall 2010, up from 84.1 percent in 2008, and 66.2 percent in 2003 – have campus policies to address the inappropriate or illegal P2P downloading of copyrighted content. The 2010 survey also provides additional information about campus procedures intended to promote and enforce these policies as well as the institutional costs of these efforts.

Colleges and universities are imposing sanctions on students who engage in inappropriate P2P activity. In fall 2010, 90.0 percent report that students can lose their campus network privileges for P2P violations, compared to 86.9 percent in 2008 and up from 70.5 percent in 2007. Additionally, two-thirds (63.3 percent) impose other kinds of sanctions for inappropriate or illegal P2P activity compared to 56.9 percent in 2008 and 45.9 percent in 2007 (data tables, p. 40).

The 2010 survey also provides updated information about the current level of compliance with the P2P provisions of the 2008 Higher Education Opportunity Act (HEOA). The HEOA legislation requires colleges and universities (a) "to develop plans to effectively combat the unauthorized distribution of copyrighted material;" (b) "to use a variety of technology-based deterrents" to stem illegal P2P activity on campus networks; and (c) "to offer alternatives to illegal down-loading or peer-to-peer distribution of intellectual property."[5]

Even though the P2P provisions of the HEOA apply to virtually all two- and four-year public, private/non-profit, and for-profit colleges and universities (i.e., postsecondary institutions that receive federal funds or whose students participate in federal financial aid programs), compliance levels currently vary dramatically across sectors – generally highest in universities, followed by four-year colleges, and then lowest in community colleges (Figure 14).

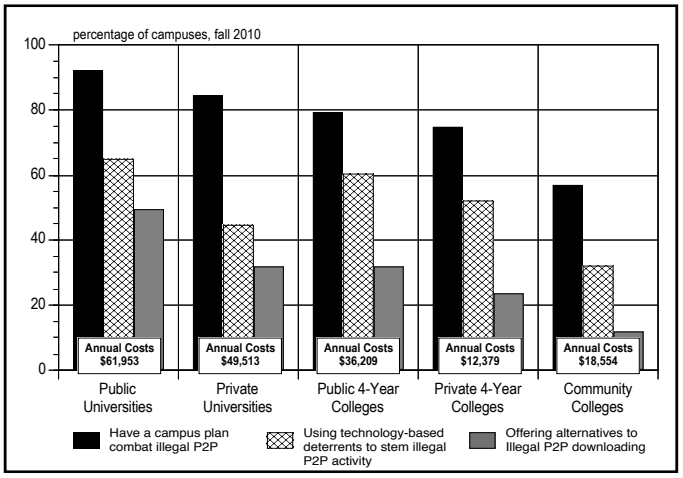

Figure 14: Campus Compliance P2P provisions of HEOA. (percentages by sector, fall 2010)

Figure 14 also documents the real costs that the P2P provisions of the HEOA impose on colleges and universities – costs that drain resources from increasingly tight IT budget dollars and also demand significant personnel time from IT units and other campus offices. A key component of these costs are site license fees for the "technology-based deterrents" mandated by the HOEA legislation. In contrast, few campuses incur direct costs for offering "alternatives to illegal P2P" because the small number of firms that once provided site license music services for the higher education market have vanished.

Supporting the 2010 survey data on P2P issues, a summer 2008 survey on the campus costs of P2P compliance conducted by The Campus Computing Project found that the

[5] Hartle, T. W., *et. al.,* "HEOA Requirements and Next Steps Related to Peer-to-Peer (P2P) Filesharing on College and University Networks." (Washington, DC: American Council on Education), 11 August 2008, p. 1. http://net.educause.edu/ir/library/pdf/epo0815.pdf

aggregated costs of special software, additional hardware, and personnel time allocated to various aspects of P2P compliance (including the full costs for IT staff time and legal counsel) could total as much upwards of a half a million dollars annually for some institutions.[6]

Learning Management Systems

The 2010 data confirm the increasingly important role of Course Management Software (CMS) or Learning Management Software (LMS) as a core instructional resource. Overall, the percentage of college courses that use a CMS/LMS tool has risen from a seventh (14.7 percent) in 2000 to more almost three-fifths (58.6 percent) in 2010 (data tables, p. 27). Although the numbers vary by sector, the rising deployment of (some might say rising campus dependency on) CMS/LMS occurs across all sectors. Figure 15 shows that the utilization of the LMS to be at or close 60 percent of classes across universities and four-year institutions, and over half at community colleges.

Although the survey numbers track rising LMS utilization, they do not provide any data about the depth of deployment, i.e., how many of the features and how much of the functionality of the LMS are being used by students and faculty in individual courses and across the various sectors of American higher education. As is often the case with application software, 80 percent of the LMS activity may involve just 20 percent of the application's functionality.

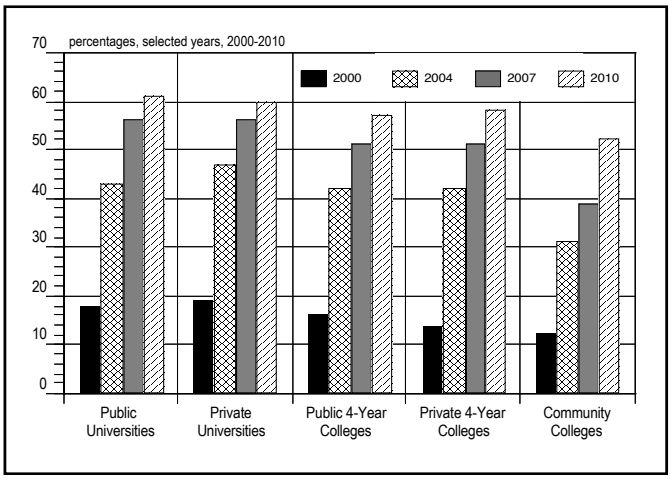

Figure 15: Rising Use of CMS/LMS in Instruction (percentage of courses using the CMS/LMS, by sector, selected years 2000-2010)

Reflecting the critical role that the LMS now plays in instruction at the majority of institutions, more than three-fifths (66.2 percent) of the colleges and universities participating in the 2010 survey report a strategic plan for CMS/LMS deployment, up from 63.5 percent in 2008, 60.2 in 2007, and 41.8 percent in 2001 (data tables, p. 27).

Most campuses (93.1 percent) report a single product campus standard for their LMS. Not surprisingly, Blackboard has the largest share of the CMS/LMS market. As shown in Figure 16, among campuses reporting a single product campus standard LMS as of fall 2010, just under three-fifths of campuses (57.1 percent) identify Blackboard as the campus-standard LMS, down from 63.0 percent in 2009 and 71.0 in 2006. (The Blackboard campuses are institutions that use a Blackboard-branded LMS: Blackboard, Angel, or WebCT.) Across sectors, percentage of institutions that identify Blackboard as the institutional LMS in fall 2010 runs from 47.8 percent in private four-year colleges to 68.8 percent in private universities.

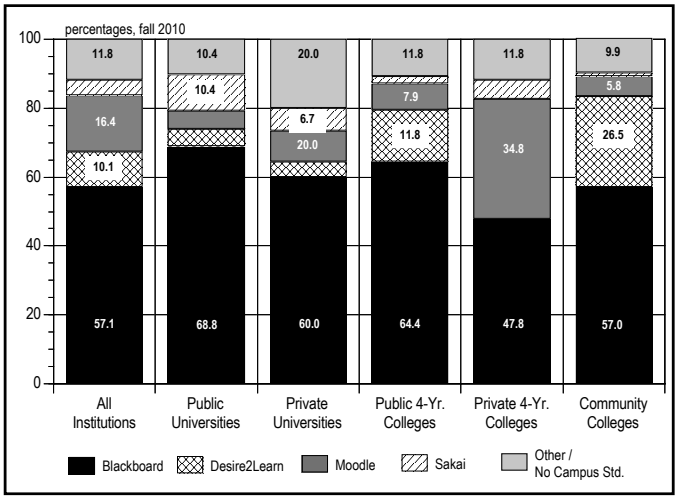

Figure 16: Campus LMS Providers, 2010 (percentages for campuses reporting a "single product campus-wide LMS standard," by sector).

Blackboard's major competitors have a smaller but growing share of the campus LMS market. As of fall 2010, a tenth (10.1 percent) of institutions identify Desire2Learn as the campus-standard LMS, up from 2.0 percent in 2006. Moodle, an Open Source LMS, has also registered big gains in recent years, rising from 4.2 percent in 2006 to 16.4 percent in 2010. Sakai, another Open Source LMS, has registered smaller gains during this period, up to 4.5 percent in 2010 from 3.0 percent.

Open Source LMS applications (Moodle and Sakai) now account for a fifth (21.0 percent) of the institutions that report a campus standard CMS/LMS application, up from 13.3 in 2008, 10 percent in 2007, and 7.2 percent in 2006 (Figure 17). The gains posted by the two Open Source LMS applications, along with the rising numbers of campuses that have migrated to Desire2Learn as the campus-standard LMS, point to major transitions the campus market for learning management systems. Although Blackboard was dominant across all sectors following the WebCT acquisition in 2006, the survey data reveal that Blackboard's aggregate share of the higher education LMS market continues to decline, even when accounting for the 430-plus LMS clients Blackboard acquired when it purchased Angel Learning in 2009.

[6] Green, Kenneth C. *The Campus Costs of P2P Compliance.* (Encino, California: The Campus Computing Project), October 2008. http://www.campuscomputing.net/ content-item/new-campus-costs-p2p-compliance

Long-term, several factors suggest the campus LMS market will remain competitive. First, as noted above, a small but steadily growing number of campuses are migrating to Open Source LMS applications or to Desire2Learn. Across all sectors, there is a now a critical mass of institutions that have migrated to either an Open Source LMS (Moodle or Sakai) or to Desire2Learn that can serve as a reference group for campuses interested in alternatives to Blackboard. Second, Desire2Learn and its campus clients no longer live under the shadow of continuing patent litigation from Blackboard.[7] Finally and perhaps most important, Blackboard has announced plans to terminate support for its legacy LMS applications: it will cease support for old versions of Blackboard and WebCT in 2012 and for the Angel LMS in 2014. The termination of Blackboard's legacy LMS applications will require some 830-plus colleges and universities that currently use legacy Blackboard LMS applications to review their LMS strategy. These institutions confront a hard deadline for an "up or out" decision: migrate "up" to Blackboard's Enterprise LMS or go "out" and transition to a different LMS such as Desire2Learn, Moodle, or Sakai, Blackboard's major competitors in the campus market.[8]

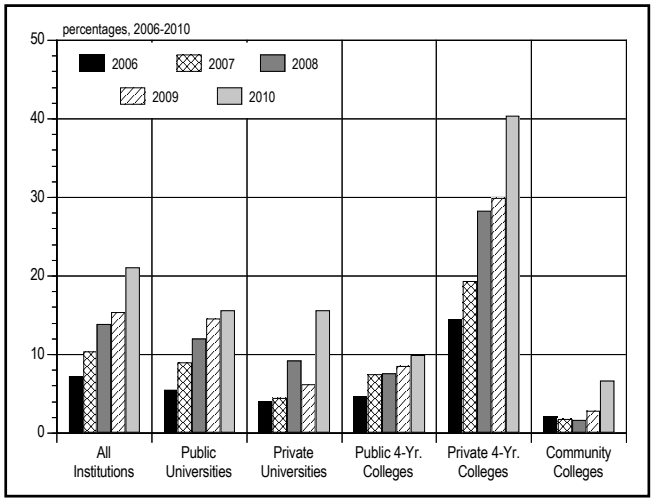

Figure 17: Institutions Reporting a Campus Standard Open Source LMS, 2009 (percentages by sector, fall 2009)

Looking forward, there is also little doubt that financial issues will play an important role in the campus LMS market in the coming years. Almost three-fourths (73.4 percent) of the 2010 survey respondents report their institutions are "reviewing options for the campus standard LMS" in response to budget pressures, up from 68.5 percent in 2009. (Figure 18). Financial issues will play a greater role in campus LMS strategy decisions for several reasons: first, anecdotal reports from a number of campuses suggest that institutions migrating from a legacy to enterprise Blackboard LMS confront a significant jump in licensing fees. Second, campuses that have migrated from Blackboard to other LMS applications are beginning to share cost data on the transition. An August 2010 report from the North Carolina Community College system revealed a 72 percent decrease in the total cost of LMS operations following a migration to Moodle among a group of case-study campuses.[9] The University of North Carolina, Chapel Hill estimates it reduce the its LMS licensing and operating costs by almost half - almost $300,000 annually – when the university completes the migration from Blackboard to Sakai in 2014.[10]

Another indicator of impending transitions in the campus LMS market comes from the 2010 Managing Online Education Survey conducted by The Campus Computing Project and WCET: 47 percent of the 182 campuses participating in the fall 2010 Managing Online Education survey report they are reviewing the current campus LMS strategy, while 26.7 percent anticipate a change in the campus LMS provider in the next two years.[11]

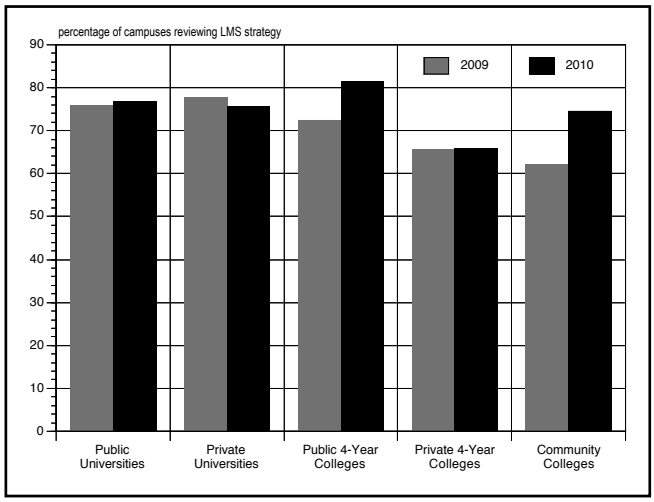

Figure 18: Reviewing the Campus LMS Strategy, 2009-2010 (percentages by sector, fall 2009)

In aggregate, these data affirm this researcher's 2004 assessment that in aggregate, the campus LMS market is "a mature market with immature [or evolving] products" –

7 Kolowich Steve. "Clean Slate." *Inside Higher Ed,* 16 Dec 2009 http://www.insidehighered.com/news/2009/12/16/blackboard

8 Blackboard's public data reveal some 450 "Blackboard Basic" LMS licenses (old Blackboard and WebCT applications) as of Q3/2010 and approximately 430 Angel licenses as of Q2/2009. Not all of Blackboard's 880 LMS licensees that confront the termination of support for legacy LMS applications are postsecondary institutions. *see* http://investor.blackboard.com/phoenix.zhtml?c=177018&p=irol-irhome

9 Randall, Bill and others. *Learning Management System Feasibility Study: Part II of the Open Source Moodle Assessment Report.* (Raleigh, NC: : North Carolina Community College System) Aug., 2010. http://oscmoodlereport.wordpress.com/

10 "Sakai a Safer Bet: A Cheaper Alternative to Blackboard, Sakai Accomplishes More for Less." *The Daily Tar Heel*, University of North Carolina, Chapel Hill, 25 Oct 2010. http://www.dailytarheel.com/index.php/article/2010/10/sakai_a_safe_bet_a_cheaper_alternative_to_blackboard_sakai_accomplishes_more_for_less

11 Green, Kenneth C. *Managing Online Education, 2010.* Encino, CA: The Campus Computing Project, 2010. http://www.campuscomputing.net/item/2010-managing-online-education-survey-wvideo

virtually all institutions have an LMS license but the products are still relatively young – just over a decade "old." The survey data confirm that the LMS market remains competitive and volatile.[12]

Mobile Apps

As in the consumer market, mobile applications have emerged as an important technology for colleges and universities in the past two years. A new question on the 2010 survey reveals that more than two-thirds (70.3 percent) of the survey participants "agree/strongly agree" that "mobile [LMS] apps are an important part of our campus plan to enhance instructional services and campus resources (Figure 19; data tables, p. 26).

The 2010 survey data also indicate that mobile apps are in the early stages of deployment in higher education: just over an eighth (13.1 percent) of campuses have activated mobile LMS apps; another tenth (10.1 percent) report that mobile LMS apps are scheduled to "go live" at their institutions in the coming academic year, while a fourth (24.8 percent) indicate that the campus mobile app strategy is under review (Figure 20; data tables, p. 29).

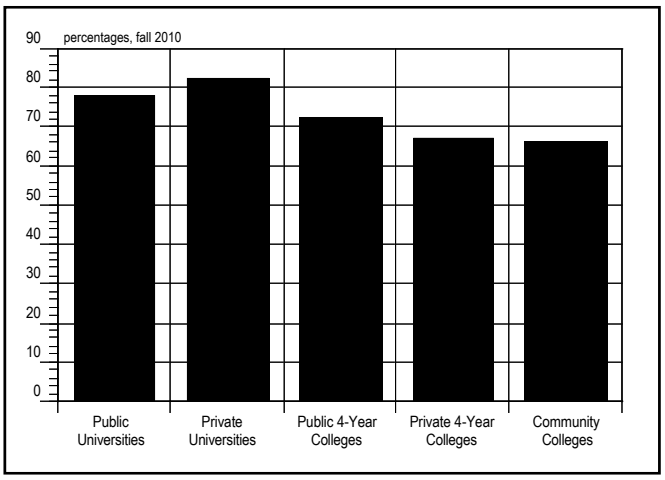

Figure 19: "Mobile Apps are Important to Our IT Future" (percentages by sector, fall 2010)

The campus movement to mobile apps is not surprising. Student Monitor's Spring 2010 survey of undergraduates reveals that 90 percent of full-time undergraduates in four-year colleges and universities own mobile phones, and almost half of these students already own a smart phone, a number certain to increase in coming years.[13] Students increasingly expect their colleges and universities to provide the kinds of "app-based" resources and services they enjoy as consumers. Mobile apps provide easy, anytime access to instructional resources and campus services. Indeed, mobile apps are the new campus portal, as buttons on a smart phone screen replace the bookmarks on an Internet browser or the hotlinks on a campus portal.

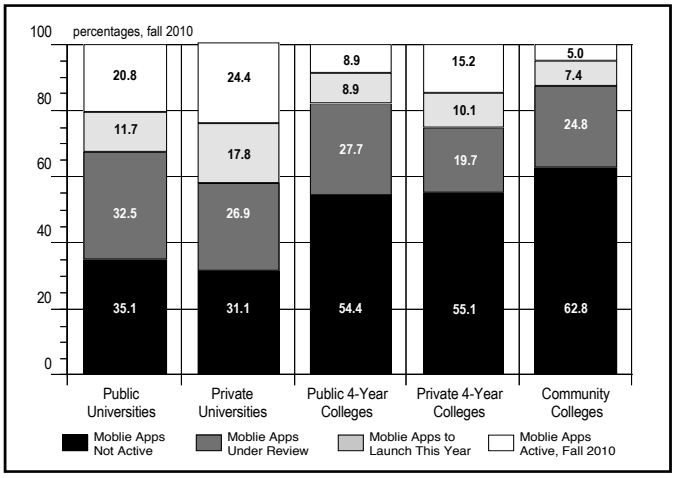

Figure 20: Mobile App Deployment (percentages by sector, fall 2010)

The mobile app market should become increasingly competitive in the coming academic year. Blackboard's early movement to mobile apps has provided a path for other firms – both LMS and ERP providers – to enter this market.

Migrating to Open Source Applications

Despite the rising deployment of Open Source LMS applications, the 2010 data point to little change in the continuing "affirmative ambivalence" towards Open Source ERP applications among senior campus technology officers first reported in the 2004 survey. More than three-fifths of the survey respondents (62.0 percent compared to 58.7 percent last year and 51.9 percent in 2004) agree/strongly agree that "Open Source will play an increasingly important role in our campus IT strategy." However, less than a third of this year's survey respondents (29.1 percent, compared to 29.7 percent last year and 28.9 percent in 2004) agree/strongly agree that Open Source currently "offers a viable alternative" for key campus administrative or ERP applications such as student information systems, campus financial systems, or personnel/ human resource software (Figure 21).

The affirmative ambivalence is not surprising given that LMS and ePortfolio applications are, at present, the only Open Source "user" applications (as opposed to "back-room" IT utilities) with significant deployments. The Kuali Open Source ERP applications – student information systems, human resources, research administration, and development – are just coming to the campus market, with Kuali Financial Module in the first stages of pilot deployments (www.kuali.org).

Yet even with the continuing "affirmative ambivalence" towards Open Source, the recent gains for Moodle and Sakai suggest that a decade after the deployment of the first commercial LMS applications, campus officials and faculty advisory committees are willing to give serious consideration to competitive LMS applications from both commercial providers and the collaborative Open Source community. As

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12 Green, Kenneth C. "Sakai and the Four Cs of Open Source." *Campus Technology,* March 2004 http://campustechnology.com/Articles/2004/02/Sakai-and-the-Four-Cs-of-Open-Source.aspx

13 Student Monitor, Lifestyle and Media Study, Spring 2010 (Ridgewood, NJ: Student Monitor), 2010, p. 7 http://www.studentmonitor.com/s10/s10lmshighlights.pdf

noted above, current budget pressures serve as a catalyst for campuses to review their LMS Strategy. Additionally, a fifth (21.4 percent) of the campuses participating in the 2010 survey report they are already migrating to an Open Source LMS, while more than a third (34.0 percent) report the review of Open Source LMS options is underway as of fall 2010. Conversely, less than two-fifths of the 2010 survey participants (38.6 percent, down from 42.2 percent in 2009) report that their institution has decided not to migrate to an Open Source LMS (data tables, p. 32).

