The 2006 National Survey of Information Technology in U.S. Higher Education

Wireless Networks Reach Half of College Classrooms; IT Security Incidents Decline This Past Year

Wireless networks now reach fully half (51.2 percent) of college classrooms compared to just over two-fifths (42.7 percent) in 2005 and a third (31.1 percent) in 2004, according to new data from the annual Campus Computing Survey. Additionally, more than two-thirds (68.8 percent) of campuses participating in the annual survey have a strategic plan for deploying wireless as of fall 2006, up from 64.0 percent in 2005 and 53.3 percent in 2004. By sector, the proportion of classrooms with wireless access ranges from a third (31.7 percent) in community colleges (up from 26.8 in 2005) to almost two-fifths (58.0 percent) in private research universities (compared to 52.8 percent in 2005 and 47.4 percent in 2004).

“Wireless is a great thing,” says Kenneth C. Green, founding director of The Campus Computing Project and a visiting scholar at The Claremont Graduate University in Claremont, CA. “It fosters access, mobility, and collaborative work among students and faculty.” But Green notes that there is evidence of backlash against wireless from some faculty who would prefer that students not hide behind their computer screens during class.

Data from the 2006 survey reveal that fully three-fifths (60.5 percent) of colleges and universities increased their campus IT budgets for wireless for the current academic year. Green identifies several factors as catalysts for the rising campus investment in wireless networks: the reduced cost and increased performance of wireless technology; the shifts in student (and consumer) purchasing preferences from desktop to notebook computers; and the appeal and benefits of mobility for students and faculty.

Green also notes that the expansion of wireless networks on campus mirrors the explosive growth of wireless in the consumer and corporate sectors over the past three years. “Households that have high speed Internet access also typically have wireless networks,” says Green. Consequently, “it should be no surprise that students and faculty come to campus expecting their college or university to provide the same wireless connectivity that they experience in their homes.”

The 2006 survey indicates that campus IT officers continue to view network and data security as the “single most important information technology issue confronting their institution” over the next two-to-three years. This is the...
third consecutive year that IT security has been the leading issue for campus IT officers. Moreover, this stands in striking contrast to the focus on the “instructional integration of information technology” which was the top IT issue from 2000-2003. Six years ago, two-fifths (40.5 percent) of the survey respondents identified “assisting faculty with the instructional integration of technology” as the top IT challenge for their institution. However, in fall 2006, instructional integration ranked a distant second (17.3 percent), well-behind network and data security (30.5 percent, about the same as in 2005), and only slightly ahead of “upgrading/ replacing the campus ERP (Enterprise Resource Protocol, or administrative information) systems (16.3 percent).

This year’s survey offers some good news about IT security: the percentage of colleges and universities experiencing various security incidents and threats - stolen computers with confidential data, hack attacks on the campus network, and major spyware and virus infestations - declined this past year, while the percentage reporting identity management events was up slightly (20.5 percent in 2006, vs. 19.7 percent in 2005). Although more than half of public and private universities and public four-year colleges report attacks on their campus networks this past year, the numbers are down from the levels reported in the 2005 survey. Similarly, virus and spyware infestations dropped dramatically this past year. One example: almost half (46.1 percent) of public universities reported major computer virus problems in the 2005 survey, compared to a fourth (24.7 percent) in 2006.

Yet even with this good news about security issues, the survey points to two items that could pose significant future problems. One- tenth (11.3 percent) of the institutions participating in the 2006 survey report security issues linked to “the exposure of sensitive data on a computer server not managed by central IT services.” The problem of exposed data in distributed computing environments was highest in public universities (34.2 percent), followed by private universities (23.5 percent), and public four-year colleges (15.7 percent).

Additionally, one-tenth (9.9 percent) of institutions report a security incident this past year linked to social networking sites such as Facebook or MySpace. Security incidents involving social networking sites ranged from 7.5 percent in community college to 13.7 percent at private research universities.

“There is a tension about distributed computing and security protocols on many campuses,” says Green. “Research labs, as well as some academic departments and service units, often want to manage their own data and hardware. But the survey data confirm recent news reports that network servers not managed by central IT services may be particularly vulnerable to hackers.” Green comments that the “quest for independence from central IT services can mirror the behavior of a moody adolescent: the teenager wants to assert his or her independence by not following the rules of house, but still expects the benefits of affiliation with the family, as well as a helping hand should problems emerge.”

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**THE CAMPUS COMPUTING PROJECT**

Began in 1990, The Campus Computing Project is the largest continuing study of the role of information technology and e-learning in American higher education. The project’s national studies draw on qualitative and quantitative data to help inform faculty, campus officials, policymakers, and others interested in a wide array of information technology planning and policy issues that affect colleges and universities in the United States.


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**THE CAMPUS COMPUTING PROJECT**

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IT disaster planning continues to pose a major challenge for many colleges and universities. Just over half (55.7 percent) of institutions report a strategic plan for IT disaster recovery, essentially unchanged from 2004 (55.5 percent) or even 2002 (53.0 percent). Green comments that “one year after Hurricanes Katrina and Rita and five years after the 9-11 attacks, it is still surprising that so many colleges and universities have yet to complete or update their IT disaster plans.”

This year’s data point to little change in the cautious support for Open Source applications among senior campus technology officers that was first reported in 2004. Over half (53.9 percent, compared to 51.9 percent in 2004) agree “Open Source will play an increasingly important role in our campus IT strategy.” However, less than a third of the survey respondents (28.2 percent, compared to 28.9 percent in 2004) agree that Open Source currently “offers a viable alternative” for key campus or administrative/ERP applications, such as student information systems, campus finance systems, portals, or personnel/human resource software.

Yet even as survey respondents are currently cautious about Open Source ERP applications, the 2006 survey offers evidence documenting the broad deployment of backroom Open Source tools: for example, two-thirds of the survey respondents report some Open Source tool deployment on their campuses, from “sampling for backroom infrastructure (36.4 percent), to operational use for key backroom applications (significant deployment - 13.1 percent), to “mis-

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Little Progress on IT Disaster Recovery Planning?

![Graph showing percentage of institutions reporting a strategic plan for IT disaster recovery, 2002-2006](image)


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Campus Strategy on Open Source Tools and Applications

![Graph showing percentages of institutions using Open Source Backroom Tools and Applications](image)


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ERP applications will not be among leading research universities publicly committed to Open Source development and deployment, but among less-resourced public and private four-year colleges and in community colleges. And here the 2006 survey suggests that Open Source Learning Management Systems (LMS) are beginning to gain traction: a tenth (10.2 percent) of private four-year colleges report that they have designated Moodle as the campus-standard LMS, while 5.5 percent of public universities and 3.9 percent of private universities are using Sakai as their LMS standard. Says Green, “While many campuses are using Open Source tools in the backroom, Open Source applications are still in their infancy. The early data about Moodle and Sakai may bode well for future Open Source applications as these products emerge and campus IT officers share information about the experiences of early adopters.”

Begun in 1990, The Campus Computing Survey, is the largest continuing study of computing and information technology in American higher education. The 2006 survey is based on data provided by campus IT officials, typically the CIO, CTO, or other senior campus IT officer, representing 540 two- and four-year public and private colleges and universities across the United States. Survey respondents completed the questionnaire during September and October, 2006.

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