Higher Education Information Technology Alliance

IT Legislative and Regulatory

Issues Agenda >>>>>

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April 2005

Dear Colleague:

I am pleased to present the Higher Education Information Technology (HEIT) Alliance's 2005 IT Legislative and Regulatory Issues Agenda. This document represents the higher education and library community's guiding public policy agenda on information technology (IT) for 2005. The HEIT Alliance was established to help define and promote the higher education and library community's collective interests in federal IT policy. The HEIT Alliance is a coalition of 10 national higher education and library associations, whose individual members represent a broad array of stakeholders on college and university campuses, including presidents, business officers, chief information officers, and librarians.

Information technology has become pervasive throughout the campus experience and is an integral part of campus and library operations. Students, faculty, staff, and patrons increasingly rely on computers and networks for scholarship and to perform administrative tasks. IT touches students at every point along the path of their educational experience: from the initial introduction to an institution through a Web page to registering for classes on-line, monitoring financial account activity, and ultimately using IT in the learning environment through either distance or the classroom setting, and as part of research experiences. Additionally, a college or university's mission of teaching, research, and service is enhanced through the application of IT. The 2005 IT Legislative and Regulatory Agenda reflects IT's enormous influence on everyday activity at colleges and universities.

Over the past year the HEIT Alliance has continued its outreach to policy makers, the media, and corporate leaders, and has provided information to campus officials as well.

This year's agenda includes six major topic areas: Cyberinfrastructure, Information Technology in the Learning Environment, Intellectual Property, Security and Privacy, Telecommunications, and Workforce Development. We hope this document is a useful tool for policymakers, campus officials and other interested parties. For more information see the HEIT Alliance Website at www.heitalliance.org or contact Hilary Goldmann at (202) 478-6086.

Sincerely,

hlary Soldmann

Hilary Goldmann Coordinator, HEIT Alliance

HEIT ALLIANCE MEMBERS

American Association of Community Colleges American Association of State Colleges and Universities American Council on Education Association of American Universities Association of Research Libraries EDUCAUSE Internet2

National Association of College and University Business Officers National Association of Independent Colleges and Universities National Association of State Universities and Land-Grant Colleges

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I. Cyberinfrastructure

Prepared by Gary Bachula, Internet2 Sue Fratkin, EDUCAUSE & Internet2

Cyberinfrastructure will revolutionize the way research is conducted and the way education is delivered. Cyberinfrastructure consists of a comprehensive, integrated system of supercomputers, mass storage, high-performance next-generation networks, digital libraries and databases, sensors and effectors, middleware, security tools, application frameworks, collaboration tools, and services—all organized to serve individuals, teams, and organizations in ways that dramatically change what they can do, how they do it, and who participates.

A Blue-Ribbon Advisory Panel recommended that the National Science Foundation (NSF) establish and lead a large-scale, interagency program to create, deploy, and apply advanced cyberinfrastructure in our nation's research universities. The panel recommended a program requiring new NSF funding of \$1 billion per year.

Update from 2004

NSF began 2004 with a newly reorganized Computer and Information Science and Engineering Directorate (CISE), including a Division for "Shared Cyberinfrastructure." The CISE 2004 budget approved by Congress directed that "not less than \$20 million may be used for cyberinfrastructure initiatives."

One component of comprehensive cyberinfrastructure is high-performance computing (often called "supercomputers"). In May 2004, the White Houseappointed High-End Computing Revitalization Task Force issued its report, "Federal Plan for High-End Computing." This document underscored the national importance of this major scientific resource, mapped out an R&D roadmap for federal agencies, and detailed capacity and procurement needs for high-end computing in federal agencies.

In August 2004, the annual R&D priorities letter from the Director of the Office of Management and Budget and the Director of the White House Office of Science and Technology Policy included two priorities for federal R&D agencies in the area of networking and information technology: high-end computing and cyberinfrastructure R&D. In addition, a number of other policy statements from various organizations endorsed the emerging cyberinfrastructure concept.



Current Status

The FY 2006 budget for the NSF simultaneously promotes and obstructs the momentum to develop comprehensive cyberinfrastructure for science, engineering, and education.

In a special analysis in the NSF budget, the agency's funding for cyberinfrastructure is detailed:

	NSF-Wide:	CISE:
FY 2004	\$409.62 million	\$141.13 million
FY 2005	\$473.14 million	\$168.60
FY 2006	\$509.15 million	\$181.56

At first, those appear to be healthy amounts of investment and increases in a tight budget climate. However, it appears that this analysis mostly captures existing program activities that have been relabeled "cyberinfrastructure." It is not clear at all how much of this cyberinfrastructure funding goes toward realizing the vision of the Blue Ribbon Advisory Panel's recommendations.

RECOMMENDATION: The HEIT Alliance supports the recommendations of the Advisory Panel and urges the NSF, the Administration, and Congress to implement and expand a bold, large-scale, interagency, and internationally coordinated effort to deploy advanced cyberinfrastructure in our research universities.

HEIT Alliance FY 2006 Funding Request

The Alliance supports major *new* investment in cyberinfrastructure and urges the NSF and Congress to make these investments transparent, to allow scrutiny and debate.

HEIT Alliance Funding Recommendation for FY 06:

\$600 million NSF-wide \$250 million CISE

RESOURCES:

Report of the National Science Foundation Blue-Ribbon Advisory Panel on Cyberinfrastructure: http://www.nsf.gov/publications/pub_summ.jsp?ods_ key=cise051203

Networking and Information Technology Research and Development (NITRD)

The NITRD program was established by Congress under the High Performance and Computing Act of 1991 and the Next Generation Internet Act of 1998, with the goal of improving coordination and cooperation among agencies engaged in IT R&D. Over the past 13 years, the scope of the agencies' collaborative activities has evolved and expanded to encompass emerging technological fields—such as wireless and optical networking, cybersecurity, high-assurance software and systems, and embedded systems—that did not exist when the program began. NITRD's impact derives from its highly diversified and multidisciplinary research strategy, which funds fundamental scientific investigations across federal laboratories and centers, research universities, nonprofit organizations, and partnerships with industry.