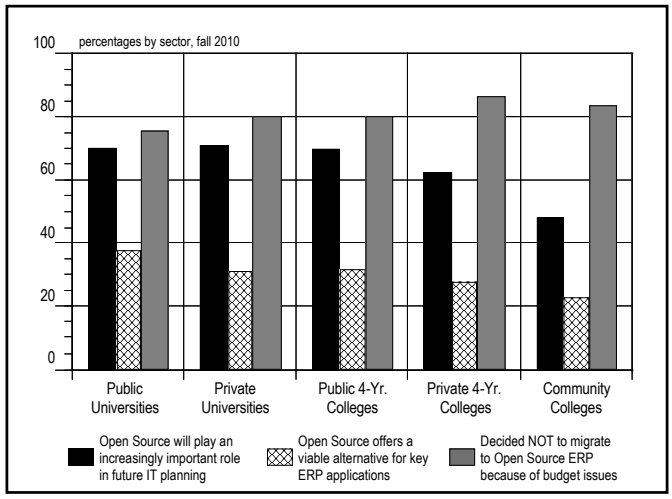

Figure 21: Affirmative Ambivalence About Open Source ERP Applications (percentages, fall 2010).

Faculty and senior campus IT officials are clearly eager for information about the deployment experience of institutions that have been early adopters of Open Source LMS applications. The migration to Moodle as the campus-standard LMS at Louisiana State University and UCLA may serve as a catalyst for other institutions to review their LMS deployment activities and options. Additionally, discussions on the EDUCAUSE CIO Listserve in September 2008, June 2009, and February 2010 offered first-hand information about the experience of other campuses, large and small, that have migrated to an Open Source LMS.[14]

Even as senior campus IT officers anticipate the growing role of Open Source, the survey data continue to suggest a "just do it" strategy with regard to Open Source deployment: less than a fifth of institutions (18.3 percent, up from 15.4 percent in 2009, 12.3 percent in 2007 and 10.0 percent in 2006) currently report a strategic plan for Open Source development and deployment. Across sectors, the percentage of institutions with a strategic plan for Open Source deployment ranges from 23.4 percent in public four-year colleges universities (compared to 15.0 percent in 2007) to 9.1 percent in community colleges (up from 2.7 percent in 2007; data tables, p. 28).

Additionally, when asked to describe their campus strategy on Open Source tools, two-fifths of the survey respondents (38.2 percent, compared to 36.4 percent in 2006) report that their campus is "sampling" Open Source tools for central IT services, primarily using backroom or infrastructure tools (for example, Apache server software or email utilities); in aggregate, more than a third report that Open Source tools are either "operational" (15.4 percent) or "mission critical" (19.6 percent) for their institutions, or that their campus is engaged in Open Source development work that includes contributing tools for central IT operations (4.2 percent; data tables, p. 39).

Finally, affirmative ambivalence notwithstanding, only a small percentage of the survey respondents believe that there is a high likelihood that their institution will migrate to various Open Source ERP applications in the next five years, by 2014 (Figure 22). Not surprisingly, the numbers are highest for Open Source LMS applications, which are already deployed by many campuses. Senior IT officials in public universities appear somewhat more likely to predict migration to Open Source ERP applications than their peers in other sectors. The much lower numbers for other applications – student information systems, finance, human resource, research management, and development – no doubt reflect the absence of significant campus experience with the emerging Kuali Open Source ERP modules.

percentages, fall 2010

	Public Universities	Private Universities	Public 4-Yr. Colleges	Private 4Yr. Colleges	Community Colleges
Learning Mgmt.	26.3	31.1	20.8	45.8	19.8
Content Mgmt.	14.5	20.0	21.8	20.7	16.5
Research Mgmt.	11.8	15.6	3.0	3.4	3.3
Develop-ment	2.6	2.2	1.0	1.1	1.7
Financial Mgmt.	7.9	2.2	3.0	2.8	1.7
Human Resources	6.6	2.2	2.0	2.2	1.7
Student Info. System	5.3	6.7	3.0	2.2	3.3
ePortfolio	13.2	20.0	14.9	12.8	9.9

Figure 22: Migrating to Open Source ERP Applications by 2014 (percentages reporting a scale score of 6 or 7 for likely migration to Open Source applications in five years, by sector; scale: 1=low; 7=high)

The survey numbers for migration to Open Source applications will no doubt rise following the release and initial implementation of the Kuali modules by a small group of early adopter institutions. Indeed, the recent migrations to Open Source LMS applications suggests that the path towards Open Source ERP deployment will be strongly affected by the experience of early adopters: if a significant number of the first campuses that deploy Kuali ERP modules report success – as measured by performance, reliability,

[14] Information about the UCLA decision to migrate to Moodle is available on the Web: http://www.oit.ucla.edu/ccle/default.htm. The EDUCAUSE CIO ListServe discussion about LMS migration ran from September 9-12, 2008 (http://listserv.educause.edu/cgi-bin/wa.exe?A1=ind0809&L=CIO), in June 2009 (http://listserv.educause.edu/cgi-bin/wa.exe?A1=ind0906&L=CIO), and in February, 2010 (http://listserv.educause.edu/cgibin/wa.exe?A2=ind1002&L=CIO&T=0&F=&S=&P=54701).

scalability, the total costs of implementation and continuing operational support, user satisfaction, and other metrics – then other institutions will be willing to explore Open Source options as an alternative to their current commercial ERP applications.

Migrating to SaaS-Based ERP Applications

The 2010 survey also provides data about migration to Software-as-a-Service (SaaS)-based ERP applications. As with Open Source, only a small number of survey respondents believe that their institutions will migrate to SaaS-based ERP applications by 2014; although the numbers vary by application (e.g., Learning Management Systems vs. Human Resource Systems), the numbers are a little lower for migration to SaaS-based applications than the migration to Open Source (Figure 23).

Interestingly, where respondents in public research universities are more likely than their peers to anticipate moving to Open Source ERP applications, the survey data reveal that IT officers in community colleges are more likely than their peers in other sectors to anticipate a move to SaaS-based ERP applications by 2014. The consistently higher numbers for SaaS applications among community colleges are not necessarily surprising: public two-year colleges typically have smaller technology staffs to support administrative operations than other public sector institutions. Moreover, the movement to SaaS-based ERP applications does not necessarily involve a change in software, only the expansion of the services provided by the institution's current ERP provider(s). Additionally, many multicampus community colleges currently operate under a SaaS-like structure for their ERP systems, as one data center may service several campuses in a community college district.

percentages, fall 2010

	Public Universities	Private Universities	Public 4-Yr. Colleges	Private 4-Yr. Colleges	Community Colleges
Learning Mgmt.	7.9	26.7	28.7	25.7	38.8
Content Mgmt.	9.2	15.8	17.8	14.5	15.5
Research Mgmt.	5.3	0	4.0	3.9	5.8
Develop-ment	5.3	0	5.0	3.9	5.0
Financial Mgmt.	1.3	8.9	8.9	3.4	9.1
Human Resources	1.3	8.9	13.9	9.5	11.8
Student Info. System	2.6	6.7	7.9	2.8	7.4
ePortfolio	6.6	17.8	20.8	19.6	14.9

Figure 23: Migrating to SaaS-based ERP Applications by 2014 (percentage reporting a scale score of 6 or 7 on a 7 point scale for likely migration to SaaS in five years, by sector; scale: 1=low; 7=high)

As with the migration to Open Source ERP applications, the numbers for migration to SaaS-based applications will no doubt rise in the coming years once the larger campus community receives reports about the experience of the early adopters. An additional factor affecting SaaS applications involves the willingness of campus IT officials to trust their service providers to host, service, and protect mission critical and highly confidential institutional data.

Strategic Planning for IT

As in past years, the 2010 survey highlights the continuing challenge that IT planning presents to American colleges and universities. Almost three-fourths (73.5 percent) of campuses participating in the 2010 survey report an institutional strategic plan for information technology, essentially unchanged from 2008 and 2007, and rising slowly over the past 12 years from 48.0 percent in 1998, 63.3 percent in 2001, 70.0 percent in 2004 (Figure 24).

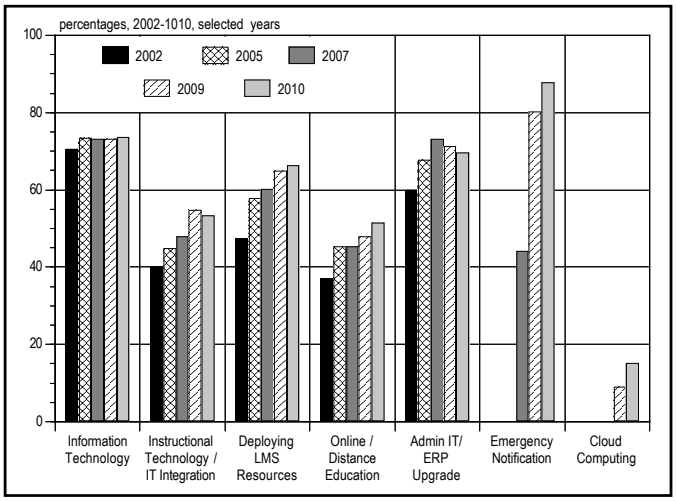

Figure 24: Strategic Planning for IT (percentages for selected years, 2002-2010).

As noted in past reports, these numbers suggest some important and impressive gains in campus efforts to anticipate and to address a wide array of critical information technology challenges since 1998. Yet as in past years, data from the annual Campus Computing Survey suggest that the strategic plans at many institutions may be incomplete. For example, as noted above many colleges and universities have yet to complete or update strategic plans for network security or IT disaster planning (Figures 3 and 4).

Indeed, as reported in past years, probe just a bit below the surface numbers and it quickly becomes clear that some key issues are often missing from the overall IT strategic plan at many colleges and universities. For example, just over two-thirds (70.5 percent) of the 2010 survey respondents report an IT financial plan that acknowledges the need to "acquire and retire" aging hardware and software, compared to 68.2 last year, 54.7 percent in 2002, half (52.2 percent) in 2000, and just a fifth (21.9 percent) in 1994. (The 2010 numbers range from 49.4 percent in public universities to 82.1 percent in private four-year colleges; data tables, p. 38). While the gains for institutional IT financial plans between 1994 and 2010 are important, the survey data also reveal that fully three decades into the so-called "IT revolution in higher

education," almost a third (29.5 percent) of the institutions participating in the 2010 survey still do not have "real" IT financial plans. Moreover, many institutions reporting "acquire and retire" plans for financing IT are often not able to fully-fund these plans when confronted with budget cuts and mid-year budget rescissions.

Other metrics from the 2010 survey also confirm that IT plans at many colleges and universities may be incomplete. Almost a third (30.5 percent) of the participating campuses do not have strategic plans for upgrading or replacing core administrative/ERP software systems, a number that remains essentially unchanged over the past five surveys (2006-2010; data tables, p. 28). Barely half (53.6 percent) of the colleges and universities participating in this year's survey have a strategic plan for student portal services, a slight improvement from 2008 (48.3 percent), and up from a third (36.4 percent) in 2004, a fourth (24.5 percent) in 2002, and one-eighth (12.6 percent in 2000; data tables, p. 28).

Other areas show even larger gaps. Evan as mobile phones have become an important component of campus emergency notification plans, just third (34.4 percent) of colleges and universities have a strategic plan for the role of cellular and smart phones in the larger campus IT plan, up from 30.0 last year, 26.1 in 2008, and 19.3 percent in 2007. Just over a fourth (27.7 percent) have a strategic plan to address email and document archiving for eDiscovery requirements, up from 21.0 last year, and 17.0 percent in 2008. Although Cloud Computing looms large for many institutions, less than sixth (15.1 percent) of campuses have a strategic plan for Cloud Computing as of fall 2010, up from 8.9 percent in 2009.

Finally, many campuses appear vulnerable on accessibility issues: less than two-fifths (39.7 percent) of campuses participating in the 2010 survey report a campus plan to address Section 508 accessibility mandates for disabled students and faculty to use campus web pages, an increasingly important IT issue given recent law suits filed against some campuses by groups advocating for disabled students.[15]

The survey data that highlight key gaps in campus IT planning should concern campus IT leaders and also to other senior campus officials: the proportion of colleges and universities that have not yet addressed key IT issues as part of the overall IT strategic plan remains significant.

Yet in fairness to campus IT officials it is also important to note that a number of the components or issues now found in many (if not most) campus IT strategic plans have expanded in recent years, most recently with the addition of emergency communications and notification services, eDiscovery obligations, and mobile strategies. Moreover, IT strategic planning is often reactive, affected by current events (e.g., campus tragedies such as Virginia Tech), legislation (e.g., archiving and eDiscovery requirements; Congressional mandates on P2P), or new technologies (e.g., smart phones and Web 2.0). For example, the small number of colleges and universities that may have had IT strategic plans in 1993 or 1994, perhaps developed or revised as part of a Self-Study report prepared for accreditation, would have found their plans to be obsolete by 1995 or 1996 because of the emergence of the Web in the mid-1990s. Similarly, although CIOs and other campus officials have long been concerned about network security and IT disaster recovery, these issues emerged as far more important institutional priorities in the post-9-11/post-Katrina environment.

Wireless Classrooms

The movement from wired to wireless networks on college campuses that began early in the decade continues. Across all sectors, four-fifths of classrooms (80.5 percent) are covered by wireless networks, up from 73.0 in 2009, 51.2 in 2006, and 31.0 in 2004. Viewed by sector, the numbers for fall 2010 exceed 80 percent for four-year colleges and universities; in contrast, wireless networks cover just two-thirds (66.5 percent) of classrooms in community colleges (Figure 25).

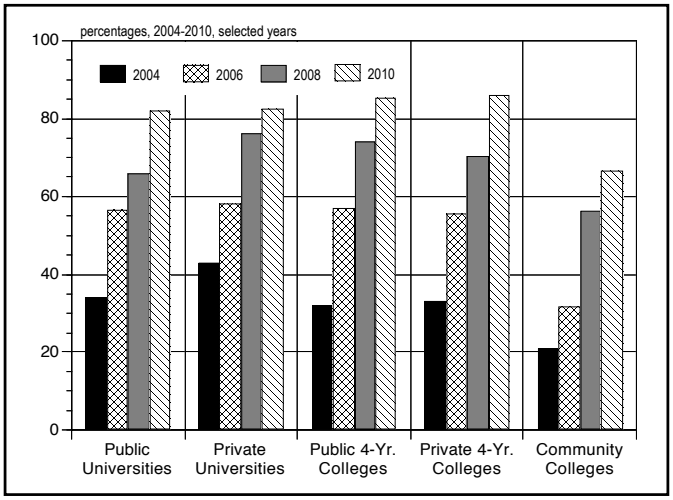

Figure 25: Wireless Classrooms, 2002-2010. (percentages by sector for selected years, 2004-1010)

The demand for wireless access continues to grow across all sectors. Indeed, wireless has become an entitlement on many campuses – and goes well beyond mobile students and faculty wandering the campus with their notebook computers. Students, faculty, administrators, staff, and even campus visitors increasingly feel entitled to unrestricted

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[15] See Perry, Marc. "Colleges Lock Out Blind Students Online." *The Chronicle of Higher Education,* 12 Dec 2010 http://chronicle.com/article/Blind-Students-Demand-Access/125695/ and Kolowich, Steve, "Blinding Technology of Online Learning," *Inside Higher Ed,* 23 Aug 2010 http://www.insidehighereducation.com/news/2010/08/23/accessibility Additionally, data from the 2010 *Managing Online Education* Survey sponsored by Campus Computing and WCET reveal the institutional responsibility for ADA/Section 508 Accessibility compliance for on-line courses and programs resides with faculty at fully one-third (34 percent) of the 183 campuses participating fall survey, while 28 percent have no campus policy to address ADA requirements for their online education programs. http://www.campuscomputing.net/item/2010-managing-online-education-survey-wvideo

access to the campus wireless network for their notebook computers, tablets, and smartphones.

Outsourcing IT Services

With the exception of student email, senior campus IT officers generally assign a low priority to outsourcing various IT services over the next two-three years (Figure 26; data tables, p. 31). Overall, student email receives the highest priority as an outsourced service (scale score 5.5; scale: 1=not important; 7=very important). In contrast, other IT services garner lower numbers: campus portals (3.0); data back-up/storage (4.0), and web hosting (3.4); user support (2.7) and ERP services (2.7); and ResNet (2.5). Most items on the outsourcing list experienced little change between 2007 and 2010, save for student email, which, in aggregate, jumped from a scale score from 3.8 in 2007 to 4.6 in the 2008, and jumped again to 5.5 in fall 2010.

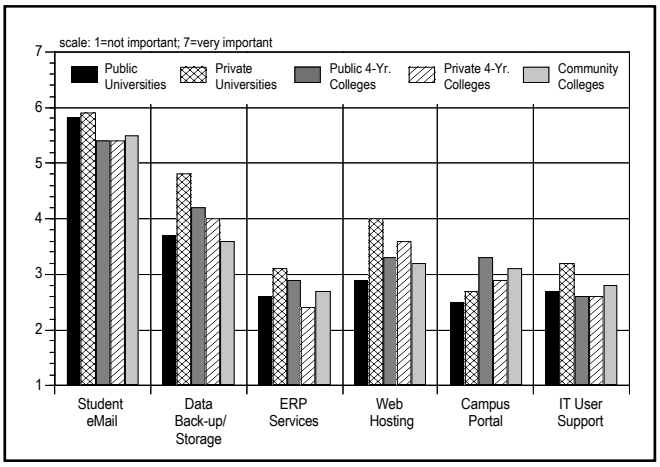

Figure 26: Rating the Importance of Outsourcing IT Services, Fall 2010. (mean score: scale: 1=not important; 7=very important)

Parallel with the rising priority for outsourced email services are the survey data revealing that almost three-fifths (57.8 percent) of campuses report that they are "converting to/now using" an outsourced student email service as of fall 2010, up from just over two-fifths (43.8 percent) in 2009 and 42.4 percent in 2008. As shown in Figure 27, more than three-fifths of universities, public-four-year colleges, and community colleges now outsource student email services, as do about half of private four-year colleges. Yet as also shown in Figure 27, campuses are far less willing to outsource faculty and administrative email than student email. Google is the outsourced email provider for the majority of institutions using outsourcing student mail (53.5 percent), while just over two-fifths (42.8 percent) use Microsoft and 3.7 percent utilize outsourced email services provided by Zimbra (Figure 28; data tables, p. 37).

Why migrate to outsourced student email services? Clearly budget issues are a catalyst: eliminating student email allows institutions to redeploy money and other IT resources; the financial savings can run from small to significant. Moreover, unlike their counterparts of just a decade ago, email is not a rite of passage experience for college freshmen: today's college students now arrive on campus with several email addresses linked to well-established email identities and preferences: Student Monitor's fall 2009 survey of full-time undergraduates at four-year colleges and universities reveals that individual undergraduates have, on average, 3.4 email addresses and that less than two-fifths (37 percent) consider their campus (.edu) email address to be their primary email account or email identity, while a third (31 percent) routinely forward their campus (.edu) email to a personal email account such as Gmail, Hotmail, or Yahoo Mail.[16]

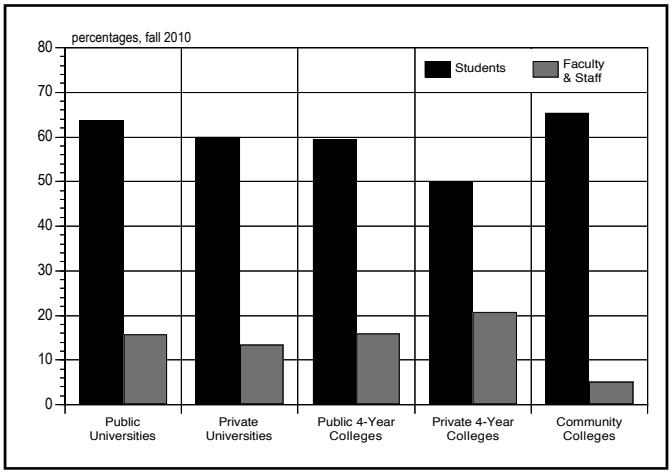

Figure 27: Outsourced Student vs. Faculty eMail, Fall 2010 (percentages by sector)

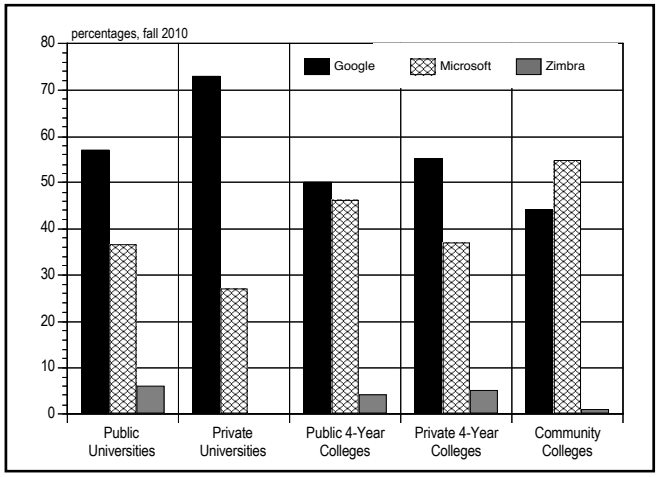

Figure 28: Outsourced Email Providers, Fall 2010 (percentages by sector)

This year's survey also shows a unexpected decline in the proportion of institutions migrating to hosted "office" applications such as such as Google Docs or Microsoft Live. In fall 2009, a sixth (16.8 percent) of campuses reported they were converting to or now using hosted applications, up from

16 Student Monitor, *Computing and the Internet: Fall 2009*. (Ridgewood, NJ), October 2009. www.studentmonitor.com

1.7 percent in fall 2008. However, the fall 2010 number drops by half, to 8.6 percent, suggesting that some deployment efforts ("converting to") may have been deferred, delayed, or perhaps reevaluated. As with hosted email services, Google leads Microsoft, even as the numbers vary by sector: overall, just over half (54.3 percent) of the campuses that have migrated or are converting to hosted "office" applications report standardizing on Google Docs, compared to 45.7 percent for Microsoft Live (data tables, p. 37).