NSF NITRD activities in 2005-2006 are to include: Cyber Trust (including cybersecurity foundations, network security, systems software, information systems); Science of Design (assured design for software intensive computing, information and communications systems); Information Technology Research (IT and high- confidence hybrid control systems for critical infrastructures such as the power grid, open source/open verification technology); Computing Processes and Artifacts and Computing Systems Research(assured platforms and software, and distributed, real time, embedded computing, computational models, and assurance methods for safety-critical systems).

The FY 06 funding request for the multi-agency NITRD program is \$2.15 billion: for NSF an increase of \$8 million; for National Institutes of Health a slight decrease is noted; for Department of Energy a decrease from the 2005 enacted level (although it is \$1 million above the President's 2005 request); for the Defense Advanced Research Projects Agency an increase of \$28 million above 2005. Further, numerous changes are recommended in programming of NITRD activities and corresponding funding is revised with decreased requests for NASA and the National Security Agency.

RECOMMENDATION: The HEIT Alliance supports the recommendations of the High End Computing Research Task Force to reauthorize the NITRD program and support the funding of the interagency program.

RESOURCE:

www.nitrd.gov

II. Information Technology in the Learning Environment

Prepared by Susan Hattan, NAICU Christie Dawson, AASCU Jim Hermes, AACC Kerry Bolognese, NASULGC



Information technology (IT) permeates every aspect of higher education from the conduct of instruction, research, and service, to the administrative infrastructure that supports the operation of complex campus environments. Utilization of the World Wide Web and other technologies are important means of delivering academic coursework to a significant number of college students, particularly those who face time and geographic limitations. IT investments on campuses also have a major impact on the increase in college costs that has received so much national Congressional and media attention this past year.

Federal policy makers have tended to focus primarily on K–12 IT issues. While there has been some federal investment in support of IT research, few programs target the higher education learning environment. As colleges and universities respond to today's workforce and demographic needs and challenges, they have begun to reexamine their assumptions about the way faculty teach and students learn, and how knowledge is acquired and retained. Many innovative changes are being implemented through the use of advanced technologies, and additional federal support would do much to enhance these efforts.

In addition, several federal higher education programs that need continued support are spread across several agencies and lack the benefit of a coherent approach to meeting the needs of higher education as a whole, either in focus or in level of funding. Indeed, some have been eliminated altogether in recent appropriations bills. With dwindling state support for public institutions, escalating IT costs, and increased demands for distance learning affecting all colleges and universities, federal support is more crucial than ever in providing resources and sound policy direction in this area.

Update from 2004

The primary federal activity related to IT and higher education learning needs is through programs within the U.S. Department of Education and the National Science Foundation (NSF), and their related authorizing and appropriations committees in Congress. Within the Department of Education, the programs supported by the Higher Education Act are of particular importance for IT activities at institutions of higher education. The act was not reauthorized during the 108th Congress, as had been expected. Funding for NSF dropped by nearly two percent in FY 05, to \$5.47 billion. This is about \$107 million below FY 04 funding and \$275 million below the Administration's request. Within the total, Research and Related Activities received \$4.22 billion, a cut of \$32 million from FY 04 (which corresponds to the 0.8 percent cut imposed on domestic discretionary spending); Education and Human Resources was cut by 10 percent to \$841 million. Funding for Major Research Equipment and Facilities, however, increased by \$18.6 million, or 12 percent, to \$173 million.

Current Status

Funding from Public Spectrum Auctions

Within the next several years, broadcast television stations will be required to return the portions of spectrum they are now using to broadcast analog TV signals. The Communications Act of 1996 set this date as December 31, 2006, but only if 85 percent of U.S. households then have access to local digital TV signals. This condition will not be met by that date, and Congressional and FCC attention is turning to setting a "hard" date for return of analog TV spectrum.

Once the analog TV spectrum is returned, it will be auctioned off for as much as \$70 billion. Naturally, this revenue source is being eyed by a number of interested parties, including those that would use a portion of the proceeds for educational purposes. Foremost among these groups is the Digital Promise Project (DPP), a nonprofit organization founded in 2001 to support the creation of the Digital Opportunity Investment Trust (DOIT). Likened by its proponents to the Morrill Act and GI Bill, DOIT would put a portion of the spectrum auction proceeds into a trust fund. The income generated by the fund would be used to help schools, colleges and universities, libraries, museums, public broadcasters, and others make better use of advanced information technologies to fulfill their educational missions. The Digital Promise Project is funded by several major foundations and has received some federal funding for studies and planning projects. In the 108th Congress, Senators Christopher Dodd (D-CT) and Olympia Snowe (R-ME) introduced legislation that would create a DOIT fund,, although the bill did not make much progress.

Public broadcasters have shown a similar interest in tapping this potential resource to assist their stations in creating educational content for the multiple digital channels that the transition will engender. In early 2004, the Association of Public Television Stations (APTS) proposed that their member stations, on a voluntary basis, return their analog spectrum before the deadline if certain conditions were met, including the creation of a trust fund similar to DOIT. In early 2005, the APTS and the DPP reached an agreement in principle to unite behind one common proposal.

CURRENT STATUS: Reintroduction of the DOIT legislation by Senators Dodd and Snowe is expected.