Lecture Capture

A growing number of campuses are engaged in lecture capture and podcasting: although the absolute numbers are low, the trend is clearly upward. Survey participants report that as of fall 2010, 4.5 percent of classes were using lecture capture technology, up from 3.1 percent in 2008. But as shown below in Table 29, the trends vary by sector and the numbers are highest in universities, followed by community colleges.

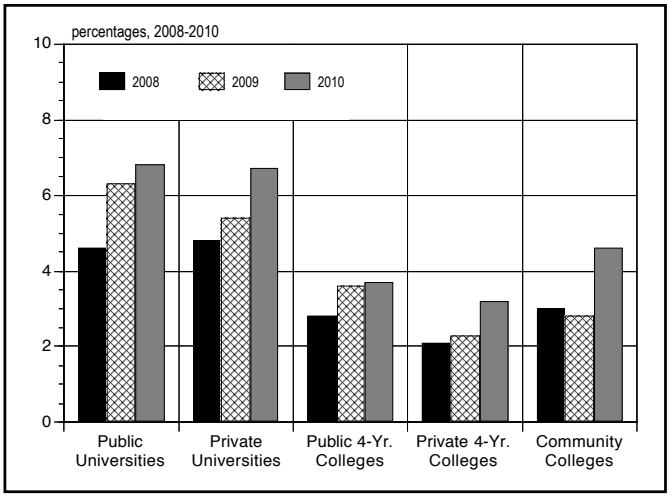

Figure 29: Lecture Capture Trends, 2008-2010 (percentages by sector)

Yet the actual numbers of classes that deploy lecture capture (and, by extension, podcasting; see data tables, p. 27), understate what appears to be the rising role and growing significance of lecture capture technologies: fully three-fifths (60.5 per-cent) of the CIOs and senior campus IT officers who participated in the 2010 survey agree/strongly agree that "lecture capture is an important part of our campus plan for developing and delivering instructional content" (Figure 30).

The rising role of lecture capture can be explained in several ways: student expectations for "on-demand" instructional resources; campus awareness of the value of allowing students to review lectures outside of the classroom; the evolution of lecture capture technology; an enabling network infrastructure that can deliver streaming video to on-campus and off-campus locations; and, of course, the growing number of campuses offering online courses and the rising enrollments in online courses and programs.

However, as noted in a Digital Tweed blog at *Inside Higher Ed* in September, 2010, lecture capture also raises some really significant questions about instructional issues and impacts, and also managerial issues.[17] For example: do students who routinely review lectures after class do better than their peers? Does access to an archive of streaming lectures provide a disincentive for class attendance? Does the student use of archived lectures vary by discipline, gender, or GPA? And on the managerial side, lecture capture raises a number of issues about the individual and institutional ownership and management of intellectual property.

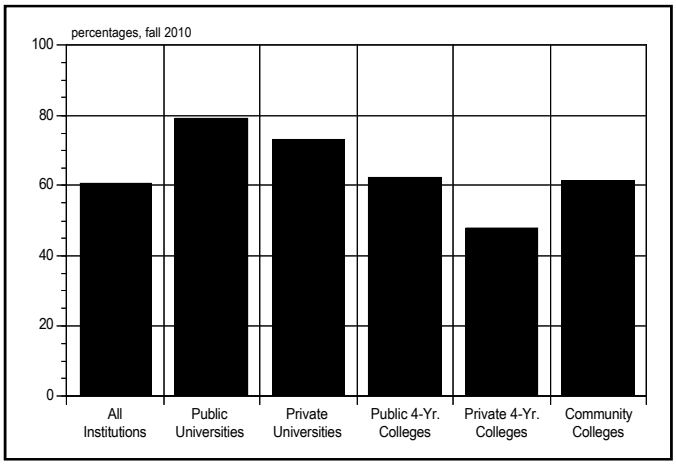

Figure 30: "Lecture Capture Is an Important Part of the Campus Plan to Develop and Deliver Instructional Content" (percentages who agree/strongly agree, fall 2010).

Antiplagiarism Software

Not surprisingly, the number of campuses deploying antiplagiarism software continues to rise. As of fall 2010, almost two-thirds (65.0 percent) of institutions participating in the survey report a site license for an antiplagiarism product, up from 61.1 percent in 2009 and 54.7 percent in 2008. Licensing agreements are highest in public four-year colleges (75.8 percent), followed by public universities (68.4 percent), private universities (65.1 percent), community colleges (57.4 percent) and private four-year colleges (53.4 percent; Figure 30).

The increasing deployment of antiplagiarism software reflects the growing concern about both "accidental" and intentional plagiarism among undergraduates; it also comes amidst research suggesting increased incidents of cheating among college students. Many students simply do not know or do not attend to the established rules for citing sources in their academic papers, while others may intentionally clip and copy material from the Internet or other sources.[18]

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[17] Green, Kenneth C. "Is Lecture Capture the New Lecture." *Digital Tweed Blog - Inside Higher Ed*, 15 Sept 2010. http://www.insidehighered/blogs/digital_tweed/is_lecture_capture_the_new_lecture

[18] See, for example, Glater, J, "Colleges Chase as Cheats Shift to Higher Tech." *New York Times,* 18 May 2006 www.nytimes.com/education/2006/05/18/18cheating.html and Jaschik, S., "Winning the Hearts and Minds in the War on Plagiarism." *Inside Higher Ed* 7 Apr 2008. www.insidehighered.com/news/2008/04/07/plagiarism

Unfortunately, campus licenses for antiplagiarism products are an additional institutional expense in times of stressed campus budgets.

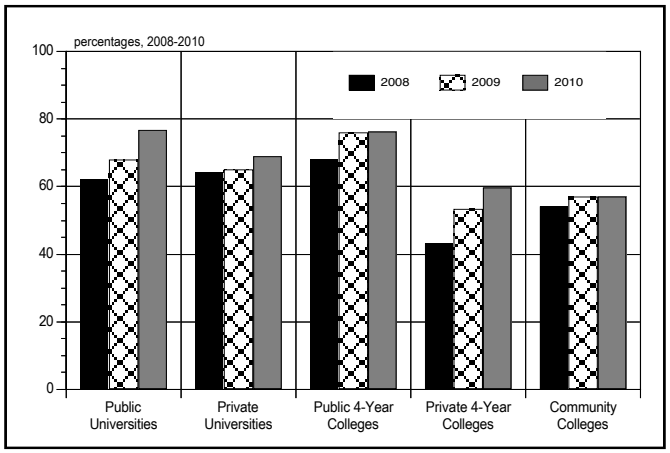

Figure 30: Antiplagiarism Licenses (percentages by sectors, 2008 -2010)

Classroom Clickers

The 2010 survey documents the rising deployment of classroom clickers across all sectors (Figure 31). Although the overall numbers are generally low – about nine percent for public universities and approximately six percent in other sectors – the proportion of classes using clickers has almost doubled since the 2005 survey. Moreover, because clickers are found primarily in (typically large) lower-division undergraduate classes, the gains reflected in the survey data may actually understate the significance of clickers and classroom response systems as a key technology resource for supporting on-campus instruction.

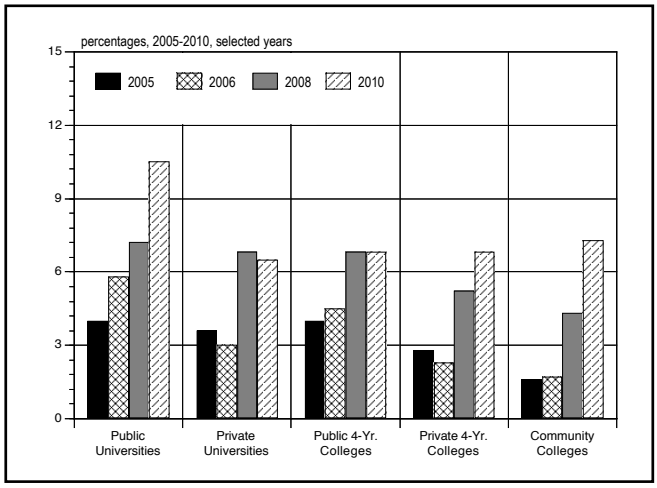

Figure 31: Classroom Clickers (percentage of courses using classroom clickers, by sector, selected years, 2005-2010)

ePortfolios

The proportion of institutions offering ePortfolio services for their students has more than tripled in seven years, rising from 13.5 percent in 2003 to 45.0 percent in 2010 (and up from 34.9 percent in 2007). As shown in Figure 32, the availability of ePortfolio resources on the campus portal varies by sector and is highest in universities and public four-year colleges. But the trend data shown in Figure 32 also document significant gains for ePortfolio resources across all sectors since 2003.

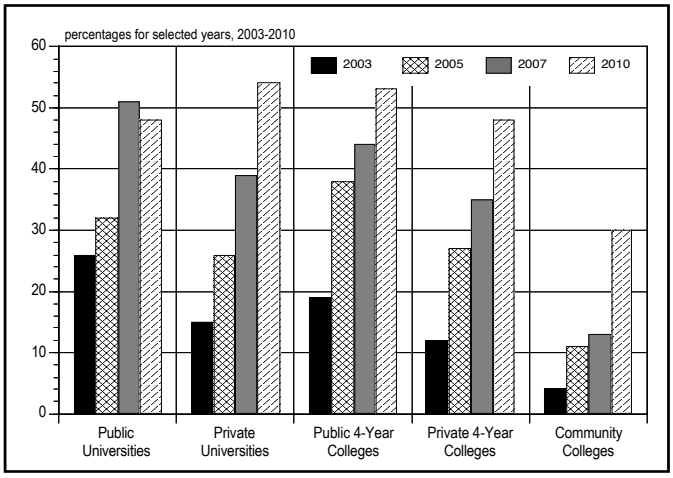

Figure 32: ePortfolio Resources Are Available on the Campus Portal (percentages by sector, 2005-2009)

There is no question that ePortfolios have gained attention and traction in recent years as part of the increased campus discussions about assessment and student outcomes. Additionally, they have become increasingly important to undergraduates in public four-year colleges, reflecting the role of ePortfolios in the assessment and accreditation of teacher education programs.

Moving Towards Web 2.0

The technology community's continuing engagement with Web 2.0 seems to be moving slowly in higher education. Although many faculty and students are involved in Web 2.0 activities, the survey data presented in Figure 33 suggest that postsecondary institutions have been slow to engage (let alone embrace) some aspects of Web 2.0 and user-provided content: even though the percentage of institutions reporting a strategic plan for Web 2.0 resources and services more than doubled from 2007 to 2010 (15.8 percent, up from 5.0 percent last year), the number reporting a strategic plan for Web 2.0 activities remains very low.

Yet some Web 2.0 technologies – specifically Facebook and YouTube - are gaining traction across all sectors, while others such as iTunesU and Twitter are posting big numbers only in four-year colleges and universities (Figure 33). For example, the percentage of institutions reporting an official campus presence on Facebook crossed 85 percent across all sectors in fall 2010. The numbers for Twitter and YouTube also posted big gains from 2007-2010.

Not surprisingly, proportion of campuses that have an institutional presence on Facebook has exploded since 2007 (Figure 34) as institutions attempt to leverage social

networking technologies to recruit students and engage alumni.

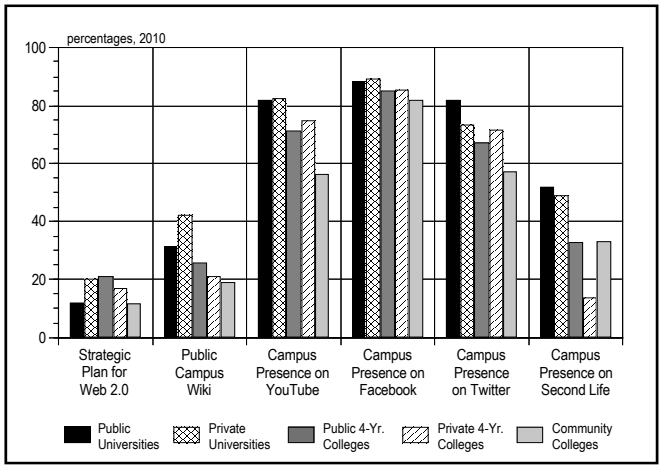

Figure 33: Web 2.0 Activities (percentages by sector, fall 2010)

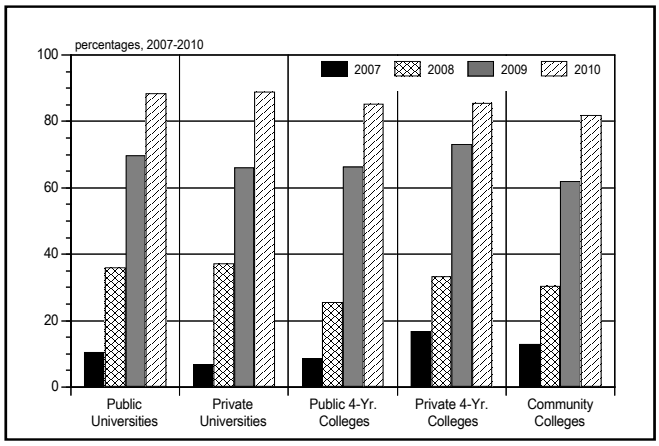

Figure 34: Campuses with an Institutional Presence on Facebook (percentages by sector, 2007-2010)

Wikis continue the slow move into official campus web sites and portals as an information and navigation resource. Overall, the percentage of campuses reporting a "public campus Wiki" rose to 24.6 in fall 2010, up from 22.8 percent in 2009, 13.0 percent in 2007.

The Impending Arrival of eBooks

Senior campus IT officials seem upbeat about the future for eBooks in academe. Well-over four-fifths (85.6 percent) of the 2010 survey participants agree/strongly agree that "eBook content will be an important source for instructional resources in five years," up from 73.6 percent in 2009 (Figure 35). Additionally, more than three-fourths (78.6 percent) of this year's survey participants agree/strongly agree that "eBook readers [hardware] will be important platforms for instructional content in five years," up from two-thirds (66.0 percent) in 2009.

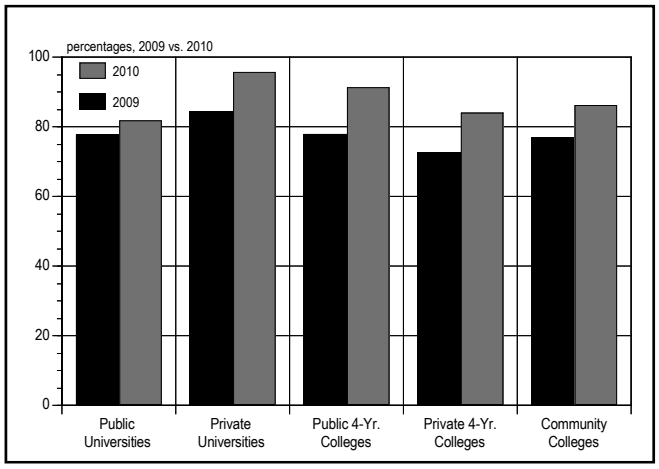

Figure 35: "eBook Content will be an important Source for instruction Resources in Five Years." (percentages by sector, 2009 vs 2010)

The current success of consumer market eBook readers from Amazon, Barnes & Noble, SONY and others, as well the iPad and Android tablets with eBook apps, serves as a catalyst for great interest in and aspirations for digital instructional content (eTextbooks and other resources) designed specifically for the campus market. The past 18 months have seen a number of colleges and universities launch eBook pilot projects, initially with the Amazon Kindle in 2009 and Apple iPad in 2010. The early experience suggests that consumer market eReaders are not quite ready for campus users.[19]

But eBooks are an "ever-arriving" technology in academe. The (long-held) campus interest in digital instructional content is fueled by great expectations: students and campus officials hope (expect!) eTexts will be less expensive than traditional textbooks; publishers hope that eTexts will create new market opportunities and also undermine the used book market; and all parties hope that digital content on tablets and other devices will successfully leverage the potential of technology platforms to do more than simply deliver printed texts to portable screens. Consequently, we should expect several years of pilot projects as well as "trial and error" efforts on the part of both campuses and content providers before digital textbooks begin to supplant traditional printed textbooks in large, lower division undergraduate courses.

IT Evaluation and Assessment

One of the most interesting challenges confronting CIOs and other senior campus IT officials involves campus efforts to assess the impact of institutional investments in information technology. As in past years, senior campus IT officials continue to affirm the need for IT assessment and evaluation efforts. On a scale of 1-7 (1=not important; 7=very important), the CIOs and other senior campus IT

[19] Green. Kenneth C. "eBooks – Year Two." *Inside Higher Ed,* 15 August 2010. http://www.insidehighered.com/blogs/digital_tweed/ebooks_year_two

officials who participated in the 2010 Campus Computing Survey endorse efforts to:

- clarify goals and campus plans for technology resources (scale score: 6.5);
- assess the benefits of the campus IT investment (scale score: 6.1);
- survey students and faculty about IT issues and services (scale score: 5.8);
- assess the "return on investment" (ROI) for campus IT spending (scale score: 5.6); and
- research the total cost of ownership for IT purchases (scale score 5.4; data tables, p. 33).

Yet the survey data also highlight the continuing gap between CIO affirmation about the *need* for IT assessment and the *actual level* of IT assessment and evaluation activities: the majority of campuses do not routinely engage in activities to assess the impact and benefits of IT investments. As of fall 2010, just over two-fifths (43.0 percent) report a "formal program to assess the impact of IT on instruction and learning outcomes," about the same as in 2009 (42.0 percent) and up from a third in 2006 (35.7 percent) and also a third (34.0 percent) in 2001 (Figure 35).

As noted in past reports, several factors suggest that IT evaluation and assessment will continue to be an increasingly important issue for colleges and universities. Campus technology officials (and IT advocates) confront continuing questions from a variety of constituencies – faculty, college presidents and provosts, board members, accrediting associations, and, for public institutions also elected officials – about the costs, impact, and benefits of the continuing campus investment in information technology on academic programs, student learning, and campus operations. Postsecondary institutions confront these questions, in part, because of many sectors of the American economy have experienced productivity and other benefits from information technology. These issues, highlighted by the September 2006 Spellings Commission Report on the future of American higher education, are part of the larger discussions about higher education, institutional assessment, and student outcomes and the key role that IT investments should play in providing critical data, information, and insight to help address these pressing issues.[20]

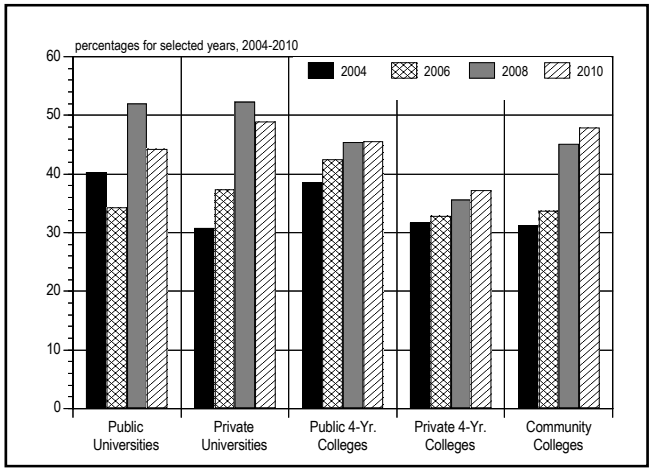

Figure 35: institutions that "Assess the Impact of IT on Instructional Services and Academic Programs." (percentages by sectors, selected years)

[20] See Green, Kenneth C. "Bring Data: A New Role for Information Technology After the Spellings Commission" *EDUCAUSE Review,* **41** (6), Nov/Dec 2006. http://connect.educause.edu/Library/EDUCAUSE+Review/BringDataANew See also *A Test of Leadership: Charting the Future of U.S. Higher* Education www.ed.gov/about/bdscomm/list/hiedfuture/reports.html

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
Number of Institutions	523	77	45	101	179	121
GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS						
Does your institution have:						
A formal policy promoting or mandating computers/ technology resources for						
Curriculum utilization?	31.1	28.9	31.1	23.8	32.0	35.5
Undergraduates?	33.8	36.8	33.3	30.7	37.6	28.1
Graduate/professional students?	21.8	36.8	44.4	24.8	23.0	-
Distance education?	36.3	43.4	44.4	34.7	28.1	42.1
A computer instruction, computer competency, technology literacy, or information literacy requirement for						
All undergraduates?	40.3	30.3	37.8	40.6	43.8	40.5
All faculty?	10.9	3.9	4.4	5.0	12.9	19.0
All administrators?	9.4	2.6	6.7	5.0	11.8	14.0
All staff?	10.9	3.9	2.2	5.9	14.6	16.5
A special computer use/technology fee or annual/term computer use charge for all students?	57.0	80.5	35.6	70.3	37.1	68.6
Average computer use fee (where charged)	$ 138	$ 167	$ 123	$ 148	$ 133	$ 109
A written policy/code of conduct/acceptable use policy for						
Campus e-mail accounts?	97.7	97.4	100.0	99.0	100.0	92.6
Campus-hosted individual/personal Web pages?	81.1	85.7	86.7	89.1	85.3	64.5
Duplication of copyrighted software/software piracy?	97.9	100.0	100.0	98.0	97.7	95.9
Fair use of copyrighted content (books, articles, etc.)?	93.1	96.1	93.3	94.1	95.5	86.8
Downloading commercial music/videos from the Web?	90.8	93.5	95.6	92.1	94.4	81.0
Student use of social networking sites (Facebook, MySpace, etc.)?	21.2	13.0	24.4	18.8	22.6	25.6
Operating systems recommended/supported*						
Mac OS X	92.6	100.0	95.6	97.0	92.7	83.5
UNIX	55.0	80.5	66.7	56.4	46.1	47.9
Linux	73.3	92.2	77.8	80.2	66.9	64.5
Windows 2000/XP	94.1	92.2	91.1	94.1	93.3	97.5
Windows Vista	58.7	68.8	68.9	57.4	59.6	48.8
Windows System 7	86.7	84.4	91.1	86.1	88.8	83.5
Open VMS	9.5	10.4	6.7	19.8	7.3	5.0
Sun/Open Solaris	38.1	72.7	51.1	40.6	25.3	28.9
Novell	22.3	31.2	20.0	24.8	16.3	24.8
None (No O/S recommendation)	0.4	-	2.2	1.0	-	-
Do you require or strongly recommend:						
Computers for all undergraduate students						
No	47.4	40.3	42.2	44.6	29.2	84.3
Recommend	45.7	53.3	48.9	47.5	61.2	14.9
Require	6.9	6.5	8.9	7.9	9.6	0.8
Computers for all undergraduates in specific disciplines or academic programs						
No	36.2	7.8	28.9	31.7	35.4	62.8
Recommend	41.5	46.8	40.0	48.5	46.6	24.8
Require	22.3	45.5	31.1	19.8	18.0	12.4
PDAs/handhelds for undergraduates in specific disciplines/academic programs						
No	86.1	77.9	80.0	82.2	86.5	95.9
Recommend	11.1	19.5	15.6	11.9	11.2	3.3
Require	2.9	2.6	4.4	5.9	2.3	0.8
iPods or other multi-media devices in specific disciplines/academic programs						
No	86.5	76.6	82.2	90.1	87.1	90.1
Recommend	10.3	19.5	8.9	8.9	9.0	8.3
Require	3.2	3.9	8.9	1.0	3.9	1.7
Cell phones for all students						
No	87.8	88.3	93.3	89.1	80.9	95.0
Recommend	12.0	10.4	6.7	10.9	19.1	5.0
Require	0.2	1.3	-	-	-	-
Smart phones for all students						
No	94.5	93.5	95.6	94.1	94.4	95.0
Recommend	5.5	6.5	4.4	5.9	5.6	5.0
Require	-	-	-	-	-	-
Tablet devices for all students (iPads etc)						
No	95.2	98.7	97.8	93.1	93.8	95.9
Recommend	4.4	1.3	-	6.9	5.6	4.1
Require	0.4	-	2.2	-	0.6	-
As of Fall 2010, will your campus have "preferred provider" agreements with technology companies that include online hardware and software resale programs linked to your campus web site?						
No	22.5	9.1	8.9	23.8	19.1	38.8
Yes, hardware						
Acer	0.8	1.3	-	-	1.7	-
Apple	58.3	81.8	84.4	59.4	61.8	28.9
Dell	58.7	87.0	77.8	57.4	55.1	41.3
Gateway	1.9	7.8	-	1.0	1.7	-
Hewlett Packard	25.0	45.5	24.4	25.7	18.0	22.3
Lenovo	17.0	28.6	35.6	14.9	15.7	6.6
Sony	1.7	7.8	2.2	1.0	0.6	-
Sun	4.8	14.3	2.2	5.0	1.7	4.1
Toshiba	3.2	5.2	-	4.0	3.4	2.5
percentages by campus category.						
As of Fall 2010, will your campus have "preferred provider" agreements with technology companies that include online hardware and software resale programs linked to your campus web site?						
Yes, software						
Adobe	50.5	70.1	71.1	42.6	50.6	38.0
Apple	44.0	67.5	64.4	44.6	42.7	24.0
Microsoft	70.7	87.0	84.4	68.3	71.3	57.9
Statistical software	41.5	74.0	71.1	44.6	38.8	12.4
Virus protection/spyware products	57.0	83.1	73.3	57.4	55.6	36.4
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
As of Fall 2010, will your institution have an initial or single sign-on campus portal?*						
No, campus portal not available as of Fall 2010	13.1	9.1	15.6	11.9	11.8	18.2
No, portal issue now under discussion/review	9.3	1.3	2.2	11.9	9.0	14.9
Yes, portal being installed/under development in 2010-11	9.1	7.8	6.7	8.9	10.7	9.1
Yes, campus portal up and functioning for Fall 2010	68.4	81.8	75.6	67.3	68.5	57.9
Our campus portal is/will be:*						
Homegrown / local	19.0	9.7	18.0	28.1	19.5	16.7
Blackboard	5.7	8.3	2.6	1.1	5.8	8.8
Campus Cruiser	0.9	-	-	-	0.7	2.9
Campus EAI	6.6	2.8	5.1	12.4	5.2	6.9
Campus Management	0.4	-	-	-	1.3	-
eCollege	0.2	-	-	-	0.7	-
Google Sites	1.1	-	2.6	-	0.7	2.9
Jenzabar	7.4	-	-	1.1	19.5	2.0
Oracle / PeopleSoft / Sun Micro	9.0	19.4	15.4	15.7	3.9	1.0
SunGard / Luminis	23.8	30.6	33.3	22.5	19.5	23.5
Unicon / Academus	0.9	1.4	-	-	1.3	1.0
uPortal	5.0	15.3	7.7	7.9	0.7	1.0
Other	20.1	12.5	15.4	11.2	21.4	33.3
percentages by campus category.						
USES OF INFORMATION TECHNOLOGY						
How strongly do you agree or strongly agree:*						
Faculty have unreasonable expectations about user support	46.0	40.3	46.7	53.5	47.5	41.3
Technology has improved instruction on my campus	93.9	94.8	88.9	94.1	91.6	98.3
We plan to require all students to own a computer by fall 2011	9.3	7.8	8.9	10.9	14.5	1.7
Access to Internet 2 by fall 2011 is essential to our long-term tech needs	35.6	81.8	66.7	42.6	17.9	15.7
Access to National Lambda Rail by fall 2011 is essential to our long-term technology needs	19.6	59.7	20.0	19.8	6.7	13.2
We are experiencing major cost over-runs/unexpected costs in our ERP deployment activities	15.8	13.0	15.6	17.8	12.8	20.7
Open Source offers a viable alternative for key campus ERP applications	29.1	37.7	31.1	31.7	27.4	23.1
Open Source will play an increasingly important role in our campus IT strategy	62.0	70.1	71.1	69.3	62.0	47.9
eBook content will be an importance source for instructional resources in five years	86.5	81.8	95.6	91.1	83.8	86.0
eBook readers (hardware) will be important platforms for instructional content in five years	78.3	76.6	84.4	81.2	75.4	79.3
Lecture capture is an important part of our campus plan for developing and delivering instructional content	60.5	79.2	73.3	62.4	48.0	61.2
Mobile apps are an important part of our campus plan to enhance instructional resources and campus services	70.3	77.9	82.2	72.3	67.0	66.1
The single most important IT issue over the next 2 or 3 years is:						
Providing online/distance education via the web	9.9	11.7	15.6	8.9	8.9	9.1
Providing adequate user support	11.0	6.5	4.4	8.9	11.2	18.2
Assisting faculty integrate technology into instruction	12.4	5.2	11.1	13.9	17.3	9.1
Financing replacement of aging hardware/software	14.1	19.5	13.3	11.9	11.2	16.5
Integrating academic and administrative IT services	2.1	2.6	4.4	2.0	1.7	1.7
Upgrading/replacing network and data security	11.4	7.8	17.8	13.9	10.1	10.7
Hiring/retaining qualified IT staff	14.3	18.2	8.9	14.9	15.1	11.6
Upgrading/replacing administrative IT/ERP systems	7.8	6.5	8.9	3.0	10.6	8.3
Upgrading/replacing campus network	6.8	13.0	6.7	7.9	4.5	5.8
Upgrading/replacing emergency communications	0.6	-	-	2.0	-	0.8
Cloud computing	6.5	3.9	6.7	8.9	6.7	5.8
Mobile Computing	3.2	5.2	2.2	4.0	2.8	2.5
percentages by campus category.						
CURRENT IT/COMPUTER FACILITIES AND RESOURCES						
Headcount enrollment on campus as of May 2010	11,408	26,672	10,856	11,238	3,315	14,262
Number of institution owned desktop or notebook computers and workstations						
Desktop/notebook computers	4,155	13,007	6,805	3,345	1,481	2,321
Unix Workstations	235	1,341	303	50	11	7
Number of personally owned desktop and network computers	5,010	16,323	8,165	5,158	1,966	1,197
Proportion of individuals who own desktop or notebook computers						
Students						
Desktops	32.4	32.6	18.9	36.4	20.5	52.1
Notebooks	67.1	72.1	78.5	67.9	79.1	40.8
Faculty						
Desktops	59.2	67.7	48.1	61.3	49.5	71.5
Notebooks	45.9	47.9	52.4	44.3	47.6	40.2
Total number of desktop computer labs, clusters and classrooms as of May 2010	112	243.3	132.8	123.0	54.9	97.5
How many dedicated to departments or units?	46	111.9	52.5	51.0	20.0	37.8
Total number of desktop computers/workstations in all labs/classrooms/clusters						
Notebook/Desktop Computers	1,187	2,399	1,095	1,200	440	1,582
Unix Workstations	43	204	47	29	8	6
Total number of network servers on your campus	233	820	450	157	87	63
Percentage of campus servers managed by						
Central IT services	86.5	62.8	79.3	84.6	95.3	92.5
Individual departments/labs/units	11.0	36.0	18.4	12.8	3.4	2.2
means by campus category.						
Percentage of operating systems installed on institutionally-owned computers and servers						
Computers/clients						
Mac	16.4	17.6	18.6	15.2	22.2	7.3
Windows 2000/XP	55.5	47.3	52.8	58.7	50.1	67.9
Windows Vista	6.4	10.0	7.1	7.3	6.8	2.9
Windows System 7	18.3	16.5	15.7	14.5	19.3	21.0
Unix	1.4	2.9	2.9	1.5	0.9	0.6
Linux	2.7	5.3	3.9	2.8	2.6	1.0
means by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
Percentage of operating systems installed on institutionally-owned computers and servers						
Network servers						
Mac	3.3	4.2	3.0	3.1	3.4	2.6
Win 2000/03	62.3	45.7	51.3	59.3	63.3	77.0
Solaris/Open Solaris	5.6	13.3	9.6	7.6	2.7	2.2
Unix (non-Solaris)	5.2	9.4	8.5	3.2	5.4	2.9
Linux	16.3	23.2	21.8	16.8	17.5	8.2
Novell	4.1	1.9	2.0	6.0	4.4	4.1
Total number (FTE) of IT help desk/technical support personnel	36.3	110.2	89.6	27.3	12.5	13.7
User Support Ratio (enrollment/FTE help desk personnel)	314.3	242.0	121.2	411.7	265.2	1,041.0
Percentage of faculty with individual/personal Web page	30.5	37.5	36.5	34.3	28.6	24.2
Percentage of your faculty have taught an online course (80 pct of content online):						
Full-time faculty	19.7	20.0	11.6	19.7	11.2	35.4
Part-time faculty	17.4	18.8	11.8	17.5	11.5	27.1
Percentage of classes that use:						
Computer-based classrooms/labs	41.3	34.8	29.2	47.0	40.8	46.4
Computer-based simulations / exercises	20.0	16.1	15.1	19.6	21.6	22.2
Presentation handouts	60.3	58.9	57.0	61.9	58.3	64.5
Electronic mail	86.1	86.2	90.2	87.7	90.8	76.0
Web pages for class materials & resources	49.6	51.5	50.9	53.9	45.1	51.4
Wikis / blogs	9.1	10.6	11.0	7.9	10.8	5.9
Online video resources	15.8	15.9	15.9	13.7	17.9	14.6
Commercial courseware/instructional resources	32.8	29.7	27.6	32.8	34.6	34.0
Internet resources (from off-campus resources/Web sites)	63.6	61.9	62.9	61.0	69.7	57.7
Course management tools for online course resources	58.6	60.6	64.2	57.7	60.9	52.1
"Clickers" / classroom response system	7.4	10.5	6.5	6.8	6.8	7.3
Podcasting	4.5	6.1	4.7	4.0	4.4	4.0
eBooks and electronic textbooks	4.4	5.1	3.7	4.9	4.1	4.2
Lecture capture	4.4	6.8	6.7	3.7	3.2	4.6
ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES AND PROCEDURES & RESOURCES						
Does your campus/institution						
Provide any formal support or assistance (e.g., funding release time technical assistance) to help faculty who wish to develop instructional software/courseware	77.3	81.8	73.3	76.2	71.3	86.0
Provide any formal support or assistance (e.g., funding release time technical assistance) to help faculty who wish to develop software to assist their research	44.0	61.0	62.2	49.5	41.0	27.3
Have a policy or program for rewarding courseware development or providing incentives for faculty to develop instructional software/courseware	42.5	54.5	35.6	49.5	30.9	47.9
Have a technology resource center that focuses on the instructional use of information technology	82.1	96.1	88.9	83.2	75.3	81.0
Have a formal plan for using the Internet and Web for marketing and promotion to off-campus audiences (e.g., alumni, prospective students)	79.8	81.8	84.4	84.2	83.7	67.8
Have a formal program to recognize and reward the use of information technology as part of the routine faculty review and promotion process	21.1	14.3	6.7	26.7	19.7	27.3
Maintain a library of academic courseware for faculty review and evaluation	29.7	27.3	31.1	31.7	28.1	32.2
Have a formal program to assess the impact of IT on instruction and learning outcomes	26.3	31.2	24.4	27.7	21.3	30.6
Have a formal policy regarding ownership of Web-based curriculum resources and intellectual property developed by faculty	59.8	79.2	68.9	62.4	47.8	59.5
Assess the impact of IT on instructional services and academic programs	43.0	44.2	48.9	45.5	37.1	47.9
Charge students for access to digital content (online reserve readings, course packets, recorded content, etc.)	7.0	9.1	15.6	5.9	3.4	9.1
Recycle most (60 pct or more) of the institution's used/obsolete computers	92.0	92.2	95.6	88.1	94.9	89.3
Inform/counsel students about privacy issues related to social networking sites (Facebook, MySpace, etc.)	65.1	74.0	75.6	63.4	76.4	39.7
Maintain a campus page on Facebook	85.3	88.3	88.9	85.1	85.4	81.8
Maintain a campus page on MySpace	29.7	29.9	44.4	30.7	24.2	32.2
Have institutional presence on Second Life	30.3	51.9	48.9	32.7	13.5	33.1
Have an institutional presence on YouTube	71.4	81.8	82.2	71.3	74.7	56.2
Have an institutional presence on iTunesU	53.9	79.2	80.0	47.5	49.4	41.3
Maintain a public campus Wiki	24.6	31.2	42.2	25.7	20.8	19.0
Maintain an institutional account on Twitter	69.0	81.8	73.3	67.3	71.3	57.0
Have a campus/department license for antiplagiarism software? (e.g., Glatt, Plagiarism-Finder, Turnitin)	65.0	76.6	68.9	76.2	59.6	56.2
percentages by campus category.						
Does your institution have a strategic plan for:						
Information technology?						
no	5.0	5.2	6.7	5.0	6.8	0.8
currently preparing a plan	21.6	19.5	17.8	22.8	25.4	18.2
yes	73.5	75.3	75.6	72.3	67.8	81.0
Instructional technology/instruction integration						
no	17.9	14.3	15.6	15.8	22.0	16.5
currently preparing a plan	28.8	24.7	24.4	33.7	31.6	24.8
yes	53.2	61.0	60.0	50.5	46.3	58.7
Deploying course / learning management tools?						
no	16.6	6.5	13.3	15.8	17.0	24.0
currently preparing a plan	17.2	15.6	11.1	19.8	17.5	18.2
yes	66.2	77.9	75.6	64.4	65.5	57.9
Online / distance education?						
no	24.8	14.3	24.4	15.8	44.1	10.7
currently preparing a plan	23.7	33.8	17.8	26.7	23.7	17.4
yes	51.5	52.0	57.8	57.4	32.2	71.9
Campus portal services?						
no	25.4	11.7	20.0	25.7	24.3	36.4
currently preparing a plan	21.0	24.7	13.3	21.8	19.8	23.1
yes	53.6	63.6	66.7	52.5	55.9	40.5
Wireless networks?						
no	8.0	6.5	2.2	10.9	7.3	9.9
currently preparing a plan	11.1	11.7	2.2	5.9	10.2	19.8
yes	80.9	81.8	95.6	83.2	82.5	70.3
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
Does your institution have a strategic plan for: (continued)						
Network security						
no	6.7	2.6	4.4	5.0	9.0	8.3
currently preparing a plan	18.3	18.2	4.4	16.8	22.0	19.0
yes	75.0	79.2	91.1	78.2	68.9	72.7
IT disaster recovery						
no	4.4	2.6	4.4	2.0	6.2	5.0
currently preparing a plan	31.9	27.3	22.2	19.8	40.7	34.7
yes	63.7	70.1	73.3	78.2	53.1	60.3
Administrative systems / ERP upgrade / replacement						
no	16.4	6.5	6.7	8.9	20.3	24.8
currently preparing a plan	14.1	13.0	20.0	8.9	16.4	14.1
yes	69.5	80.5	73.3	82.2	63.3	61.2
Digital content management						
no	34.0	26.0	15.6	26.7	35.0	49.6
currently preparing a plan	34.9	37.7	42.2	36.6	33.9	30.6
yes	31.1	36.4	42.2	36.6	31.1	19.8
Data warehousing						
no	30.0	11.7	17.8	21.8	36.2	42.2
currently preparing a plan	30.7	33.8	26.7	27.7	36.2	25.6
yes	39.3	54.6	55.6	50.5	27.7	32.2
Business intelligence/analytics						
no	41.0	26.0	26.7	37.6	42.9	56.2
currently preparing a plan	32.3	36.4	31.1	28.7	37.3	25.6
yes	26.7	37.7	42.2	33.7	19.8	18.2
Open Source deployment and development						
no	64.1	54.6	71.1	56.4	61.6	76.9
currently preparing a plan	17.6	22.1	11.1	22.8	17.0	14.1
yes	18.3	23.4	17.8	20.8	21.5	9.1
Lecture capture / podcasting course lectures / resources						
no	35.3	19.5	15.6	29.7	41.2	47.9
currently preparing a plan	32.6	37.7	33.3	30.7	35.0	27.3
yes	32.1	42.9	51.1	39.6	23.7	24.8
Emergency communications / notification						
no	3.6	2.6	8.9	1.0	1.7	7.4
currently preparing a plan	8.6	3.9	-	8.9	11.3	9.1
yes	87.8	93.5	91.1	90.1	87.0	83.5
Digital preservation/data archiving						
no	29.8	23.4	20.0	28.7	29.9	38.0
currently preparing a plan	40.8	46.8	37.8	42.6	41.2	35.5
yes	29.4	29.9	42.2	28.7	28.8	26.5
Cellular phones/mobile devices						
no	40.8	41.6	31.1	33.7	44.1	44.6
currently preparing a plan	24.8	26.0	35.6	25.7	21.5	24.8
yes	34.4	32.5	33.3	40.6	34.5	30.6
"Web 2.0" resources and services						
no	48.5	49.4	33.3	45.5	46.9	57.9
currently preparing a plan	35.7	39.0	46.7	33.7	36.2	30.6
yes	15.8	11.7	20.0	20.8	17.0	11.6
Cloud computing						
no	44.3	26.0	24.4	44.6	45.8	59.5
currently preparing a plan	40.7	57.1	62.2	35.6	38.4	30.6
yes	15.1	16.9	13.3	19.8	15.8	9.9
Server virtualization						
no	9.9	3.9	8.9	10.9	10.7	12.4
currently preparing a plan	22.0	19.5	15.6	19.8	21.5	28.1
yes	68.1	76.6	75.6	69.3	67.8	59.5
508 accessibility/compliance for Web pages/resources						
no	30.9	16.9	48.9	11.9	48.0	23.1
currently preparing a plan	29.4	33.8	33.3	21.8	28.8	32.2
yes	39.7	49.4	17.8	66.3	23.2	44.6
Email and document archiving to address eDiscovery						
no	35.3	29.9	33.3	23.8	39.6	41.3
currently preparing a plan	37.0	36.4	26.7	42.6	39.0	34.7
yes	27.7	33.8	40.0	33.7	21.5	24.0
Mobile applications resources and services						
no	50.2	37.7	33.3	43.6	54.2	62.8
currently preparing a plan	41.2	52.0	48.9	45.5	39.0	32.2
yes	8.6	10.4	17.8	10.9	6.8	5.0
percentages by campus category.						
Has your institution established a single product standard for:						
Desktop/notebook computer operating system						
No	82.3	100.0	93.3	86.1	86.5	57.0
Macintosh	0.4	-	-	-	0.6	0.8
Windows 2000/XP	7.8	-	-	5.9	4.5	22.3
Windows Vista	0.8	-	-	3.0	0.6	-
Windows System 7	8.6	-	6.7	4.0	7.9	19.8
Linux	0.2	-	-	1.0	-	-
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities		4-Year Colleges		Community Colleges
		Public	Private	Public	Private	
Has your institution established a single product standard for:						
Desktop/notebook product or manufacturer						
No	73.9	92.2	91.1	85.2	75.8	43.0
Acer	-	-	-	-	-	-
Apple	1.3	-	-	-	2.3	2.5
Dell	15.2	6.5	4.4	7.9	12.4	35.5
Gateway	-	-	-	-	-	-
Hewlett Packard	5.9	-	2.2	3.0	5.1	14.9
Lenovo	3.2	1.3	2.2	4.0	3.4	4.1
Sony	-	-	-	-	-	-
Toshiba	-	-	-	-	-	-
Other	0.4	-	-	-	1.1	-
Course management system						
No	6.9	9.1	20.0	7.9	3.9	4.1
Blackboard (including Angel)	57.1	68.8	60.0	64.4	47.8	57.0
CampusCruiser	-	-	-	-	-	-
Desire2Learn	10.1	5.2	4.4	14.9	-	26.5
eCollege	1.3	-	-	1.0	2.3	1.7
Moodle	16.4	5.2	8.9	7.9	34.8	5.8
Sakai	4.6	10.4	6.7	2.0	5.6	0.8
Other	3.6	1.3	-	2.0	5.6	4.1
As of fall 2010 has your campus activated mobile apps for your learning management system (check only one)?						
No	52.0	35.1	31.1	54.5	55.1	62.8
Yes	13.1	20.8	24.4	8.9	15.2	5.0
Planned for later this academic year (2010-11)	10.1	11.7	17.8	8.9	10.1	7.4
Currently under review	24.8	32.5	26.7	27.7	19.7	24.8
What academic resources/services are on your campus Web site (or portal)?*						
Undergraduate admissions application	98.9	100.0	93.3	99.0	100.0	98.3
Financial aid application	95.0	97.4	95.6	94.1	93.3	96.7
Current course catalog	99.6	100.0	95.6	100.0	100.0	100.0
Program/major/degree requirements	97.7	97.4	95.6	98.0	98.3	97.5
Course registration	98.1	100.0	95.6	99.0	96.6	99.2
Course add/drop options	93.3	100.0	93.3	97.0	88.8	94.2
E-commerce (fee payments etc)	93.0	100.0	95.6	96.0	87.1	95.0
Online Courses (i.e. full course online)	81.5	96.1	68.9	94.1	60.1	98.3
Student ePortfolios	45.0	48.1	53.3	52.5	47.8	29.8
Library/card catalog	96.4	100.0	95.6	96.0	97.2	94.2
Interlibrary loan services	89.7	98.7	93.3	92.1	92.1	77.7
Journals & reference resources	96.0	100.0	97.8	99.0	96.6	90.1
Course reserves	68.8	85.7	80.0	81.2	74.2	37.2
Student transcripts	91.6	94.8	88.9	92.1	89.3	95.0
Degree audit software	78.7	88.3	82.2	87.1	72.5	73.6
IT support resources	94.5	97.4	97.8	96.0	95.5	88.4
IT training/tutorials	87.6	94.8	93.3	89.1	87.1	81.0
IT self-help resources	75.2	85.7	91.1	73.3	76.4	62.8
Instructional software	69.3	93.5	86.7	82.2	61.2	49.6
Desktop software (MS Office etc)	58.5	80.5	75.6	67.3	52.2	40.5
Faculty/staff directory	97.9	100.0	93.3	99.0	98.3	97.5
Campus dining services	73.7	96.1	86.7	83.2	81.5	36.4
Campus housing services	67.4	97.4	82.2	87.1	74.7	15.7
Student health services	64.2	89.6	68.9	77.2	70.2	26.4
Student newspaper	76.8	90.9	80.0	87.1	80.9	52.9
Student handbook	96.2	96.1	95.6	98.0	97.8	92.6
Athletic event schedule	90.7	97.4	95.6	92.1	97.2	74.4
Alumni information/services	91.4	94.8	97.8	98.0	96.6	73.6
Press releases/media services	96.0	98.7	95.6	96.0	97.2	92.6
Campus book store	91.2	93.5	86.7	92.1	91.0	91.7
Computer resale services	36.8	57.1	57.8	40.6	34.8	15.7
Campus calendar	89.1	90.9	86.7	88.1	89.3	90.1
Personalized student calendar	57.3	67.5	51.1	55.4	64.6	44.6
Campus OneCard account services	49.7	76.6	73.3	71.3	45.5	13.2
Digital Music Service (Napster, Ruckus, etc.)	10.7	18.2	22.2	15.8	8.4	0.8
percentages by campus category.						
FUTURE ISSUES AFFECTING CAMPUS COMPUTING						
How important are the following to campus computing and IT planning over the next 2-3 years?						
Operating system/interface/development tools						
Windows XP	3.4	3.2	3.2	3.8	3.3	3.5
Windows Vista	2.2	2.7	2.6	2.3	2.0	1.8
Windows 7	6.4	6.3	6.5	6.5	6.4	6.6
Windows Server	6.3	6.1	6.3	6.5	6.2	6.3
Macintosh OS X (client)	5.5	5.6	6.1	5.8	5.6	4.7
Macintosh OS X (server)	3.9	4.0	4.4	4.2	3.8	3.6
Solaris/Open Solaris	2.8	4.4	3.0	3.2	2.1	2.4
Unix	3.8	4.9	4.4	3.8	3.4	3.5
Linux (client)	3.5	4.4	3.8	3.9	3.2	2.8
Linux (server)	5.3	6.2	5.8	5.5	5.1	4.5
mean ratings by campus category scale from 1="not important" to 7="very important".						