HEIT Recommendation: Remain involved in conversations with all interested parties on formation of a DOIT fund and support DOIT legislation in Congress.

RESOURCES:

Digital Promise Project—www.digitalpromise.org Association of Public Television Stations—www.apts.org

Nation of Learners

Over the past decade, both the education and business communities have become increasingly concerned about American global competitiveness and the widening gap between traditional training and the skills necessary to do tomorrow's jobs. The Business-Higher Education Forum has issued a report calling for a "nation of learners" where the education system effectively and efficiently helps students achieve proficiency in basic lifelong learning skills and provides ongoing education tailored to both individual needs and workplace demands. Skills and attributes of a nation of learners include teamwork, leadership, problem solving, time management, self-management, adaptability, analytical thinking, global consciousness, and basic communications. To achieve these goals, states could be partners in pushing for a Presidential Commission on Learning to develop a strategic plan to achieve educational goals, exploring new models of learning and the role technology can play. New regional innovation centers for learning redesign and dissemination could be established.

These centers would bring together the brightest minds from academia, the private sector, and government to look for the most innovative learning models that pioneering institutions are developing. These centers would be modeled after the regional Math & Science Centers established by Congress a few years ago. In addition, a new federal Learning and Networking grant program should be created as part of either Perkins or HEA reauthorization to help universities, colleges, and community colleges champion education redesign. The grant program would be administered by the Department of Education and would permit specific campuses to improve teaching across a department or campus by promoting pioneering projects and innovative projects.

http://www.nasulgc.org/comm_outreach.htm

Distance Education Demonstration Program

The Washington-based higher-education associations continue to support a new program, based on the Education Department's existing Distance Education Demonstration Program, that would permit Title IV-eligible institutions to seek a waiver of certain existing "time and place" provisions now in the law. These provisions were enacted a decade ago to prevent fraud and abuse. The proposed new program would provide for a carefully monitored expansion of programs that use innovative means to deliver education programs, while ensuring continued program integrity.

Information Technology Title

The higher education and library community also continues to support the formation of a new Information Technology Title in the Higher Education Act, supporting the adaptation of technology in the curriculum to enable institutions of higher education to keep pace with rapid technological developments, meet the nation's pressing workforce needs, and respond to dramatic demographic changes in the student population.

Several studies have demonstrated that academic instruction and coursework at all levels of education often benefit from the incorporation of technology into curriculum design and delivery. However, the efficiencies and increased productivity from the often-enormous investments in infrastructure have sometimes fallen short of expectations. The full benefit of technology in the educational process is realized only by enhancing the technology skills of faculty and students, ensuring adequate system support, and providing the funds necessary to build a new academic framework around this new resource.

Minority-Serving Institutions

A report, issued by the Institute for Higher Education Policy in 2004, finds that Historically Black Colleges and Universities, Hispanic-Serving Institutions, and Tribal Colleges and Universities are in an unrivaled position to remedy the technological disenfranchisement of the nation's emerging majority populations but are hampered due to lack of stable financial resources and other concerns. The report, entitled "Serving the Nation: Opportunities and Challenges in the Use of Information Technology at Minority-Serving Colleges and Universities," says that while some minority-serving institutions have achieved impressive results in the application of information technology, far too many have urgent technology needs that cannot be addressed without significant support and guidance from the federal government, states, and the private sector.

Math and Science Partnerships

Currently, both the Department of Education and the National Science Foundation support partnerships to promote math and science education. Under the NSF program, competitive grants are awarded for modeling, testing, and identifying high-quality math and science activities. The Department of Education programs provide formula grants focused on math and science teacher-education and curriculum development. The Administration is proposing a substantial change of focus in this area, with the FY 06 budget calling for a phase-out of funding for the NSF program and a redirection of a significant portion of Department of Education funds from teacher training and professional-development activities towards math instruction for high school students who are at risk of dropping out.

RECOMMENDATIONS:

- The HEIT Alliance will continue to support a new program, based on the Education Department's existing Distance Education Demonstration Program, that would permit Title IV-eligible institutions to seek a waiver of certain existing "time and place" provisions now in the law.
- > The HEIT Alliance will continue to support a new Information Technology Title in the Higher Education Act.
- The HEIT Alliance supports enactment and funding of legislation to address the variety and scope of the nation's minority-serving institutions' information technology needs.
- The HEIT Alliance believes that the current balance between the Math and Science partnerships supported by the Department of Education and those supported by NSF works well and should be maintained. In particular, we oppose the total phase-out of the NSF program, as we believe the development of high-quality math and science activities is an essential underpinning of efforts to raise the level of math and science teaching and learning.

RESOURCES:

"Serving the Nation: Opportunities and Challenges in the Use of Information Technology at Minority-Serving Colleges and Universities" http://www.ihep.org/Pubs/PDF/ServingTheNation.pdf

Funding Recommendations

DEPARTMENT OF EDUCATION PROGRAMS

Community Technology Centers

This program, moved to Title V, Part D, Subpart 11 of the Elementary and Secondary Education Act (ESEA), authorizes institutions of higher education, state education agencies, local education agencies, nonprofits, and consortia to create or expand community technology centers to broaden access to information technology in distressed communities.

FY 04:	\$9.9 million
FY 05:	\$5 million
President's Budget Request for FY 06:	\$ 0
HEIT Alliance	
Recommendation for FY 06:	\$9.9 million

Educational Technology State Grants

The Enhancing Education Through Technology Act of 2001 was authorized as part of the Elementary and Secondary Education Act Amendments of 2001. This program is the umbrella authorization for the department's technology effort. The authorization level is \$1 billion. The Secretary of Education distributes Educational Technology Grants to the states using a formula based on population and poverty rates. States keep five percent of the grants to assist local efforts and will award the remaining funds. Half these awards will be distributed by formula to local education agencies, and the remaining half will be distributed by competitive grants to local agencies or partnerships. Twentyfive percent of the funds received by the local education agency or partnership are to be used for professional-development activities. (Partnerships must include a high-need local education agency and one or more of the following: an institution of higher education, a business, or an organization.)

FY 04: FY 05:	\$691.8 million \$496 million
President's Budget Request for FY 06:	\$0
HEIT Alliance Recommendation for FY 06:	\$700 million

Preparing Tomorrow's Teachers to Use Technology (PT 3)

This program supports institutions of higher education to better prepare tomorrow's teachers to incorporate technology into the classroom.

FY 04:	\$0
FY 05:	\$0
President's Budget Request	\$0
HEIT Alliance	ΨŬ
Recommendation for FY 06:	Restore funding for this important teacher-education program.

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FY 04: FY 05: President's Budget Request for FY 06:

Mathematics and Science Partnerships

\$149.1 million \$178.6 million

\$269 million

The budget submission also proposes that \$120 million of these funds be used for competitive grants to accelerate the mathematics education of secondaryschool students, particularly those who are at risk of dropping out. These grants would be a component of the President's high-school reform strategy.

HEIT Alliance Recommendation for FY 06:

\$269 million

NATIONAL SCIENCE FOUNDATION (NSF) PROGRAMS

Math and Science Partnerships (MSP)

The partnership program administered by the NSF is fundamentally different from the program at the Department of Education. The NSF program provides competitive, merit-reviewed grants to universities and school districts to improve math and science proficiency for students in all grades. The Education Department's program awards funds to states on a formula basis and focuses primarily on high-level mathematics.

FY 04:	\$138.71 million
FY 05:	\$79.36 million
President's Budget Request	
for FY 06:	\$60 million
	(No new grants will be awarded; program will be phased out.)
HEIT Alliance	
Recommendation for FY 06:	\$200 million

Course, Curriculum and Laboratory Improvement (CCLI)

CCLI funds efforts to improve the quality of science, mathematics, engineering, and technology education for all students, targeting course content, curricula, and practices. There are three components of this program: Educational Materials Development, National Dissemination, and Adaptation and Implementation.

FY 04: FY 05:	\$40.41 million \$40.64 million
President's Budget Request for FY 06:	\$31 million
HEIT Alliance Recommendation for FY 06:	\$40.64 million

Noyce Scholarships

This program awards scholarships to students to encourage mathematics, science, and engineering students to become teachers. Institutions of higher education will provide in-service and pre-service training and support for the program.

FY 04: FY 05:	\$7.95 million \$7.89 million
President's Budget Request for FY 06:	\$8 million
HEIT Alliance Recommendation for FY 06:	Fund at a minimum \$8 million

III. Intellectual Property

Prepared by Prue Adler, ARL John Vaughn, AAU



Legislation

Update from 2004

Last year, Members of Congress introduced several bills designed to increase copyright owners' control over the use of digital copyrighted works. Perhaps the most controversial of these bills was S. 2560, the Inducing Infringement of Copyright Act. This bill would create liability for anyone who intentionally induces another to commit copyright infringement. The bill was intended to target companies whose commercial viability depends upon profiting from the infringing conduct of others by explicitly marketing peer-to-peer (P2P) file-sharing software for the purpose of undeniable infringement. However, it would have created a broad but vaguely defined new form of secondary liability and was understood by many analysts to overturn the Supreme Court's landmark 1984 Sony Betamax decision (Sony Corp. v. Universal City Studios, Inc.,), which held that the sale of devices that can be used for infringing purposes does not constitute contributory infringement as long as those devices are also capable of substantial non-infringing uses. Thus S. 2560 was highly controversial. After an extended period of negotiation, groups representing copyright owners and representatives of consumer electronics companies failed to reach agreement on an acceptable version of the legislation. The legislation was tabled and is unlikely to be reintroduced.

Several other bills were combined into a broad copyright bill, S. 3021, the Family Entertainment and Copyright Act of 2004. Among other provisions, the bill would create penalties for using a camcorder or other device to make unauthorized copies of movies in a movie theater; create new criminal penalties for certain forms of willful infringement; and penalize the trafficking in counterfeit labels attached to phonorecords, movies, or other copyrighted products. The bill created a number of problems for higher education institutions and libraries; for example, early versions of the camcorder provisions could have created liability for a student working in otherwise noninfringing ways in a university film studio.

Current Status

The Senate on February 1 approved by voice vote S. 167, the Family Entertainment and Copyright Act of 2005, a scaled-back version of last year's bill, S. 3021. The measure either removed or satisfactorily amended the problematic provisions of earlier versions of the bill. The current bill would penalize the use of camcorders or other devices to make unauthorized copies of movies in movie theaters, punish distribution of pirated movies or songs before release, and protect from copyright liability distributors of certain technologies that allow movie viewers at home to delete portions of movies they find objectionable. In addition, the bill would ensure that libraries can duplicate certain copyrighted works in the last 20 years of their copyright term if they cannot otherwise be secured at a reasonable price, and reauthorize the National Film Preservation Board, a project of the Library of Congress. An measure identical to S.167 (H.R. 357) was introduced in the House on January 25 by Rep. Lamar Smith (R-TX), chairman of the House Judiciary Committee's Subcommittee on Courts, the Internet, and Intellectual Property.

RECOMMENDATIONS: The HEIT Alliance should monitor the progress of S. 167 and H.R. 357 to assure that problematic provisions are not added in the House or in conference.