CAMPUS COMPUTING 2010

	All Institutions	Universities		4-Year Colleges		Community Colleges
		Public	Private	Public	Private	
How important are the following to campus computing and IT planning over the next 2-3 years?						
Hardware						
Notebook computers	6.2	6.2	6.3	6.3	6.3	6.0
Netbook computers	4.8	4.9	4.6	5.0	4.7	4.6
Thin client computers	4.6	4.7	4.5	4.7	4.4	4.7
Unix workstations	2.4	3.5	2.9	2.7	2.0	1.8
Tablet computers	4.0	4.3	4.4	3.8	4.0	4.0
Cellular/mobile phones	5.3	5.7	5.5	5.4	5.4	4.9
Smart phones	5.7	6.0	6.1	5.7	5.7	5.4
iPods/MP3 players	4.3	4.7	4.1	4.2	4.3	4.2
Tablet devices (iPads etc)	5.1	5.3	5.4	5.2	5.0	4.8
Instructional applications and resources						
Developing instructional software	4.2	4.3	4.6	4.6	3.9	4.2
Using instructional software in classes	6.1	6.1	5.9	6.2	6.1	6.1
Using instructional software as a supplement to classes	6.2	6.3	6.0	6.2	6.3	6.2
Computer-based classroom presentation facilities	6.5	6.4	6.2	6.5	6.5	6.6
Internet resources for instruction	6.5	6.4	6.4	6.5	6.5	6.5
Web pages for classes	5.6	5.8	5.8	5.5	5.5	5.8
Web-based tutorials	5.6	5.7	5.6	5.8	5.2	5.9
e-Books (e-textbooks)	5.3	5.1	5.4	5.6	5.1	5.6
Learning management systems	6.6	6.7	6.5	6.6	6.5	6.6
On-line course evaluation	6.0	6.2	6.0	6.0	5.8	6.1
Classroom "clickers"	4.8	5.4	4.5	4.8	4.6	4.9
Lecture capture	5.1	5.8	5.4	5.1	4.7	5.1
Wireless access in campus classrooms	6.3	6.5	6.2	6.3	6.4	6.2
User support services/campus IT services						
On-line IT training	5.5	5.5	5.3	5.7	5.2	5.7
On-line technical support	6.0	6.0	6.0	6.1	5.8	6.1
Computer resale program	2.9	3.2	3.2	3.1	2.9	2.6
Computer repair services	4.3	4.1	4.4	4.7	4.4	4.1
Help-desk services	6.6	6.5	6.6	6.6	6.6	6.6
Alumni e-mail accounts	4.5	4.8	4.9	4.6	4.7	3.7
Alumni services via the campus Web site	5.2	5.1	5.7	5.3	5.7	4.3
Student ePortfolios	5.0	5.1	5.2	5.2	5.3	4.3
Networking & Internet/Web issues & resources						
Wi-Max networks	4.3	4.5	4.1	4.7	4.1	4.4
Migrating to 802.11n	5.8	6.0	6.0	5.8	5.7	5.6
Voice over IP	5.9	5.9	5.7	5.9	5.6	6.2
Microsoft Exchange	5.2	5.4	5.5	5.1	4.7	6.0
Java	5.3	6.0	5.2	5.4	5.0	5.3
XML (SOAP)	5.3	5.8	5.2	5.4	5.0	5.3
Microsoft.net	4.7	4.6	4.3	4.6	4.6	5.1
Microsoft Sharepoint	4.7	4.8	5.0	4.8	4.1	5.3
Open Net / Java Enterprise (Sun)	3.8	4.4	3.8	4.0	3.3	3.9
Gigabit Ethernet	6.5	6.5	6.5	6.6	6.4	6.4
Grid computing	4.0	5.3	4.8	4.1	3.4	3.6
Adobe Acrobat	5.6	5.6	5.3	5.7	5.7	5.6
Internet videoconferencing	6.0	6.2	6.1	5.9	5.7	6.1
VPN / Virtual Private Networks	6.0	6.2	5.9	6.2	5.8	5.9
Identity management	6.5	6.7	6.4	6.6	6.3	6.5
Open Source software	5.0	5.4	5.1	5.2	5.1	4.5
Student portal services	6.1	6.1	6.0	6.0	6.2	6.0
SCORM standards	3.9	4.5	3.4	4.0	3.7	4.0
Data encryption	6.2	6.4	6.2	6.3	6.0	6.1
Content management systems	6.1	6.0	6.0	6.2	6.1	6.1
Instant messaging	4.8	5.1	4.8	4.8	4.7	4.9
Wikis	4.7	5.1	4.6	4.8	4.8	4.5
Podcasting	5.0	5.4	5.2	4.9	5.0	5.0
Blogging	4.9	4.9	4.7	4.8	5.0	4.7
Web conferencing	5.7	5.9	5.7	5.7	5.5	5.8
Server Virtualization	6.4	6.6	6.3	6.5	6.2	6.4
Desktop Virtualization	5.1	5.2	4.9	5.4	4.8	5.2
Cloud Computing	5.3	5.6	5.6	5.6	5.2	5.0
Mobile Computing	5.5	5.8	5.6	5.8	5.5	5.1
Administrative software/ERP--Upgrade or replacement						
Accounting / Financial Management	5.7	5.8	5.9	5.5	5.7	5.7
Admissions / Recruitment	6.1	6.1	6.0	6.1	6.3	5.9
Alumni	5.1	5.2	5.5	5.0	5.6	4.5
CRM software	5.1	5.0	4.9	4.9	5.4	4.9
Development	5.2	5.3	5.3	5.1	5.5	4.7
eProcurement / Purchasing	5.2	5.7	5.3	5.3	4.8	5.3
Human Resources	5.5	5.8	5.4	5.4	5.4	5.5
Student Financial Aid Management	5.8	6.0	5.7	5.8	5.8	5.9
Student Info Systems (SIS)	6.0	6.1	6.0	6.0	5.9	6.0
Business Intelligence / Analytics	5.5	6.0	5.7	5.6	5.4	5.3
Degree Audit	5.5	5.7	5.0	5.7	5.3	5.6
Student Retention / Early Warning Systems	5.7	5.8	5.1	5.8	5.6	5.9

mean ratings by campus category scale from 1="not important" to 7="very important".

CAMPUS COMPUTING 2010

	All Institutions	Universities		4-Year Colleges		Community Colleges
		Public	Private	Public	Private	
FUTURE ISSUES AFFECTING CAMPUS COMPUTING (continued)						
Vendor Services / Outsourcing						
Data back-up or data storage	4.0	3.7	4.8	4.2	4.0	3.6
ERP services	2.7	2.6	3.1	2.9	2.4	2.7
Instructional technology services	2.6	2.6	2.7	2.8	2.5	2.8
User support	2.7	2.7	3.2	2.6	2.6	2.8
ResNet services	2.5	2.6	2.6	2.8	2.6	1.8
eProcurement	2.9	3.2	3.6	3.2	2.8	2.5
Student / campus portal	3.0	2.5	2.7	3.3	2.9	3.1
Web hosting services	3.4	2.9	4.0	3.3	3.6	3.2
Video streaming	3.8	3.2	3.9	3.4	4.2	3.7
Student email services	5.5	5.8	5.9	5.4	5.4	5.5
mean ratings by campus category scale from 1="not important" to 7="very important".						
RATING THE TECHNOLOGY INFRASTRUCTURE						
Computer networks and data communication	6.1	6.2	6.1	6.2	6.1	6.1
Telecommunications and phone system	5.6	5.7	5.6	5.7	5.5	5.7
Wireless networks	5.7	5.6	5.7	5.8	5.9	5.4
User support services	5.5	5.4	5.8	5.5	5.5	5.6
On-line reference resources in campus library/library system	5.8	5.9	5.8	6.0	5.9	5.7
Web resources to support instruction	5.3	5.5	5.0	5.3	5.3	5.2
Multimedia / AV enabled classrooms	5.5	5.4	5.4	5.4	5.6	5.6
Campus web site services/student portal	5.1	5.3	5.0	5.2	5.1	5.0
Overall assessment of IT security (network attacks, secure data bases, identity mgmt., etc.)	5.3	5.3	5.5	5.3	5.3	5.2
Disaster planning	4.6	4.5	4.7	4.7	4.5	4.5
IT training for faculty	4.6	4.5	4.6	4.7	4.6	4.7
IT training for students	3.9	3.9	4.0	3.9	3.9	3.8
Campus portal	4.4	4.8	4.4	4.4	4.4	4.1
Data warehousing	3.9	4.3	4.5	4.1	3.6	3.9
Digital dashboards/ERP analytics	3.2	3.4	3.4	3.3	3.0	3.2
Emergency communications / notification system(s)	5.6	5.8	5.7	5.6	5.7	5.2
Cellular coverage across the campus	5.1	5.3	5.1	5.1	5.2	4.8
Mobile apps/services for students, faculty & staff	3.0	3.4	3.3	3.1	3.0	2.6
mean ratings by campus category. scale from 1="poor" to 7="excellent".						
ADDRESSING BUDGET ISSUES BY:						
Reducing purchases of computer technology						
Doing this already	38.2	50.7	28.9	46.5	33.0	34.7
Beginning in 2010-11	8.0	6.5	15.6	4.0	5.6	13.2
Reviewing for 2010-11	16.0	11.7	17.8	24.8	11.2	17.4
Decided not to do	37.8	31.2	37.8	24.8	50.3	34.7
Charging fees to departments and service units						
Doing this already	26.8	70.1	28.9	20.8	18.4	15.7
Beginning in 2010-11	3.0	1.3	6.7	4.0	3.4	1.7
Reviewing for 2010-11	14.8	9.1	20.0	23.8	12.3	13.2
Decided not to do	55.3	19.5	44.4	51.5	65.9	69.4
Requiring a computer/IT fee for all students						
Doing this already	54.4	72.7	35.6	67.3	36.9	65.3
Beginning in 2010-11	1.0	5.2	-	-	0.6	-
Reviewing for 2010-11	5.9	7.8	2.2	6.9	4.5	7.4
Decided not to do	38.8	14.3	62.2	25.7	58.1	27.3
Leasing rather than buying hardware						
Doing this already	20.3	24.7	31.1	9.9	27.9	9.9
Beginning in 2010-11	1.5	2.6	2.2	-	1.7	1.7
Reviewing for 2010-11	14.6	18.2	15.6	20.8	10.6	13.2
Decided not to do	63.5	54.6	51.1	69.3	59.8	75.2
Reducing hours in public access facilities						
Doing this already	23.4	32.5	17.8	29.7	13.4	28.9
Beginning in 2010-11	2.7	1.3	2.2	1.0	2.8	5.0
Reviewing for 2010-11	10.3	14.3	13.3	11.9	7.3	9.9
Decided not to do	63.7	52.0	66.7	57.4	76.5	56.2
Reducing services						
Doing this already	27.0	33.8	13.3	33.7	22.4	29.8
Beginning in 2010-11	5.1	9.1	4.4	5.0	4.5	4.1
Reviewing for 2010-11	16.9	23.4	20.0	24.8	10.6	14.1
Decided not to do	51.0	33.8	62.2	36.6	62.6	52.1
Phasing out public computer labs						
Doing this already	10.3	13.0	13.3	16.8	8.9	3.3
Beginning in 2010-11	2.9	6.5	2.2	3.0	3.4	-
Reviewing for 2010-11	19.4	32.5	28.9	19.8	18.4	9.1
Decided not to do	67.5	48.1	55.6	60.4	69.3	87.6
Reorganizing operations (e.g., combining units to coordinate staffing)						
Doing this already	54.4	64.9	55.6	59.4	51.4	47.9
Beginning in 2010-11	8.2	7.8	11.1	8.9	9.5	5.0
Reviewing for 2010-11	17.7	19.5	15.6	22.8	11.7	22.3
Decided not to do	19.8	7.8	17.8	8.9	27.4	24.8
Reducing staff						
Doing this already	33.8	49.4	33.3	42.6	21.2	35.5
Beginning in 2010-11	5.9	9.1	8.9	6.9	5.6	2.5
Reviewing for 2010-11	9.7	14.3	6.7	10.9	6.7	11.6
Decided not to do	50.6	27.3	51.1	39.6	66.5	50.4
Using information technology to reduce instructional costs						
Doing this already	49.4	66.2	42.2	50.5	38.0	57.9
Beginning in 2010-11	2.7	1.3	-	2.0	4.5	2.5
Reviewing for 2010-11	22.1	16.9	17.8	32.7	19.0	22.3
Decided not to do	25.9	15.6	40.0	14.9	38.6	17.4
percentages by campus category.						