The Courts

Update from 2004

The U.S. Supreme Court agreed to hear the case *Metro-Goldwyn-Mayer Studios v. Grokster* on March 29, 2005. The case was important to the library, education, technology ,and consumer electronics communities because it carried significant implications for future technological development and innovation. In this case, 28 entertainment companies sued the file-sharing services marketed by Grokster, KaZaA and Morpheus. The U.S. Court of Appeals for the Ninth Circuit ruled that file-sharing services were not liable for their users' illegal activity. The ruling cited the precedent set in the U.S. Supreme Court decision *Sony Corp. v. Universal City Studios* (known as the Sony Betamax decision, 1984), and noted that file-sharing systems have significant noninfringing uses, not unlike videocassette recorders that allow consumers to make copies of copyrighted works for the purposes of watching a show at a different time.

Current Status

The Association of Research Libraries (ARL), with four other library associations, the Internet Archive, the American Civil Liberties Union, and Project Gutenberg filed an amicus brief before the U.S. Supreme Court. These organizations also filed an amicus brief when the case was before the Court of Appeals.

RECOMMENDATION: The HEIT Alliance should monitor the outcome of this case for further developments.

Copyright Office

Update from 2004

The U.S. Copyright Office seeks comments on issues concerning "orphan works." The office defines these works as those whose owners are difficult or even impossible to locate. In its Notice of Inquiry (NOI), the office states that "the public interest may be harmed when work cannot be made available to the public due to the uncertainty over its copyright ownership and status, even when there is no longer any living person or legal entity claiming ownership of the copyright or the owner no longer has any objection to such use." The notice also acknowledges that "the uncertainty surrounding ownership of such works might needlessly discourage subsequent creators and users from incorporating such works in new creative efforts or making such works available to the public."

Current Status

ARL, with others in the library, cultural, and education communities, will be filing comments in response to the inquiry. ARL, with these other organizations and institutions, is seeking community input on issues surrounding orphan works and hopes to build consensus on remedies to resolve this significant problem.

RECOMMENDATION: HEIT Alliance members should provide comments as appropriate to the Copyright Office and should work with ARL and other such organizations to build consensus on this issue. The NOI is available at: http://www.copyright.gov/fedreg/2005/70fr3739.html

IV. Cybersecurity and Privacy

Prepared by Rodney Petersen, EDUCAUSE

Many policy makers in Washington, D.C., do not believe that cybersecurity has received the attention that it deserves within the broader efforts to improve homeland security. At the same time, institutions of higher education have been making it a higher priority and spending more resources to secure campus networks because of the growing numbers of vulnerabilities (e.g., viruses, worms, spyware, etc.) that pose a risk to their institutional reliance on information technology or that threaten the privacy of personal information. The EDUCAUSE/Internet2 Computer and Network Security Task Force remains actively engaged in coordinating higher education's efforts to improve the security of the portion of cyberspace that is under its control.

The efforts to improve cybersecurity, combined with stepped-up efforts by law enforcement to fight cybercrime and prevent acts of terrorism, continue to require vigilance to ensure that civil liberties and individual freedoms are appropriately weighed and considered. Data compromises that result from breaches of campus information systems, phishing schemes, and other types of Internet fraud can all lead to identity theft, which has become a critical public policy issue.

Update from 2004

The effects of the election can be seen most notably in the leadership changes in both the Congress and the U.S. Department of Homeland Security. The House of Representatives has now established a permanent Committee on Homeland Security. The House Committee on Government Reform will now provide oversight of federal government cybersecurity efforts at the Full Committee level, eliminating a Subcommittee on Technology and Information Policy previously chaired by Rep. Adam Putnam (R-FLA) that was extremely active in working with the private sector. Congressman Putnam's Corporate Information Security Working Group produced a series of working group reports and recommendations in the fall of 2004 designed to advance cybersecurity within the private sector and academia.

The Department of Homeland Security (DHS) continues to be a focal point for critical infrastructure protection and cybersecurity. DHS released a National Response Plan in January 2005 and the Interim National Infrastructure Protection Plan in February 2005. Although neither plan directly implicates colleges and universities as a "critical infrastructure" or "key resource," there



remains an important coordination role on behalf of institutions of higher education. EDUCAUSE has been taking the lead as "sector coordinator" by participating in the private-sector-led Partnership for Critical Infrastructure Security and by working closely with DHS officials.

The National Cyber Security Partnership (NCSP) was formed in July 2004 as a private-sector effort to implement the National Strategy to Secure Cyberspace (released in February 2003). The NCSP has established priorities in the areas of awareness, common criteria, cross-sector coordination, governance, international law enforcement cooperation, incentives, and secure configurations. The National Cyber Security Alliance (NCSA) (www. StaySafeOnline.info) has emerged as the leading resource for cybersecurity awareness, education tools, and best practices to stay safe online for schools, colleges, and universities, as well as for home users and small businesses. The NCSA is a public-private partnership that will drive awareness and response to pressing cybersecurity issues.

Current Status

Efforts to protect critical infrastructures and improve domestic security continue to evolve. Transitions in the leadership in key departments and agencies, especially DHS, continue to present challenges for private-sector stakeholders, including colleges and universities, who continue to plan and implement appropriate prevention and remediation activities. Institutions of higher education continue to be agile and effective in addressing new vulnerabilities to computers and networks as they emerge. There is a slow but gradual shift in emphasis as institutions become more proactive through the effective use of risk-management techniques and establish formal informationsecurity programs.

There have been a number of serious compromises at colleges and universities that expose the data of students, employees, alumni, and other stakeholders. Similar incidents have exposed commercial companies and data brokerage services. Consequently, the Congress and consumer-protection agencies such as the Federal Trade Commission are actively pursuing regulatory or enforcement measures to raise the bar for information protection. We can expect that colleges and universities will be asked to account for their data protection and privacy practices to their constituents, governing boards, and state or federal officials.

USA PATRIOT Act

The act, approved immediately following the attacks of 9/11, was designed to aid in preventing future terrorist acts. Several provisions in the act continue to be controversial, especially those concerning access to records, including library and educational records, and section 505, which allows the FBI to issue an

administrative subpoena that requires the recipient to turn over transactional records that may include records concerning e-mail and Web use.

Congress is poised to review several provisions in the USA PATRIOT Act that will sunset, in addition to amending the statute. Many of the proposed amendments that have circulated have generated more controversy about the degree to which law enforcement should be granted greater surveillance powers. Extensive congressional debate is expected as the sunset provisions and the new legislation are considered.

The higher education and library community continues to express reservations about provisions in the measure. H.R. 1157, The Freedom to Read Protection Act, is a bipartisan measure that would return to the standards in place, prior to the enactment of the USA PATRIOT Act, that the FBI used to obtain court orders and warrants to investigate records of library patrons and bookstore customers.

RECOMMENDATION: The HEIT Alliance should continue to press colleges and universities to take voluntary steps to improve cybersecurity and protect the information under their control. Alliance members need to continue to support the efforts of EDUCAUSE and the EDUCAUSE/Internet2 Security Task Force to coordinate and collaborate with federal agencies charged with the responsibilities for critical infrastructure protection and cybersecurity improvements. The Alliance also should monitor policy or regulatory developments that impact privacy, civil liberties, or the safeguarding of confidential personal or institutional information.

RESOURCES:

EDUCAUSE/Internet2 Computer and Network Security Task Force: http://www.educause.edu/security

National Cyber Security Alliance: http://www.StaySafeOnline.info

National Cyber Security Partnership: http://www.cyberpartnership.org

USA PATRIOT Act updates: http://www.arl.org/info/frn/other/ATL.html

V. Telecommunications

Prepared by Gary Bachula, Internet2 Jim Hermes, AACC Garret Sern, EDUCAUSE



Telecommunications Act Rewrite

When the Telecommunications Act of 1996 was written, it focused mainly on issues relating to the voice services provided by local and long distance telephone companies; the Internet was barely mentioned, save for instructing the Federal Communications Commission (FCC) to encourage the deployment of advanced services in a "reasonable and timely manner." With the convergence of voice, video, and data onto multiple Internet Protocol-based infrastructures (fiber, copper, wireless), any reconsideration of the Telecommunications Act is likely to focus on "how do we regulate the Internet." This will affect all companies and institutions, including schools, colleges, and libraries, who now provide Internet services to their communities. Issues of access, open standards, subsidies, law enforcement, and intellectual property protection potentially could all be on the table; and decisions made in Washington could affect the daily operations of HEIT Alliance members.

While congressional leaders have promised to revisit the Telecommunications Act this session, it is uncertain whether they will aim for a complete overhaul or a more piecemeal approach. Senate Commerce Committee Chairman Ted Stevens (R-AK) will be conducting "regional listening tours" to glean ideas and comments from different communities. Already telecommunication providers and industry think tanks are promoting draft legislation. It is imperative that the higher education and library communities contribute to and influence this dialogue.

Broadband

The higher education and library communities urge federal policymakers to take a visionary approach when rewriting our nation's telecommunications laws. Security, the development of new technologies, and community networks must be addressed. All of these issues, however, will be influenced by the development and deployment of an affordable, underlying national broadband network. Federal policymakers' decision-making process must be guided by several basic principles, including:

> Affordable Broadband Access

Affordable, ubiquitous access to advanced communications services and capabilities by individuals, educational, and library institutions,

households, businesses large and small, nonprofit organizations, and public service agencies is a matter of the highest public interest. Planning and deployment of a network that meets these collective needs must be accomplished in a way that engages both the public and the private sectors and builds on the strengths of each.

> A New Regulatory Structure

Progress in the deployment of public broadband services requires a new and streamlined regulatory structure based on sound economic and social concepts, recognition of the advantages inherent in new network technology and a new network structure, and a willingness to undertake the difficult transition from current, obsolete telecommunications facilities and the regulations that govern their use.

Update from 2004

Once again, no major broadband legislation was passed in 2004. However, progress was made on several issues related to a stable, broadband network, including:

Communications Assistance for Law Enforcement Act (CALEA)

Members of the HEIT Alliance submitted comments before the Federal Communications Commission concerning the adherence of education and research networks to the Communications Assistance for Law Enforcement Act (CALEA). Our submission argued that CALEA compliance would place an undue financial burden on our institutions and inhibit network innovation in exchange for uncertain benefits. Subsequent conversations with the Department of Justice have paved the way for potential exemptions from CALEA for education and research networks, including Internet2, state, and regional networks. Further negotiations are needed to determine where those networks connect to the public network, which must adhere to CALEA.

Community Networks

Some colleges and universities are beginning to work with their local communities to provide broadband access and have engaged the broadband vendor community as partners. Influenced by intense lobbying from some telecommunication providers, several states have introduced legislation restricting communities' ability to build and manage their own networks. It is uncertain whether federal policymakers will intervene.

Internet Protocol Enabled Services

Members of the HEIT Alliance submitted comments before the FCC, encouraging the commission to treat IP-Enabled Services as a unique technology that should remain distinct from the legacy, or traditional, telecommunications regulatory system. The commission recently granted itself federal jurisdiction over Voice Over Internet Protocol (VOIP)Services, which will prevent the states from placing any burdensome regulations on IP-Enabled services. Still, Congress may consider taxing VOIP as a means of shoring up the universal service fund.