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
ADDRESSING BUDGET ISSUES BY: (continued)						
Making greater use of student assistants for user support services						
Doing this already	73.4	80.5	66.7	84.2	78.8	54.6
Beginning in 2010-11	3.2	5.2	4.4	1.0	3.9	2.5
Reviewing for 2010-11	8.8	6.5	13.3	7.9	7.3	11.6
Decided not to do	14.6	7.8	15.6	6.9	10.1	31.4
Outsourcing computing/IT services to commercial providers						
Doing this already	21.1	24.7	37.8	22.8	18.4	15.7
Beginning in 2010-11	3.8	7.8	4.4	4.0	3.9	0.8
Reviewing for 2010-11	20.0	28.6	24.4	17.8	15.1	21.5
Decided not to do	55.1	39.0	33.3	55.5	62.6	62.0
Outsourcing student portal services to commercial providers						
Doing this already	6.8	9.1	-	7.9	4.5	10.7
Beginning in 2010-11	1.3	1.3	-	4.0	0.6	0.8
Reviewing for 2010-11	10.1	5.2	13.3	14.9	7.3	12.4
Decided not to do	81.8	84.4	86.7	73.3	87.7	76.0
Outsourcing user support services to commercial providers						
Doing this already	8.9	11.7	15.6	4.0	5.0	14.9
Beginning in 2010-11	0.6	2.6	-	-	0.6	-
Reviewing for 2010-11	14.3	15.6	13.3	15.8	13.4	14.1
Decided not to do	76.2	70.1	71.1	80.2	81.0	71.1
Outsourcing ERP services						
Doing this already	8.8	9.1	4.4	18.8	5.6	6.6
Beginning in 2010-11	0.4	-	-	-	1.1	-
Reviewing for 2010-11	9.5	15.6	20.0	5.9	7.3	8.3
Decided not to do	81.4	75.3	75.6	75.3	86.0	85.1
Outsourcing ResNet services						
Doing this already	6.7	6.5	8.9	14.9	3.9	3.3
Beginning in 2010-11	0.6	1.3	-	-	-	1.7
Reviewing for 2010-11	8.9	13.0	4.4	12.9	10.1	3.3
Decided not to do	83.8	79.2	86.7	72.3	86.0	91.7
Outsourcing student email services						
Doing this already	41.1	46.8	44.4	40.6	31.8	51.2
Beginning in 2010-11	10.7	9.1	8.9	11.9	10.1	12.4
Reviewing for 2010-11	22.8	23.4	37.8	20.8	26.3	14.1
Decided not to do	25.5	20.8	8.9	26.7	31.8	22.3
Delaying/deferring ERP deployment/replacement/upgrades						
Doing this already	15.4	18.2	22.2	19.8	11.7	12.4
Beginning in 2010-11	3.2	7.8	4.4	1.0	2.2	3.3
Reviewing for 2010-11	9.9	11.7	8.9	10.9	6.2	14.1
Decided not to do	71.5	62.3	64.4	68.3	79.9	70.3
Deferring/reducing use of consultants on IT projects						
Doing this already	47.7	57.1	42.2	57.4	43.0	41.3
Beginning in 2010-11	3.2	5.2	6.7	1.0	3.4	2.5
Reviewing for 2010-11	13.7	14.3	11.1	18.8	11.2	14.1
Decided not to do	35.4	23.4	40.0	22.8	42.5	42.2
Reviewing options for the campus standard Learning Mgmt System						
Doing this already	37.1	39.0	28.9	36.6	35.2	40.5
Beginning in 2010-11	7.6	9.1	6.7	9.9	6.7	6.6
Reviewing for 2010-11	28.7	28.6	40.0	34.7	24.0	27.3
Decided not to do	26.6	23.4	24.4	18.8	34.1	25.6
Migrating to Software as a Service (SaaS) / ERP applications						
Doing this already	10.7	15.6	13.3	13.9	7.8	8.3
Beginning in 2010-11	2.7	5.2	-	2.0	1.7	4.1
Reviewing for 2010-11	27.0	28.6	48.9	31.7	22.4	21.5
Decided not to do	59.7	50.7	37.8	52.5	68.2	66.1
Migrating to Open Source ERP software and services						
Doing this already	5.5	10.4	4.4	4.0	5.6	4.1
Beginning in 2010-11	0.4	-	-	2.0	-	-
Reviewing for 2010-11	11.6	14.3	15.6	13.9	7.8	12.4
Decided not to do	82.5	75.3	80.0	80.2	86.6	83.5
Migrating to Open Source Learning management systems						
Doing this already	24.3	18.2	22.2	18.8	40.2	9.9
Beginning in 2010-11	3.0	1.3	-	3.0	5.0	2.5
Reviewing for 2010-11	34.0	36.4	40.0	42.6	26.8	33.9
Decided not to do	38.6	44.2	37.8	35.6	27.9	53.7
Migrating to Open Source Digital content for the library curriculum etc						
Doing this already	22.4	26.0	22.2	21.8	27.9	13.2
Beginning in 2010-11	2.3	1.3	2.2	2.0	2.2	3.3
Reviewing for 2010-11	27.4	29.9	28.9	35.6	24.0	22.3
Decided not to do	47.9	42.9	46.7	40.6	45.8	61.2
Migrating to Open Source Desktop application software						
Doing this already	10.8	10.4	11.1	10.9	12.3	8.3
Beginning in 2010-11	0.8	-	-	-	0.6	2.5
Reviewing for 2010-11	21.1	27.3	17.8	27.7	18.4	17.4
Decided not to do	67.3	62.3	71.1	61.4	68.7	71.9
percentages by campus category.						
STRATEGIC, BUDGET AND PERSONNEL ISSUES						
Assessing the benefits of existing investments in computing and technology resources	6.1	6.0	6.2	6.2	6.0	6.2
Clarifying goals and campus plans for technology resources	6.5	6.4	6.5	6.5	6.5	6.4
Providing incentives and rewards for faculty to support technology integration into the curriculum	4.6	4.7	4.2	5.0	4.4	4.5
Allocating campus funds to support expanded services	5.4	5.3	5.4	5.4	5.4	5.5
Faculty concerns about the benefits of computing in the curriculum	4.7	4.8	4.5	4.9	4.6	4.7
Administrative concerns about the benefits of computing in the curriculum	4.6	4.6	4.3	4.9	4.4	4.7
Establishing/maintaining campus-wide standards for hardware	5.8	5.1	5.1	5.8	5.8	6.3
mean ratings by campus category. scale from 1="not important" to 7="very important".						

CAMPUS COMPUTING 2010

	All Institutions	Universities		4-Year Colleges		Community Colleges
		Public	Private	Public	Private	
STRATEGIC, BUDGET AND PERSONNEL ISSUES (continued)						
Establishing/maintaining campus-wide standards for software	5.9	5.4	5.4	5.9	6.0	6.3
Operating a computer resale program for students and faculty	2.4	2.9	2.5	2.4	2.4	2.1
Developing budget mechanisms to replace aging equipment on a routine basis	6.2	6.2	6.2	6.3	6.2	6.3
Using technology-based commercial curriculum products	4.5	4.3	4.6	4.6	4.4	4.8
Using technology resources to enhance our distance / online education program	5.4	6.0	5.2	5.9	4.4	6.2
Negotiating site licensing agreements with textbook publishers	4.3	4.0	4.0	4.6	4.0	4.9
Negotiating site licensing agreements with academic publishers	4.5	4.4	4.4	4.7	4.3	5.0
Sharing digital resources with other campuses/institutions	5.1	5.5	4.9	5.4	4.8	5.0
Developing/updating campus policies for Web-based intellectual property	5.3	5.3	5.5	5.3	5.3	5.3
Helping our IT personnel stay current with new technologies	6.4	6.3	6.4	6.5	6.3	6.5
Retaining current IT personnel given off-campus competition	5.9	6.0	5.6	6.0	5.9	5.9
Moving more of our user support services to the Web	5.9	5.9	5.9	6.1	5.9	5.9
Surveying students and faculty about IT issues and services	5.8	5.8	5.7	5.9	5.8	5.8
Assessing the return on investment for IT spending/resources	5.6	5.8	5.2	5.8	5.5	5.8
Researching the total cost of ownership (TCO) for our IT purchases	5.4	5.7	5.2	5.4	5.2	5.7
Migrating administrative / ERP services to the Cloud	3.0	3.1	3.4	3.2	2.8	3.0
Migrating instructional computing resources to the Cloud	3.7	3.6	3.8	4.0	3.5	3.8
Using Open Source tools and applications	4.5	4.8	4.5	4.8	4.6	3.9
Supporting smart phones	5.1	5.5	5.5	5.2	5.0	4.8
Managing/distributing digital learning resources	5.2	5.6	5.4	5.4	5.0	5.2
Controlling/restricting file sharing of commercial content	5.4	5.4	5.2	5.6	5.3	5.5
Data warehousing	5.5	5.9	5.9	5.7	5.1	5.4
Storage management	6.0	6.3	6.2	6.1	5.9	5.9
Server consolidation	6.1	6.4	6.2	6.3	5.9	6.2
Server virtualization	6.3	6.5	6.4	6.5	6.2	6.3
IT Business Continuity	6.0	6.1	6.3	6.0	5.8	6.0
Identity Management	6.2	6.6	6.2	6.3	5.9	6.2
Business analytics / intelligence	5.4	5.9	5.5	5.5	5.3	5.2
Environmental ("green") issues in the acquisition and disposal of IT hardware	5.5	5.7	5.3	5.4	5.3	5.6
Hosted applications / Software as a Service (SaaS)	4.4	4.8	4.8	4.5	4.3	4.3
Providing mobile services (apps) for our ERP / administrative systems	4.2	4.2	4.2	4.3	4.3	3.9
Providing mobile services (apps) for our LMS / learning mgmt system	4.8	5.0	5.2	5.0	4.8	4.4
Federated Identity Management	4.8	5.6	5.0	5.1	4.4	4.6
mean ratings by campus category. scale from 1="not important" to 7="very important".						
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S						
Total computing budget for central IT services						
Reduced >5%	15.0	14.3	4.4	22.8	10.6	19.8
Reduced 3-5%	11.4	24.7	6.7	12.9	8.4	7.4
Reduced 1-3%	15.2	20.8	13.3	10.9	12.9	19.0
No change	32.5	29.9	40.0	37.6	32.4	28.1
Increased 1-3%	17.1	3.9	24.4	11.9	24.6	15.7
Increased 3-5%	3.2	1.3	6.7	1.0	4.5	3.3
Increased >5%	5.5	5.2	4.4	3.0	6.7	6.6
Total academic computing budget						
Reduced >5%	12.7	10.4	2.2	19.8	8.9	18.2
Reduced 3-5%	10.1	20.8	4.4	13.9	6.7	6.6
Reduced 1-3%	13.7	23.4	8.9	11.9	11.7	13.2
No change	39.5	27.3	48.9	40.6	43.6	38.0
Increased 1-3%	16.9	11.7	31.1	12.9	19.0	14.9
Increased 3-5%	4.4	2.6	4.4	1.0	6.2	5.8
Increased >5%	2.7	3.9	-	-	3.9	3.3
Total administrative computing budget						
Reduced >5%	13.7	11.7	2.2	22.8	8.9	19.0
Reduced 3-5%	9.7	19.5	11.1	11.9	5.6	6.6
Reduced 1-3%	15.0	23.4	11.1	11.9	11.2	19.0
No change	39.2	33.8	46.7	42.6	41.3	34.7
Increased 1-3%	15.8	6.5	20.0	8.9	25.7	10.7
Increased 3-5%	4.0	2.6	6.7	1.0	3.4	7.4
Increased >5%	2.7	2.6	2.2	1.0	3.9	2.5
Purchases of computers by academic computing units						
Reduced >5%	10.8	6.5	-	22.8	5.6	15.7
Reduced 3-5%	7.6	14.3	4.4	9.9	5.0	5.8
Reduced 1-3%	16.0	32.5	8.9	12.9	10.6	19.0
No change	49.1	42.9	62.2	47.5	58.7	34.7
Increased 1-3%	11.8	3.9	20.0	5.0	14.0	16.5
Increased 3-5%	3.0	-	4.4	2.0	3.4	5.0
Increased >5%	1.7	-	-	-	2.8	3.3
Purchases of computers by administrative computing units						
Reduced >5%	12.6	6.5	4.4	23.8	6.2	19.8
Reduced 3-5%	8.4	19.5	4.4	9.9	4.5	6.6
Reduced 1-3%	16.9	27.3	11.1	19.8	10.1	20.7
No change	48.1	41.6	62.2	42.6	59.8	33.9
Increased 1-3%	9.7	3.9	13.3	2.0	14.0	12.4
Increased 3-5%	2.7	-	4.4	2.0	2.8	4.1
Increased >5%	1.7	1.3	-	-	2.8	2.5
Purchases of computers by academic departments						
Reduced >5%	12.9	10.4	2.2	24.8	7.3	17.4
Reduced 3-5%	7.8	15.6	4.4	7.9	5.6	6.6
Reduced 1-3%	14.6	20.8	4.4	18.8	9.5	19.0
No change	51.3	49.4	73.3	41.6	60.9	38.0
Increased 1-3%	10.1	3.9	11.1	6.9	12.9	12.4
Increased 3-5%	2.1	-	4.4	-	1.7	5.0
Increased >5%	1.1	-	-	-	2.2	1.7
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (continued)						
All institutional purchases of desktop/notebook computers						
Reduced >5%	12.9	6.5	6.7	23.8	7.8	18.2
Reduced 3-5%	8.4	14.3	6.7	9.9	4.5	9.1
Reduced 1-3%	16.5	27.3	6.7	18.8	14.0	14.9
No change	41.4	46.8	53.3	38.6	44.7	32.2
Increased 1-3%	15.0	3.9	20.0	7.9	22.9	14.9
Increased 3-5%	3.2	-	6.7	-	3.9	5.8
Increased >5%	2.5	1.3	-	1.0	2.2	5.0
Institutional support for public computer labs						
Reduced >5%	8.9	6.5	2.2	17.8	3.9	13.2
Reduced 3-5%	5.1	9.1	8.9	4.0	3.9	4.1
Reduced 1-3%	12.0	26.0	8.9	7.9	12.9	6.6
No change	59.7	50.7	66.7	57.4	61.5	62.0
Increased 1-3%	10.1	6.5	11.1	9.9	13.4	7.4
Increased 3-5%	2.7	-	2.2	3.0	2.2	5.0
Increased >5%	1.5	1.3	-	-	2.2	1.7
Network servers						
Reduced >5%	7.0	3.9	-	11.9	6.2	8.3
Reduced 3-5%	5.5	6.5	2.2	10.9	2.8	5.8
Reduced 1-3%	11.2	19.5	6.7	12.9	8.4	10.7
No change	51.9	50.7	73.3	38.6	57.0	47.9
Increased 1-3%	15.8	16.9	13.3	15.8	16.8	14.9
Increased 3-5%	5.7	-	4.4	7.9	7.3	5.8
Increased >5%	2.9	2.6	-	2.0	1.7	6.6
Server software and related products						
Reduced >5%	5.9	5.2	-	11.9	4.5	5.8
Reduced 3-5%	5.3	5.2	4.4	10.9	2.8	5.0
Reduced 1-3%	8.2	14.3	6.7	9.9	6.7	5.8
No change	56.1	52.0	68.9	44.6	59.8	57.9
Increased 1-3%	17.3	18.2	15.6	19.8	19.6	12.4
Increased 3-5%	4.8	2.6	4.4	3.0	5.0	7.4
Increased >5%	2.5	2.6	-	-	1.7	5.8
Wireless networks						
Reduced >5%	5.7	2.6	-	12.9	3.4	7.4
Reduced 3-5%	3.4	2.6	2.2	4.0	3.4	4.1
Reduced 1-3%	4.9	6.5	4.4	5.9	4.5	4.1
No change	46.2	55.8	33.3	48.5	46.9	42.2
Increased 1-3%	19.8	20.8	35.6	15.8	17.9	19.0
Increased 3-5%	10.3	7.8	13.3	8.9	10.6	11.6
Increased >5%	9.7	3.9	11.1	4.0	13.4	11.6
User training and support						
Reduced >5%	8.6	10.4	6.7	16.8	4.5	7.4
Reduced 3-5%	5.1	7.8	2.2	6.9	3.4	5.8
Reduced 1-3%	10.1	18.2	8.9	5.0	10.6	8.3
No change	62.7	57.1	66.7	56.4	65.4	66.1
Increased 1-3%	9.9	6.5	11.1	9.9	11.7	9.1
Increased 3-5%	2.3	-	2.2	3.0	3.9	0.8
Increased >5%	1.3	-	2.2	2.0	0.6	2.5
Professional development for IT personnel						
Reduced >5%	10.3	7.8	4.4	17.8	8.4	10.7
Reduced 3-5%	6.7	14.3	4.4	5.9	4.5	6.6
Reduced 1-3%	12.7	26.0	17.8	8.9	8.4	11.6
No change	53.0	46.8	53.3	46.5	59.2	53.7
Increased 1-3%	12.6	3.9	15.6	11.9	16.2	11.6
Increased 3-5%	2.9	1.3	4.4	5.0	2.2	2.5
Increased >5%	1.9	-	-	4.0	1.1	3.3
Campus portal services						
Reduced >5%	4.4	3.9	2.2	10.9	2.2	3.3
Reduced 3-5%	3.0	2.6	2.2	4.0	1.1	5.8
Reduced 1-3%	5.7	11.7	2.2	4.0	5.6	5.0
No change	66.5	66.2	77.8	61.4	63.1	71.1
Increased 1-3%	12.0	13.0	8.9	12.9	14.0	9.1
Increased 3-5%	3.4	1.3	2.2	3.0	6.2	1.7
Increased >5%	4.9	1.3	4.4	4.0	7.8	4.1
ERP software and services						
Reduced >5%	3.2	2.6	-	7.9	1.7	3.3
Reduced 3-5%	2.7	1.3	2.2	5.0	1.7	3.3
Reduced 1-3%	5.5	10.4	8.9	5.9	2.2	5.8
No change	57.2	64.9	46.7	58.4	53.6	59.5
Increased 1-3%	18.6	18.2	26.7	16.8	21.2	14.1
Increased 3-5%	6.7	1.3	6.7	1.0	11.7	7.4
Increased >5%	6.1	1.3	8.9	5.0	7.8	6.6
Cloud computing resources/services/migration						
Reduced >5%	3.6	-	-	5.9	2.8	6.6
Reduced 3-5%	3.0	5.2	2.2	5.0	1.1	3.3
Reduced 1-3%	3.0	1.3	2.2	5.0	1.1	5.8
No change	65.8	70.1	57.8	61.4	69.3	63.6
Increased 1-3%	17.1	19.5	31.1	11.9	16.8	15.7
Increased 3-5%	4.4	2.6	6.7	5.9	4.5	3.3
Increased >5%	3.0	1.3	-	5.0	4.5	1.7

percentages by campus category.

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (continued)						
Mobile computing resources/services						
Reduced >5%	4.0	1.3	-	6.9	2.8	6.6
Reduced 3-5%	2.1	2.6	2.2	2.0	0.6	4.1
Reduced 1-3%	3.2	3.9	-	3.0	2.8	5.0
No change	62.7	55.8	55.6	58.4	64.8	69.4
Increased 1-3%	20.9	26.0	26.7	20.8	24.0	11.6
Increased 3-5%	5.5	6.5	13.3	6.9	3.9	3.3
Increased >5%	1.5	3.9	2.2	2.0	1.1	-
Tech resources for smart classrooms						
Reduced >5%	5.5	1.3	-	9.9	3.9	9.1
Reduced 3-5%	3.8	3.9	4.4	5.9	1.1	5.8
Reduced 1-3%	6.1	9.1	4.4	5.0	6.7	5.0
No change	51.5	62.3	48.9	48.5	53.1	44.6
Increased 1-3%	23.6	16.9	31.1	18.8	26.3	25.6
Increased 3-5%	7.0	3.9	11.1	9.9	6.7	5.8
Increased >5%	2.5	2.6	-	2.0	2.2	4.1
External service providers						
Reduced >5%	7.2	7.8	4.4	12.9	3.9	8.3
Reduced 3-5%	5.3	5.2	6.7	6.9	3.9	5.8
Reduced 1-3%	6.8	7.8	6.7	4.0	7.3	8.3
No change	64.3	64.9	55.6	63.4	63.7	67.8
Increased 1-3%	11.2	11.7	15.6	6.9	15.1	7.4
Increased 3-5%	3.2	1.3	11.1	1.0	3.9	2.5
Increased >5%	1.9	1.3	-	5.0	2.2	-
Security issues						
Reduced >5%	3.8	1.3	-	8.9	2.2	5.0
Reduced 3-5%	2.3	2.6	2.2	4.0	0.6	3.3
Reduced 1-3%	3.4	3.9	4.4	2.0	3.4	4.1
No change	49.1	42.9	44.4	43.6	54.8	51.2
Increased 1-3%	27.4	31.2	26.7	27.7	26.8	25.6
Increased 3-5%	7.4	10.4	11.1	5.9	5.6	7.4
Increased >5%	6.7	7.8	11.1	7.9	6.7	3.3
Identity management						
Reduced >5%	4.0	1.3	-	8.9	2.2	5.8
Reduced 3-5%	2.5	3.9	-	3.0	1.7	3.3
Reduced 1-3%	3.4	5.2	4.4	1.0	2.2	5.8
No change	57.6	42.9	53.3	53.5	66.5	57.9
Increased 1-3%	19.4	31.2	20.0	15.8	18.4	16.5
Increased 3-5%	7.2	5.2	11.1	7.9	6.2	8.3
Increased >5%	5.9	10.4	11.1	9.9	2.8	2.5
Consultants for IT projects and services						
Reduced >5%	12.9	13.0	15.6	18.8	8.9	13.2
Reduced 3-5%	9.1	11.7	6.7	10.9	7.8	8.3
Reduced 1-3%	11.6	14.3	11.1	10.9	11.7	10.7
No change	46.0	40.3	37.8	46.5	48.6	47.9
Increased 1-3%	13.9	18.2	20.0	5.9	15.1	14.1
Increased 3-5%	3.0	2.6	4.4	1.0	4.5	2.5
Increased >5%	3.4	-	4.4	5.9	3.4	3.3
Data warehousing						
Reduced >5%	4.0	1.3	2.2	10.9	2.2	3.3
Reduced 3-5%	2.1	2.6	2.2	2.0	1.1	3.3
Reduced 1-3%	4.4	3.9	2.2	4.0	3.9	6.6
No change	68.6	74.0	60.0	58.4	75.4	66.9
Increased 1-3%	13.5	13.0	20.0	15.8	11.2	13.2
Increased 3-5%	4.4	3.9	8.9	5.0	2.8	4.1
Increased >5%	3.0	1.3	4.4	4.0	3.4	2.5
CRM services/software						
Reduced >5%	4.4	3.9	2.2	10.9	2.2	3.3
Reduced 3-5%	3.0	3.9	2.2	4.0	1.1	5.0
Reduced 1-3%	4.2	6.5	4.4	2.0	3.9	5.0
No change	72.8	74.0	68.9	73.3	72.6	72.7
Increased 1-3%	9.7	10.4	17.8	5.0	11.2	8.3
Increased 3-5%	3.2	1.3	2.2	3.0	5.0	2.5
Increased >5%	2.7	-	2.2	2.0	3.9	3.3
Supporting Open Source projects/applications						
Reduced >5%	6.1	6.5	2.2	9.9	3.9	7.4
Reduced 3-5%	3.4	3.9	4.4	4.0	1.7	5.0
Reduced 1-3%	5.3	5.2	8.9	3.0	5.0	6.6
No change	73.2	68.8	64.4	72.3	77.7	72.7
Increased 1-3%	9.1	13.0	8.9	9.9	10.6	4.1
Increased 3-5%	2.3	1.3	8.9	1.0	1.1	3.3
Increased >5%	0.6	1.3	2.2	-	-	0.8
Business Continuity						
Reduced >5%	4.2	2.6	2.2	7.9	2.8	5.0
Reduced 3-5%	2.3	2.6	-	4.0	1.1	3.3
Reduced 1-3%	3.4	5.2	8.9	2.0	1.1	5.0
No change	65.2	63.6	55.6	61.4	73.7	60.3
Increased 1-3%	16.7	19.5	20.0	13.9	15.6	17.4
Increased 3-5%	4.4	5.2	6.7	5.0	2.2	5.8
Increased >5%	3.8	1.3	6.7	5.9	3.4	3.3

percentages by campus category.