Spectrum Reform

The increasing demand for wireless applications, both licensed and unlicensed, plus the vast improvements in interference management since 1934, have made it clear that the current spectrum allocation system is outdated. As a result, both the FCC and the National Telecommunications and Information Administration have initiated a series of reforms to improve the efficiency of the spectrum allocation process, taking into account new developments such as smart antennas and cognitive radios. The higher education community supports efforts to encourage the FCC to make additional spectrum available for unlicensed uses. The Federal Communications Commission's recent auction of broadband Personal Communications Services (PCS) licenses is a positive step in increasing competition for wireless broadband services.

Universal Service

The FCC sought comments on the recommendations of the Federal-State Joint Board on Universal Service concerning the designation of eligible telecommunications carriers and the commission's rules regarding support of the program. The higher education community has not commented on any particular funding proposal; however, the FCC has expressed interest in how the various collection proposals would impact our institutions. Our primary goal is to ensure universal service funding encourages providers to build and deploy IP-Enabled broadband networks.

RECOMMENDATIONS:

- > HEIT Alliance members will continue to promote a national, broadband vision that will encourage telecommunications providers to deploy high-speed networks in underserved areas.
- > HEIT Alliance members will support the right of local municipalities to build out their own wireless and fiber networks (if the private sector is not providing access to affordable broadband services in a timely fashion) and encourage them to engage broadband vendors from the onset of their endeavor.

- > HEIT Alliance members will support continued cooperation with local and federal law enforcement in ways that don't place an unreasonable financial burden on the education and library communities and impede technological innovation.
- > HEIT Alliance members will continue to support defining IP-Enabled Services, including VOIP, as information services, and not subject to burdensome legacy telecommunications regulations.
- > HEIT Alliance members will encourage the FCC to make additional spectrum available for unlicensed use.
- > HEIT Alliance members will encourage Congress and the FCC to ensure that any needed regulations foster the development of Internet applications.
- > HEIT Alliance members will encourage the FCC to shift universal service funds away from supporting antiquated, legacy telephone systems to IP-Enabled broadband networks.

VI. Workforce Development

Prepared by Jim Hermes, AACC Rodney Petersen, EDUCAUSE



Workforce development continues to be one of the top concerns of the information technology industry and every other industry that employs information technology professionals, including higher education. Current and projected shortages in many of these areas pose a significant challenge to higher education to produce the workers needed at all levels, from skill-specific certificates to doctoral degrees. Institutions and the government have placed a special emphasis on educating greater numbers of underrepresented populations in information technology and other fields. The demographic evolution projected to occur over the next few decades in the American workforce demands that greater numbers of minority students receive training in high-technology fields if this country is to maintain its leadership in these fields. Federal support for workforce development in the information technology, but have a significant impact in this area nonetheless.

Update from 2004

Two broad-based workforce development programs are in the process of being reauthorized by Congress: the Carl D. Perkins Vocational and Technical Education Act (Perkins Act) and the Workforce Investment Act (WIA). Congress had hoped to finish these reauthorizations in the last Congress, but was unable to do so. The Perkins Act funds program improvements in technical education programs at the K–12 and community college levels, including funds for equipment, curriculum and professional development, and support for special student populations in technology and other programs. WIA authorizes the federal workforce development system responsible for job placement, training, and retraining of unemployed and other individuals, some of whom receive training to enter into information technology and related fields.

Congress fully funded President Bush's \$250 million program for job training at community colleges in high-demand industries in the FY 2005 appropriations bill. This initiative will likely include information technology programs.

The National Science Foundation administers several programs aimed at workforce development in high-technology fields, including information technology. The Advanced Technological Education (ATE) program funds programs at community colleges aimed at producing skilled technicians in a number of fields, including information technology. Cybersecurity is an emerging focus of the ATE program, as well. The ATE program received a slight decrease in FY 2005, for a total of \$45.1 million. The Science, Technology, Engineering and Mathematics Talent Expansion Program (STEP), which aims to increase the number of undergraduates entering those fields, also fared reasonably well in FY 2005 appropriations, receiving nearly \$25.3 million. Another important NSF program, the Computer Science, Engineering and Mathematics Scholarships (CSEMS) program, gained new life in the FY 2005 omnibus appropriations bill, which included legislation to renew and increase the H-1B visa fees that fund the program.

The Department of Labor also administers workforce development programs funded by H-1B visa fees. This program will now likely be merged with the High-Growth Job Training Initiative, which funds projects to train workers in top priority industries, including information technology and other fields where IT training is essential.

Current Status

The administration's FY 06 budget calls for termination of the Perkins program. Instead, the budget calls for consolidating Perkins and several other programs into a \$1.5-billion block grant for high school reform initiatives. The Congressional reaction to the proposed elimination of Perkins has been generally negative.

Because much work was done on WIA and Perkins reauthorizations in the last Congress, these reauthorizations are proceeding very quickly early in 2005. As of the writing of this document, Perkins and WIA reauthorization bills nearly identical to last year's legislation already had been introduced in both the House and the Senate, and the House already had approved its WIA reauthorization measure (H.R. 27, the Job Training Improvement Act).

The administration again requested \$250 million for the Community Based Job Training Grants program in FY 06, and authorization language for the program was included in H.R. 27.

NSF's ATE and STEP programs each were slated for slight cuts in the Administration's FY 06 budget. The Administration has requested \$45 million in funding for the ATE program in FY 06, while the STEP program was reduced by \$25 million. Congress will address appropriations for these programs when it considers the VA, HUD, and Independent Agencies appropriations bill.