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (continued)						
Business analytics/Business Intelligence products						
Reduced >5%	3.6	2.6	-	6.9	2.8	4.1
Reduced 3-5%	2.9	2.6	2.2	3.0	2.2	4.1
Reduced 1-3%	4.0	7.8	6.7	4.0	1.7	4.1
No change	62.0	59.7	46.7	60.4	65.9	64.5
Increased 1-3%	17.5	18.2	31.1	16.8	17.3	13.2
Increased 3-5%	5.5	3.9	6.7	5.9	5.6	5.8
Increased >5%	4.6	5.2	6.7	3.0	4.5	4.1
Emergency communication/notification services						
Reduced >5%	2.7	1.3	-	6.9	2.2	1.7
Reduced 3-5%	1.9	1.3	-	2.0	1.1	4.1
Reduced 1-3%	2.9	2.6	2.2	3.0	2.2	4.1
No change	66.2	66.2	62.2	65.4	71.0	60.3
Increased 1-3%	17.1	22.1	22.2	13.9	15.1	18.2
Increased 3-5%	5.5	2.6	6.7	5.9	4.5	8.3
Increased >5%	3.8	3.9	6.7	3.0	3.9	3.3
percentages by campus category						
THE TECHNOLOGY BUDGET						
Percentage of campuses experiencing a mid-year cut in the computing budget cut, 2009-10	28.1	41.6	13.3	36.6	20.1	29.8
Percentage of budget that was cut	2.6	2.4	0.9	3.4	2.2	3.3
Average central IT services budget for 2010-11	$ 8,035,883	$ 22,378,032	$ 20,565,289	$ 5,454,886	$ 3,422,523	$ 3,322,530
Percent of budget allocated to:						
Hardware	18.3	13.6	15.1	16.1	21.0	20.7
Software	14.0	10.8	12.9	14.5	15.6	13.8
Personnel	52.4	56.9	57.6	56.7	46.1	53.5
Content licenses	5.8	4.4	3.7	5.5	6.1	7.4
User support	14.6	15.3	11.5	16.3	13.0	16.0
Network service/support	13.8	16.2	11.4	13.8	14.1	12.8
Note: numbers may not equal 100% because of overlapping budget categories						
Central IT services as an estimated percentage of total institutional computing/IT expenditures	62.6	50.6	57.1	60.5	70.9	61.5
Total institutional computing/IT expenditures as an estimated percentage of the total institutional budget	6.4	5.4	4.8	6.2	6.0	8.4
Current replacement cycle for desktop/notebook computers (years)						
Student labs						
1 year	0.4	-	2.2	-	0.6	-
2 years	3.6	-	4.4	1.0	6.2	3.3
3 years	35.9	45.5	48.9	34.7	35.8	25.6
4 years	44.1	41.6	35.6	44.6	42.5	52.1
5 years	16.0	13.0	8.9	19.8	15.1	19.0
Faculty offices						
1 year	0.2	-	2.2	-	-	-
2 years	1.1	-	2.2	1.0	0.6	2.5
3 years	20.3	23.4	28.9	23.8	20.1	12.4
4 years	55.5	57.1	60.0	45.5	60.9	53.7
5 years	22.8	19.5	6.7	29.7	18.4	31.4
Administrative offices						
1 year	0.2	-	-	1.0	-	-
2 years	0.2	-	-	-	-	0.8
3 years	16.5	26.0	22.2	17.8	12.3	13.2
4 years	56.3	55.8	66.7	50.5	61.5	50.4
5 years	26.8	18.2	11.1	30.7	26.3	35.5
As of September 2010, will your institution have an operational campus-wide (emergency) notification system?						
No	1.7	-	4.4	1.0	0.6	4.1
If yes, what elements of the notification system are functional as of September 2010?						
Sirens	44.3	58.4	40.0	53.5	39.7	36.4
PA system	51.7	54.5	53.3	59.4	38.0	62.8
Electronic signs / displays	41.6	41.6	48.9	49.5	28.5	52.1
Notice on campus web site / portal	87.1	97.4	88.9	90.1	84.9	82.6
Email	94.1	100.0	93.3	94.1	96.6	88.4
SMS / text messaging	91.3	97.4	95.6	91.1	96.1	79.3
RSS	17.1	28.6	26.7	17.8	16.2	7.4
Twitter	16.7	19.5	15.6	19.8	12.3	19.8
Voice mail to campus phones (offices / dorms)	73.6	68.8	88.9	82.2	77.7	58.7
Voice mail to off-campus land lines (homes / apartments)	53.0	54.5	73.3	56.4	55.3	39.7
Voice mail to mobile phones	62.4	62.3	86.7	65.3	65.9	47.1
Campus policy for emergency notification services assumes an "opt in" default for students	69.8	80.5	59.5	70.8	65.9	71.2
As of September 2010, will your institution use a third party provider for notification software or services?						
No	-	-	-	-	-	-
If Yes: please indicate the name of the company that your campus uses for notification services:						
Blackboard Connect	29.9	15.2	34.2	35.3	35.6	23.9
CampusCruiser	0.7	-	-	-	-	3.3
E2Campus	17.8	12.1	10.5	14.1	27.0	12.0
3n/Everbridge	5.8	10.6	18.4	4.7	4.9	-
MIR3	1.8	1.5	10.5	2.4	0.6	-
Rave	9.7	22.7	5.3	8.2	4.9	12.0
SchoolMessenger	1.4	-	-	1.2	-	5.4
Send Word Now	2.5	3.0	2.6	2.4	3.7	-
Switftreach Networks	-	-	-	-	-	-
Other	30.6	34.9	18.4	31.8	23.3	43.5
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities		4-Year Colleges		Community Colleges
		Public	Private	Public	Private	
Over the past year (2009-10), how did you use your notification service?						
emergency notification	93.7	97.4	95.6	95.0	95.5	86.8
student recruitment (contacting prospective students)	2.9	2.6	-	2.0	1.7	6.6
student services (academic services for current students)	5.7	5.2	-	5.9	2.8	12.4
alumni contact/services	0.8	1.3	-	1.0	1.1	-
percentages by campus category.						
WEB AND NETWORKING ISSUES						
Does your institution have a financial plan to upgrade/enhance/replace the campus network						
No current plan/policy	10.5	2.6	6.7	11.9	11.7	14.1
Under discussion/development	29.1	32.5	22.2	34.7	27.4	26.5
Currently funded network replacement/upgrade plan	60.5	64.9	71.1	53.5	60.9	59.5
percentages by campus category.						
How important are the following issues on your campus?*						
Supporting instructional labs and clusters	6.0	6.0	5.6	6.1	5.8	6.4
Digital image libraries / archives	5.0	5.3	5.3	4.9	5.0	4.6
Video / rich media streaming	5.1	5.3	5.4	5.1	5.1	5.0
Disaster recovery	6.1	6.1	6.3	6.3	6.0	6.0
Virtual private networks (VPN)	5.6	6.1	5.9	5.7	5.5	5.4
Network security	6.7	6.7	6.7	6.7	6.6	6.6
Gigabit ethernet	5.9	6.3	6.0	6.1	5.7	5.8
Grid computing	3.2	4.7	3.9	3.2	2.7	2.7
Cloud computing	4.6	4.8	5.1	4.6	4.5	4.3
Electronic commerce	4.9	5.1	5.2	4.7	4.9	4.7
Wi-Max wireless networks	3.7	4.1	3.4	3.8	3.5	3.9
Making campus networks accessible to 3G phones	4.2	4.9	4.5	4.2	4.2	3.7
Quality of cellular coverage that commercial services provide for your campus	4.4	4.9	4.7	4.6	4.4	3.7
Guest access / services on the campus network	4.8	5.2	5.1	5.0	4.8	4.5
Data Encryption	5.7	6.0	5.9	5.9	5.5	5.6
Replacement cycle for network infrastructure	6.0	6.1	5.8	6.2	5.8	6.0
Identity management	5.9	6.4	5.9	6.2	5.7	5.9
Bandwidth for Software as a Service / SaaS applications	4.2	4.5	4.3	4.4	4.1	4.0
Internet2	3.9	5.6	5.0	4.0	3.2	3.3
National Lambda Rail	3.0	4.9	3.2	2.9	2.3	2.6
Spyware/malware	5.7	5.8	5.7	5.8	5.6	5.8
IT Disaster Communications Capacity	5.7	6.0	6.0	6.0	5.4	5.6
P-20 Education Continuum/Services	3.1	3.8	3.1	3.2	2.6	3.5
means; scale from 1="not important" to 7="very important".						
How well developed are network connections and the instructional infrastructure?						
Percentage of classrooms connected to the campus network/have Internet access	95.9	92.9	94.8	96.1	98.1	94.8
Percentage of classrooms with fixed computer projection capacity	77.0	70.6	74.4	73.9	81.3	77.5
Percentage of campus covered/served by wireless network access	10.8	17.0	11.4	14.0	7.8	8.7
Percentage of classrooms covered/served by wireless network access/services	80.5	82.0	82.4	85.2	85.9	66.5
Number of wireless nodes (access points) on the campus network	470.8	1,191.1	1,351.6	354.8	270.8	90.6
means by campus category.						
Does your institution limit the size of email documents/attachments	86.1	88.3	88.9	89.1	86.0	81.8
Maximum file size (Mbytes)	29.2	38.6	28.0	34.9	23.6	27.7
Storage capacity for email						
Student maximum file size (Gbytes)	5.6	7.9	6.8	7.5	4.4	3.9
Faculty maximum file size (Gbytes)	5.5	7.6	5.8	7.9	4.4	3.7
Does your institution limit the size of student web sites	50.7	66.2	68.9	60.4	48.9	28.1
Maximum size (Mbytes)	295	391	619	358	237	105
Is your institution reviewing or converting to outsourced/hosted applications						
Hosted / outsourced email						
Students						
No	15.2	9.1	6.7	15.8	20.1	14.1
Under review	27.0	27.3	33.3	24.8	30.2	20.7
Converting to / now using	57.8	63.6	60.0	59.4	49.7	65.3
Faculty						
No	62.4	54.6	48.9	62.4	59.2	76.9
Under review	23.0	29.9	37.8	21.8	20.1	18.2
Converting to / now using	14.6	15.6	13.3	15.8	20.7	5.0
Provider						
Google	53.5	57.1	73.0	50.0	55.2	44.4
Microsoft	42.8	36.5	27.0	46.1	39.6	54.6
Zimbra	3.7	6.4	-	4.0	5.2	1.0
Hosted / outsourced "office" applications						
No	69.8	59.7	60.0	68.3	72.1	77.7
Under review	21.7	23.4	26.7	19.8	22.4	19.0
Converting to / now using	8.6	16.9	13.3	11.9	5.6	3.3
Product						
Google Applications	54.3	53.9	62.5	57.7	56.5	40.0
Microsoft Office Live	45.7	46.2	37.5	42.3	43.5	60.0
percentages by campus category.						
ORGANIZATION, PLANNING AND IMPACT ISSUES						
Campus is part of a multicampus system with shared computing resources:	51.5	61.0	24.4	74.3	24.0	78.5
Academic and administrative computing are:						
Separate units	22.2	29.9	33.3	24.8	19.0	16.5
One single unit	77.8	70.1	66.7	75.3	81.0	83.5
Has your institution reorganized IT units in the past 2 years?*						
Academic computing	33.5	53.2	40.0	35.6	29.1	24.0
Administrative computing	32.9	49.4	57.8	31.7	26.8	24.0
Libraries	15.0	14.3	17.8	16.8	14.5	14.0
Telecom	25.9	37.7	24.4	29.7	23.5	19.8
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities		4-Year Colleges		Community Colleges
		Public	Private	Public	Private	
Do you anticipate a reorganization of IT units in the next 2 years?*						
Academic computing	28.8	39.0	33.3	35.6	26.3	19.2
Administrative computing	27.0	41.6	31.1	28.7	22.9	20.8
Libraries	16.0	18.2	13.3	18.8	14.5	15.8
Telecom	26.9	37.7	26.7	25.7	25.7	23.3
Percentage of campuses that reorganized IT units in the past two years and expect to reorganize IT units again in the next two years						
Academic computing	14.8	28.6	17.8	19.8	11.2	6.6
Administrative computing	14.8	31.2	22.2	17.8	9.5	7.4
Libraries	6.5	11.7	2.2	7.9	5.0	5.8
Telecom	11.0	28.6	6.7	10.9	7.8	6.6
The heads of the academic and administrative units report to:						
Academic computing						
President	6.1	1.3	-	5.0	1.7	19.0
Provost	12.7	15.6	17.8	13.9	12.3	9.1
CIO or CTO	62.6	67.5	66.7	69.3	70.4	41.3
Other vice provost/vice president	15.2	10.4	8.9	9.9	14.0	26.5
Dean	3.4	5.2	6.7	2.0	1.7	4.1
Administrative computing						
President	6.7	1.3	-	5.0	1.7	21.5
Provost	5.5	9.1	8.9	3.0	5.6	4.1
CIO or CTO	68.4	75.3	77.8	78.2	74.3	44.6
Other vice provost/vice president	18.4	14.3	13.3	12.9	18.4	27.3
Dean	1.0	-	-	1.0	-	2.5
Libraries						
President	1.5	-	4.4	1.0	0.6	3.3
Provost	61.0	83.1	73.3	69.3	63.1	33.1
CIO or CTO	10.1	2.6	6.7	10.9	14.5	9.1
Other vice provost/vice president	11.8	2.6	6.7	4.0	11.7	26.5
Dean	15.6	11.7	8.9	14.9	10.1	28.1
Does institution have a chief information/technology officer?						
No	11.2	2.6	8.9	7.9	16.8	11.6
Currently under discussion	2.1	-	-	2.0	3.9	1.7
Yes	86.7	97.4	91.1	90.1	79.3	86.8
What academic and operational units report to the CIO/CTO?*						
Academic computing	85.1	89.5	85.4	86.5	88.2	75.9
Administrative computing	93.5	97.4	97.6	94.8	91.3	91.1
Libraries	11.5	2.6	7.3	11.5	18.0	9.8
Media center	60.7	52.6	58.5	62.5	71.4	51.8
Telecommunications	87.3	94.7	90.2	88.5	82.6	86.6
Distance/online education programs	16.4	6.6	14.6	19.8	16.8	19.6
percentages by campus category.						
The CIO reports to:						
President	35.0	31.6	19.5	45.3	31.3	40.7
Provost/vice president for academic affairs	26.9	39.5	43.9	27.4	25.8	13.3
CFO/vice president for business/admin affairs	31.4	23.7	24.4	24.2	35.6	38.1
Other	6.7	5.3	12.2	3.2	7.4	8.0
Is the CIO (or senior institutional computing/IT officer) a member of the president's cabinet/exec committee?	55.3	55.3	56.1	69.5	45.1	59.3
Does your institution have a board / trustee committee on computing / information technology?						
No	70.2	66.2	73.3	63.4	71.5	74.4
Under discussion	5.5	3.9	8.9	4.0	6.2	5.8
To begin in A/Y 2011-12	1.5	2.6	-	1.0	1.7	1.7
Yes, current board committee on computing / IT issues	22.8	27.3	17.8	31.7	20.7	18.2
Which unit provides tech support for most departmental computer labs?						
Individual department	10.3	40.3	22.2	9.9	1.1	0.8
Central IT service unit	65.4	19.5	37.8	65.4	78.8	84.3
Both	24.3	40.3	40.0	24.8	20.1	14.9
How does your institution deal with the "life cycle" of desktop computers for faculty, classrooms, clusters, and labs?						
One time allocation	7.8	16.9	6.7	10.9	4.5	5.0
Developing budget	21.7	33.8	17.8	27.7	13.4	23.1
Have budget	70.5	49.4	75.6	61.4	82.1	71.9
What types of security incidents did your campus experience in the past year?						
Theft of computer(s) containing confidential data files	22.5	37.7	46.7	21.8	15.7	14.9
Hack/attack on the campus network	49.7	75.3	57.8	51.5	39.9	44.6
Hack/attack on student/personnel/alumni data files	11.4	23.4	24.4	10.9	6.7	6.6
Hack/attack on administrative/financial files	7.4	15.6	15.6	6.9	5.6	2.5
Hack/attack on research data files	4.8	16.9	13.3	3.0	0.6	1.7
Other attack on institutional data files	11.2	27.3	24.4	6.9	7.3	5.8
Identity management issues	29.7	51.9	31.1	29.7	21.3	28.1
Major computer virus infestation	16.2	23.4	13.3	15.8	11.8	19.0
Major spyware infestation	14.9	22.1	6.7	13.9	11.2	19.0
Student security "incident" related to social networking sites	15.8	27.3	11.1	20.8	11.8	10.7
Exposure/loss of sensitive data in distributed environment (server not managed by central services)	15.4	46.8	20.0	17.8	7.3	4.1
Intentional employee transgressions affecting IT security	7.8	10.4	6.7	10.9	5.1	8.3
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
How concerned are you about the following security issues for your institution in the coming year?						
Theft of computer(s) containing confidential data files	4.1	4.3	4.5	4.1	4.1	3.8
Hack/attack on the campus network	4.0	4.2	4.1	4.0	4.0	4.0
Hack/attack on student/personnel/alumni data files	3.8	3.9	4.1	3.8	3.7	3.7
Hack/attack on administrative/financial files	3.8	4.0	4.1	3.8	3.7	3.8
Hack/attack on research data files	3.1	3.9	3.6	3.2	2.8	2.7
Other attack on institutional data files	3.6	3.9	3.7	3.7	3.5	3.6
Identity management issues	3.9	4.0	4.0	3.9	3.9	4.0
Major computer virus infestation	3.5	3.4	3.4	3.5	3.4	3.6
Major spyware infestation	3.5	3.4	3.4	3.4	3.5	3.7
Student security "incident" related to social networking sites	3.2	3.1	3.2	3.2	3.3	3.1
Exposure/loss of sensitive data in distributed environment (server not managed by central services)	3.6	4.5	4.2	4.0	3.1	3.1
Intentional employee transgressions affecting IT security	3.2	3.2	3.5	3.3	3.0	3.3
means by campus category scale: 1=low; 5=high						
How would you characterize the campus strategy on Open Source tools for central IT infrastructure services?						
None: little if any interest in or deployment of Open Source tools in Central IT Services	11.0	3.9	6.7	9.9	10.1	19.0
Observing: watching other institution with interest, but no active deployment or development	11.6	6.5	8.9	12.9	12.3	14.1
Limited use: some Open Source tool activity, primarily backroom/infrastructure tools	38.2	32.5	40.0	40.6	34.6	43.8
Operational: significant Open Source deployment, focused on key operations	15.4	19.5	20.0	11.9	15.6	14.1
Mission critical: using a number of Open Source academic, administrative, and research resources for "mission critical" central IT operations	19.6	32.5	17.8	24.8	20.7	6.6
Contributing: strong support for Open Source tools plus a commitment and campus strategy to develop new/enhance current Open Source tools for central IT operations	4.2	5.2	6.7	-	6.7	2.5
How would you characterize your campus strategy on/engagement with Open Source applications?						
None: little if any interest in or deployment of Open Source tools in Central IT Services	12.4	7.8	8.9	5.0	10.6	24.0
Observing: Watching other institution with interest, but no active deployment or development	28.7	23.4	24.4	33.7	23.5	38.0
Sampling: some Open Source tool activity, primarily backroom/infrastructure tools	29.7	33.8	35.6	34.7	25.1	27.3
Operational: significant Open Source deployment, focused on key operations	15.2	15.6	15.6	18.8	19.6	5.8
Mission critical: using a number of Open Source academic, administrative, and research resources for "mission critical" central IT operations	9.9	10.4	8.9	5.9	16.8	3.3
Contributing: strong support for Open Source tools plus a commitment and campus strategy to develop new/enhance current Open Source tools for central IT operations	4.2	9.1	6.7	2.0	4.5	1.7
Open Source projects and personnel at your institution						
Current/active Open Source support/development projects in central IT services	2.7	3.4	4.6	3.4	2.3	1.4
FTE personnel allocated to Open Source support or development activities in central IT services	1.9	6.1	2.9	1.3	1.0	0.5
percentages by campus category						
Software as a Service (SaaS) or Open Source ERP modules by fall 2015?						
Average score						
Software as a Service (SaaS) Apps (scale: 1=low; 7=high)						
Course / Learning Management System	3.7	2.8	3.9	3.8	3.6	4.2
Content Mangement System	2.9	2.6	3.0	3.0	3.0	2.9
Research Management System	2.1	2.4	2.2	1.9	2.1	2.0
Development System	2.0	2.1	2.0	2.0	1.9	1.9
Financial System	1.9	1.8	2.2	2.0	1.8	2.0
HR System	2.2	1.9	2.3	2.3	2.2	2.3
Student Information System	1.9	1.9	2.0	2.0	1.9	1.9
Student ePortfolio System	3.2	2.8	3.3	3.3	3.4	2.9
Collaboration Platforms / Applications	3.4	3.5	3.6	3.4	3.6	3.0
Lecture Capture / Video Streaming	3.3	2.8	3.6	3.3	3.4	3.4
Open Source ERP Apps (scale: 1=low; 7=high)						
Course / Learning Management System	3.8	3.5	4.0	3.7	4.4	3.0
Content Mangement System	3.0	2.9	3.2	3.5	3.1	2.5
Research Management System	2.1	2.7	2.8	2.0	1.9	1.7
Development System	1.7	1.8	1.9	1.8	1.6	1.7
Financial System	1.7	2.0	2.1	1.5	1.6	1.6
HR System	1.6	1.9	2.0	1.4	1.6	1.6
Student Information System	1.6	1.8	1.9	1.5	1.6	1.6
Student ePortfolio System	2.8	3.2	3.2	2.8	2.9	2.3
Collaboration Platforms / Applications	3.0	3.0	3.4	3.1	3.1	2.5
Lecture Capture / Video Streaming	2.9	2.8	3.5	3.0	2.8	2.8
means by campus category scale: 1=low; 7=high						
Percentage anticipating a high likelihood of migrating (scale: campuses reporting 6 or 7 on a 1-7, 7=high)						
Software as a Service (SaaS) Apps						
Course / Learning Management System	26.7	7.9	26.7	28.7	25.7	38.8
Content Mangement System	14.7	9.2	15.6	17.8	14.5	15.7
Research Management System	4.2	5.3	-	4.0	3.9	5.8
Development System	4.2	5.3	-	5.0	3.9	5.0
Financial System	5.9	1.3	8.9	8.9	3.4	9.1
HR System	9.5	1.3	8.9	13.9	9.5	11.6
Student Information System	5.1	2.6	6.7	7.9	2.8	7.4
Student ePortfolio System	16.8	6.6	17.8	20.8	19.6	14.9
Collaboration Platforms / Applications	16.4	15.8	13.3	15.8	21.2	11.6
Lecture Capture / Video Streaming	14.3	6.6	20.0	15.8	14.5	15.7
Open Source ERP Apps						
Course / Learning Management System	30.7	26.3	31.1	20.8	45.8	19.8
Content Mangement System	18.9	14.5	20.0	21.8	20.7	16.5
Research Management System	5.5	11.8	15.6	3.0	3.4	3.3
Development System	1.5	2.6	2.2	1.0	1.1	1.7
Financial System	3.2	7.9	2.2	3.0	2.8	1.7
HR System	2.7	6.6	2.2	2.0	2.2	1.7
Student Information System	3.4	5.3	6.7	3.0	2.2	3.3
Student ePortfolio System	13.1	13.2	20.0	14.9	12.8	9.9
Collaboration Platforms / Applications	11.4	6.6	20.0	10.9	15.1	6.6
Lecture Capture / Video Streaming	7.8	5.3	20.0	6.9	5.0	9.9
percentages by campus category.						