The National Centers of Academic Excellence in Information Assurance Education (CAEIAE) program, established in November 1998, and now a partnership between the National Security Agency (NSA) and Department of Homeland Security (DHS), helps NSA and DHS partner with colleges and universities across the nation to promote information assurance (IA) curriculum and degree programs. Under this program, four-year colleges and graduate-level universities apply to be designated as Centers of Academic Excellence in IA Education. Each applicant must pass a rigorous review demonstrating its commitment to academic excellence in IA education.

Designation as a CAEIAE is valid for three academic years, after which the school must successfully reapply in order to retain its CAEIAE designation. CAEIAEs receive formal recognition from the U.S. government, as well as prestige and publicity, for their role in securing our nation's information systems. Students attending CAEIAE schools are eligible to apply for scholarships and grants through the Department of Defense Information Assurance Scholarship Program and the Federal Cyber Service Scholarship for Service Program (SFS). CAEIAE Institutions are located throughout the country—many within driving distance of major Department of Defense installations, federal research centers, and other federal agencies. These schools serve as regional centers of IA expertise and have begun to provide more programs aimed at retooling and retaining current federal and state information technology personnel.

RECOMMENDATIONS:

- Support changes in the reauthorizations of the Perkins Act and WIA that encourage enhanced post-secondary participation in vocational education and job-training programs.
- > Support the community college job-training initiative.
- Support continued funding and enhancement of NSA Centers of Academic Excellence in Information Assurance Education.
- > Support the NSF's Scholarship for Service program.

Funding Recommendations

Advanced Technological Education program

FY 04:	\$45.5 million
FY 05:	\$45.1 million
President's Budget Request for FY 06:	\$45 million
HEIT Alliance Recommendation for FY 06:	\$50 million

Federal Cyber Service: Scholarship for Service

FY 04:	\$15.84 million
FY 05:	\$14.12 million
President's Budget Request for FY 06:	\$10 million
HEIT Alliance	
Recommendation for FY 06:	\$16 million

STEM Talent Expansion Program (STEP)

FY 04: FY 05:	\$15.1 million \$25.3 million
President's Budget Request for FY 06:	\$25 million
HEIT Alliance Recommendation for FY 06:	\$30 million

Carl D. Perkins Vocational and Technical Education Act, Basic State Grants

FY 04: FY 05:	\$1.32 billion \$1.194 billion
President's Budget Request for FY 06:	\$0
HEIT Alliance Recommendation for FY 06:	\$1.409 billion

RESOURCES:

U.S. Department of Education Office of Adult and Vocational Education http://www.ed.gov/about/offices/list/ovae/

U.S. Department of Labor Employment and Training Administration http://www.doleta.gov

Information Technology Association of America (ITAA) Workforce and Education

http://www.itaa.org/workforce/index.cfm

The Computing Technology Industry Association (CompTIA Workforce Development) http://www.comptia.org/sections/workforce/default.asp

CompTIA'sTechCareer Compass http://tcc.comptia.org/

International Information Systems Security Certification Consortium (ISC2) http://www.isc2.org

Microsoft Corporation Workforce Development http://www.microsoft.com/education/?ID=WorkforceDevelopment

NSA Centers of Academic Excellence in Information Assurance Education http://www.nsa.gov/ia/academia/caeiae.cfm

NSF ATE, CSEMS and STEP Programs http://www.ehr.nsf.gov/ehr/DUE/

NSF Federal Cyber Service: Scholarship for Service http://www.ehr.nsf.gov/ehr/DUE/programs/sfs/

IT Legislative and Regulatory Issues Agenda >>>>>

Serving the Nation: Opportunities and Challenges in the Use of Information Technology at Minority-Serving Colleges and Universities http://www.ihep.org/Pubs/PDF/ServingTheNation.pdf http://www.comptia.org/sections/workforce/default.asp



Agency * Program Name	FY 04 Enacted	FY 05 Enacted	President's Budget Request	FY 06 HEIT Alliance Budget Recommendation
DOED Community Technology Centers	\$9.9 Million	\$5 Million	\$0	\$9.9 Million
DOED Educational Technology State Grants	\$691.8 Million	\$496 Million	\$0	\$700 Million
DOED Math and Science Partnerships	\$149.1 Million	\$178.6 Million	\$269 Million	\$269 Million
DOED Preparing Tomorrow's Teachers to Use Technology	\$0	\$0	\$0	Restore funding
DOL Perkins Vocational and Technical Education Act	\$1.32 Billion	\$1.194 Billion	\$0	\$1.41 Billion
NSF Course, Curriculum and Laboratory Improvement	\$40.41 Million	\$40.64 Million	\$31 Million	\$40.64 Million
NSF Noyce Scholarships	\$7.95 Million	\$7.89 Million	\$8 Million	Fund at a minimum of \$8 million
NSF Math Science Partnerships	\$138.71 Million	\$79.36 Million	\$60 Million	\$200 Million
NSF Advanced Technological Education	\$45.5 Million	\$45.1 Million	\$45 Million	\$50 Million
NSF Federal Cyber Service: Scholarship for Service	\$15.84 Million	\$14.12 Million	\$10 Million	\$16 Million
NSF Mathematics Talent Expansion Program (STEP)	\$15.1 Million	\$25.3 Million	\$25 Million	\$30 Million

FY 06

HEIT ALLIANCE FUNDING PRIORITIES BY AGENCY

Cyberinfrastructure—The HEIT Alliance supports the recommendations of the NSF Blue-Ribbon Advisory Panel to create a \$1 billion cyberinfrastructure program, and urges the Administration and Congress to provide \$600 million.

* Agency key: DOED Department of Education

- DOC Department of Commerce
- DOL Department of Labor
- NSF National Science Foundation



NASULGC

National Association of State Universities and Land-Grant Colleges

1307 New York Avenue, N.W., Suite 400 Washington, D.C. 20005 (202) 478-6040 www.nasulgc.org

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