CAMPUS COMPUTING 2010

	All Institutions	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	Community Colleges
How does your institution address the problem of P2P digital piracy on campus computer networks?						
Mandatory user education program	23.0	33.8	28.9	29.7	24.0	6.7
Sanction students for copyright, P2P or DCMA violations	65.3	83.1	80.0	69.3	67.0	42.5
Students can lose campus network/email access or privileges for P2P violations	90.9	96.1	93.3	93.1	90.5	85.0
Student financial penalty or fine paid to college/university for P2P violations	9.9	24.7	13.3	8.9	8.4	2.5
imposes new requirements on colleges and universities to address illegal P2P filesharing. What's the status of						
My institution has "developed plans to effectively combat the unauthorized distribution of copyrighted material"						
Doing this already	75.1	92.2	84.4	79.2	74.9	57.0
Beginning in 2010-11	7.6	3.9	4.4	6.9	10.1	8.3
Reviewing for 2010-11	15.2	2.6	8.9	10.9	13.4	32.2
Previously decided not to do this	2.1	1.3	2.2	3.0	1.7	2.5
Plans include "the use of a variety of technology-based deterrents"						
Doing this already	50.6	64.9	44.4	60.4	52.0	32.2
Beginning in 2010-11	7.6	5.2	2.2	6.9	8.9	9.9
Reviewing for 2010-11	24.5	11.7	22.2	22.8	20.1	42.2
Previously decided not to do this	17.3	18.2	31.1	9.9	19.0	15.7
My institution currently "offers alternatives to illegal downloading or peer-to-peer distribution of intellectual property"						
Doing this already	26.6	49.4	31.1	31.7	23.5	11.6
Beginning in 2010-11	3.8	1.3	2.2	2.0	2.8	9.1
Reviewing for 2010-11	19.2	9.1	22.2	19.8	15.1	29.8
Previously decided not to do this	50.4	40.3	44.4	46.5	58.7	49.6
Estimated campus cost of compliance with the P2P provisions of the HEOA for A/Y 2010-11	$ 29,226	$ 61,953	$ 49,513	$ 36,209	$ 12,379	$ 18,544

means and percentages by campus category.

Appendix A

Survey Methodology

The 2010 National Survey of Computing and Information Technology in American Higher Education was designed to collect information about campus planning, policies, and procedures affecting the use of computers and information technology resources from colleges and universities in the United States (including Alaska and Hawaii).

Prospective survey participants (CIOs and other senior campus IT officers) were contacted by email in September and early October 2010. The email "invitation to participate" included a hotlink to an online copy of the 2010 Campus Computing questionnaire. The email invitation was sent to a representative sample of some 1200 two- and four-year public and private colleges and universities. The sampling design focused on public and private four-year colleges and universities and public two-year colleges, omitting the small branch campuses of multi-campus districts and the hundreds of very small private two- and four-year colleges that enroll under 500 students.* Degree-granting for-profit colleges and proprietary schools were also excluded from the survey sample. The adjusted population of postsecondary institutions totals 2,814 public and private four-year degree-granting colleges and universities and public two-year colleges that enroll more than 500 students. The adjusted institutional population represents 66.2 percent of the degree-granting postsecondary institutions in the United States and 90.7 percent of the students attending degree-granting institutions.

Reminder and dunning emails were sent in late in September and early October, 2010. A total of 523 institutions completed usable questionnaires by October 6, 2010, the closing date for colleges and universities to complete the survey. Fully three-fourths (76 percent) of the institutions that completed in the 2010 questionnaires also participated in the 2009 survey.

The number of colleges and universities participating in the 2010 survey, by type of institution, is shown below.

Category	Number of 2010 Survey Participants	Total Number of Institutions as Counted by US Dept. of Educ.*	Participation Rate in the 2010 Survey (%)
Adjusted Population of Public and Private/Non-Profit Institutions	523	2,814	18.6
Public Research and Doctoral Universities	77	168	45.8
Private Research and Doctoral Universities	45	92	48.9
Public 4-Year Colleges (master and baccalaureate institutions)	101	374	27.0
Private 4-Year Colleges (master and baccalaureate institutions	179	824	21.7
Public 2-Year Colleges (associate degree)	121	1,018	11.8

*Fall 2007 enrollment data from the Integrated Postsecondary Education System Data (IPEDS) data files of the US Department of Education reveal that 27.1 percent (1,152) of the nation's 4,253 accredited, degree-granting two- and four-year colleges and universities enroll under 500 students (headcount enrollment). These institutions account for some 271,932 (1.5 pct.) of the nation's 18.052 million college students as of fall 2007 (the most recent numbers available from the US Department of Education). In contrast, the 505 colleges and universities that enroll 10,000 or more students represent just 11.4 percent of the total number of US degree-granting institutions yet account for 53.1 percent of total headcount enrollment, some 9.8 million students. (source: special analysis of the 2007 IPEDS enrollment data by The Campus Computing Project; see also *Digest of Education Statistics 2008*. US Department of Education, 2008, table. 224).

Appendix B

Institutions Participating in the 2010 Campus Computing Survey

ALASKA
University of Alaska-Fairbanks

ALABAMA
Auburn University at Montgomery
Auburn University-Main Campus
Birmingham-Southern College
Samford University
Tuskegee University
University of Alabama-Birmingham
University of Alabama-Tuscaloosa

ARKANSAS
Arkansas State University
Harding University
John Brown University
University of Arkansas
University of Arkansas-Little Rock
University of Central Arkansas

ARIZONA
Arizona State University
Arizona State University - West
Chandler-Gilbert Community College
Estrella Mountain Community College
Gateway Community College
Glendale Community College - AZ
Mesa Community College
Northern Arizona University
Paradise Valley Community College
Phoenix College
Rio Salado College
Scottsdale Community College
South Mountain Community College

CALIFORNIA
Antelope Valley College
Azusa Pacific University
California Institute of Technology
California Lutheran University
California Polytechnic State University, San Luis Obisbo
California State Polytechnic Univ - Pomona
Chapman University
Claremont McKenna College
College of the Sequoias
College Of The Siskiyous
CSU-Bakersfield
CSU-Channel Islands
CSU-Chico
CSU-Dominguez Hills
CSU-East Bay
CSU-Fresno
CSU-Fullerton
CSU-Long Beach
CSU-Los Angeles
CSU-Monterey Bay
CSU-Northridge
CSU-Sacramento
CSU-San Bernardino
CSU-Stanislaus
Cuesta College
El Camino College
Fielding Graduate University
Glendale Community College
Harvey Mudd College
Loma Linda University
Merced College
Mills College
MiraCosta College
Mt. San Jacinto College
North Orange CCD
Occidental College
Pepperdine University
Pitzer College
Saint Mary's College of California
San Diego State University
San Jose State University
San Francisco State University
San Mateo CCD
Santa Clara University
Shasta College
Solano College
Taft College
University of California, Los Angeles
University of California, Merced
University of California, San Diego
University of La Verne
University of Redlands
University of San Diego
University of San Francisco
University of Southern California
University of the Pacific
West Hills College
Yuba College

COLORADO
Colorado College
Colorado Mountain College, Spring Valley Campus
Colorado School of Mines
Colorado State University -Ft. Collins
Front Range Community College
Northeastern Junior College
Pikes Peak Community College
University of Northern Colorado

CONNECTICUT
Quinnipiac University
Yale University

DISTRICT OF COLUMBIA
American University
Catholic University of America
Gallaudet University
University of Delaware

FLORIDA
Barry University
Broward College
Florida Atlantic University
Florida International University
Florida Southern College
Indian River State College
Lynn University
Rollins College
South Florida Community College
The Florida State University
University of Central Florida
University of South Florida
University of Tampa
Valencia Community College
Webber International University

GEORGIA
Agnes Scott College
Armstrong Atlantic State University
Augusta State University
Bainbridge College
Clayton College & State University
Dalton State College
East Georgia College
Gainesville State College
Georgia College & State University
Georgia Gwinnett College
Georgia Highlands College
Georgia Institute of Technology
Georgia Perimeter College
Georgia Southern University
Georgia Southwestern State University
Gordon College
Kennesaw State University
Macon State College
Mercer University
Medical College of Georgia
Middle Georgia College
North Georgia College and State University
Savannah State University
South Georgia College
University of Georgia
University of West Georgia
Valdosta State University
Waycross College

HAWAII
University of Hawaii

ILLINOIS
Benedictine University
Bradley University
College of DuPage
College of Lake County
DePaul University
Elmhurst College
Governors State University
Greenville College
Illinois Central College
Illinois Institute of Technology
Knox College
Lake Forest College
Lake Land College
Lewis University
Loyola University Chicago
Millikin University
Monmouth College
Moraine Valley Community College
Northwestern University
Roosevelt University
Southeastern Illinois College
Southern Illinois University Edwardsville
University of Illinois Urbana-Champaign
Wheaton College

INDIANA
DePauw University
Earlham College
Franklin College of Indiana
Goshen College
Grace College
Indiana U-Purdue U-Fort Wayne
Indiana U-Purdue U at Indianapolis
Indiana University - Bloomington
Indiana University - Southeast
Manchester College
Purdue University
Rose-Hulman Institute of Technology
Taylor University
University of Indianapolis
University of Notre Dame

IOWA
Des Moines University
Luther College
University of Northern Iowa
Wartburg College
Boise State University
Idaho State University

KANSAS
Kansas State University
Pratt Community College
University of Kansas
Asbury College
Berea College
Lindsey Wilson College
University of Kentucky
University of Louisville

LOUISIANA
Southeastern Louisiana University
Southern University, New Orleans
Xavier University of Louisiana

MAINE
Bates College
Bowdoin College
Colby College
Thomas College

MARYLAND
Anne Arundel Community College
Cecil College
Chesapeake College
Hood College
Johns Hopkins University
Loyola University in Maryland
Montgomery College
Mount St. Mary's University, MD
Prince George's Community College
St. Mary's College of Maryland
United States Naval Academy
University of Maryland-Baltimore
University of Maryland-Baltimore County

MASSACHUSETTTS
Assumption College
Bentley College
Boston College
Bridgewater State College
Clark University
College of the Holy Cross
Curry College
Hampshire College
Harvard University
Lesley University
Massachusetts College of Art
Mount Holyoke College
Northeastern University
Olin College of Engineering
Springfield Tech. Community College
Tufts University
University of Massachusetts-Boston
Wentworth Institute of Technology
Worcester State College

MICHIGAN
Albion College
Alma College
Andrews University
Calvin College
Central Michigan University
Davenport University
Eastern Michigan University
Grand Valley State University
Kalamazoo College
Kalamazoo Valley Community College
Macomb Community College
Michigan Technological University
Northwood University
Oakland University
University of Michigan
University of Michigan-Dearborn
Wayne State University

MINNESOTA
Alexandria Technical College
Anoka Ramsey Community College
Augsburg College
Bemidji State University
Bethany Lutheran College
Bethel University
Central Lakes College
Century College
College of St. Scholastica
Concordia College (MN)
Dakota County Technical College
Dunwoody College of Technology
Fond du Lac Tribal and Community College
Gustavus Adolphus College
Hennepin Technical College
Hibbing Community College
Inver Hills Community College
Lake Superior College
Macalester College
Martin Luther College
Mesabi Range Community College
Metropolitan State University
Minneapolis Community & Technical College
Minnesota State College-Southeast Tech College
Minnesota State Community and Technical College
Minnesota State University-Moorhead
Minnesota State University-Mankato
Minnesota West Community & Tech. College
Normandale Community College
North Hennepin Community College
Northland Community and Technical College
Northwest Technical College
Pine Technical College
Ridgewater College
Riverland Community/Technical College
Rochester Community & Tech. College
Saint Paul College
South Central College
Southwest Minnesota State University
St. Cloud State University
St. Cloud Technical College
St. Olaf College
University of Minnesota, Duluth
University of Saint Thomas
Vermilion Community College
Winona State University

MISSISSIPPI
Delta State University
Jackson State University
University of Southern Mississippi

MISSOURI
Drury University
Missouri Univ. of Science & Technology
Ozarks Technical Community College
Southeast Missouri State University
University of Central Missouri
Washington University
Webster University
Westminster College – Missouri

NEBRASKA
Clarkson College
Creighton University
Doane College
Hastings College
Nebraska Wesleyan University
Southeast Community College
University of Nebraska at Omaha
University of Nebraska-Lincoln

NEW HAMPSIRE
Colby-Sawyer College
Rivier College
Southern New Hampshire University
University of New Hampshire

NEW JERSEY
Bergen Community College
Drew University
Mercer County Community College
Middlesex County College
Ocean County College
Princeton University
Rider University
Rowan University
Rutgers University-New Brunswick
Seton Hall University
The College of New Jersey
Thomas Edison State College
Union County College

NEVADA
University of Nevada, Las Vegas

NEW MEXICO
New Mexico State University
University of New Mexico-Main Campus

NEW YORK
Adelphi University
Bard College
College of New Rochelle
CUNY-Bronx Community College
CUNY-Queens College
Genesee Community College
Hofstra University
Ithaca College
Jefferson Community College
Molloy College
Monroe Community College
Pace University
Rensselaer Polytechnic Institute
Roberts Wesleyan College
Skidmore College
St. Bonaventure University
St. Francis College
SUNY-Binghamton
SUNY-Buffalo
SUNY-Buffalo State College
SUNY-College at Geneseo
SUNY-College at Oneonta
SUNY-Institute of Technology
SUNY-Orange
SUNY- University at Albany
The College of Saint Rose
Union College
University of Rochester

NORTH CAROLINA
Appalachian State University
Belmont Abbey College
Cape Fear Community College
Central Piedmont Community College
Davidson College
Elon University
Fayetteville State University
Isothermal Community College
North Carolina State Univ. at Raleigh
Pitt Community College
University of North Carolina at Pembroke
University of North Carolina-Chapel Hill
University of North Carolina-Wilmington

NORTH DAKOTA
Minot State University
North Dakota State University

OHIO
Baldwin-Wallace College
Case Western Reserve University
Cedarville University
Cincinnati State College
College of Wooster
Franciscan University of Steubenville
Kent State University
Kenyon College
Malone College
Marietta College
Miami University
Muskingum University
Oberlin College
Ohio Northern University
Ohio University - Main Campus
Owens Community College
University of Cincinnati
University of Findlay
Ursuline College
Wright State University-Main Campus

OKLAHOMA
Oklahoma Christian University
Southern Nazarene University
University of Science and Arts of OK

OREGON
George Fox University
Lewis & Clark College
Linn-Benton Community College
Multnomah University
Oregon Institute of Technology
Pacific University
Portland Community College
Portland State University
Reed College
Southern Oregon College
University of Oregon
Willamette University

PENNSYLVANIA
Allegheny College
Alvernia College
Bryn Mawr College
Bucknell University
Bucks County Comm. College
Carnegie Mellon University
Dickinson College
Drexel University
Duquesne University
Edinboro University of Pennsylvania
Franklin and Marshall College
Grove City College
Gwynedd-Mercy College
Holy Family University
Keystone College
La Salle University
Lehigh University
Lycoming College
Mansfield University of Pennsylvania
Mercyhurst College
Messiah College
Millersville University of Pennsylvania
Montgomery County Community College
Moravian College
Pennsylvania State Univ., Univ. Park
Pennsylvania State University, Berks
Philadelphia Biblical University
Philadelphia University
Robert Morris University
Shippensburg University
Swarthmore College
The University of The Arts
University of Pennsylvania
University of Pittsburgh
University of Scranton
Villanova University
West Chester University of Pennsylvania
Wilkes University

RHODE ISLAND
Brown University
Bryant University
Community College of Rhode Island
Rhode Island School of Design

SOUTH CAROLINA
Charleston Southern University
Clemson University
Newberry College
University of South Carolina
University of South Carolina-Aiken

SOUTH DAKOTA
Augustana College (SD)
Black Hills State University
Dakota Wesleyan University

TENNESSEE
Belmont University
Lee University
Lipscomb University
Nashville State Community College
Pellissippi State Technical Community College

Tennessee State University
Union University
University of Memphis
University of the South
University of Tennessee at Martin

TEXAS
Abilene Christian University
Amarillo College
Austin College
Baylor University
College of the Mainland
College Misericordia
Concordia University at Austin
Lamar University
Schreiner University
Southern Methodist University
Stephen F. Austin State University
Texas State University-San Marcos
University of North Texas
Wiley College

UTAH
Utah State University
Utah Valley University

VERMONT
Community College of Vermont
Lyndon State College
University of Vermont

VIRGINIA
Eastern Mennonite University
George Mason University
Hampton University
James Madison University
Liberty University
Longwood University
Lynchburg College
Mary Baldwin College
Northern Virginia Community College
Old Dominion University
Shenandoah University
Sweet Briar College
University of Mary Washington
Virginia Commonwealth University
Virginia Military Institute
Virginia State University
Virginia Tech

WASHINGTON
Big Bend Community College
Gonzaga University
Grays Harbor College
Pierce College - WA
Seattle Pacific University
Seattle University
South Puget Sound University
Tacoma Community College
The University of Puget Sound
University of Washington, Bothell
University of Washington, Tacoma
Western Washington University
Whitman College
Whitworth College

WEST VIRGINIA
Concord University
Marshall University
West Virginia University

WISCONSIN
Cardinal Stritch University
Lawrence University
Marquette University
Moraine Park Technical College
Northland International University
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