

Higher Education Contribution to National Strategy to Secure Cyberspace July 2002

Executive Summary

The higher education sector plays an important role in the cybersecurity of America. Through its core mission of teaching and learning, higher education is the main source of our future leaders, innovators, and technical workforce. Through research, it is the basic source of much of our new knowledge and subsequent technologies. And finally, as institutions, colleges and universities operate some of the world's largest collections of computers and high-speed networks.

Taken altogether, higher education represents a great national resource with which to explore solutions and develop strategies for cybersecurity. It is a complex, technologically robust community that requires and achieves broad access to information and flexible, high-speed communications. The open, innovative values of higher education are, in the end, those of the nation. Their computers and networks represent, in many cases, the emerging systems of the future. Successful security implementations in higher education can serve as guideposts for the nation at large.

American higher education is a large collection of institutions and systems that vary widely in scope, size, mission, and technical capability, loosely organized through a variety of associations. Several of these associations, including EDUCAUSE and Internet2, focus directly on information technology (IT) at the campus level. Major national associations for higher education also participate in coalitions such as the Higher Education Information Technology Alliance (HEITA) to coordinate executive-level action on issues of IT policy.

The educational mission of most campuses now requires direct access to computing and the Internet for every student. Issues of student turnover, evolving technology, technical diversity, decentralized management, funding, and the sheer size of the populations involved present special challenges for cybersecurity in the "wired" as well as the "wireless" campus. The research mission in higher education is critical to national innovation but presents a set of unique security challenges. The complexity of the campus outreach mission can approximate that of e-government initiatives.

Despite its diversity, the academic community shares basic values, such as intellectual freedom and a decentralized approach to management, that emphasize professional rights and responsibilities. These strongly held beliefs affect the types of cybersecurity measures that succeed on campus, and they must be taken into account in any successful strategy. But in the end, security is essential for the protection of the academic culture.

Critical issues for cybersecurity in higher education vary at two levels: among institutions, and among departments in a single institution. No one-size-fits-all solution will work. Although many of the issues are shared with other sectors, a few of them are more critical in higher education.

EDUCAUSE organized an online survey of the community on the questions to be addressed in the National Strategy to Secure Cyberspace. The results have been tabulated and will be used to help define a strategy for moving forward. Similarities to and differences from other segments of the economy have emerged from the results and help to emphasize the importance of increased sharing of information and best practices.

National leaders of higher education have endorsed a five-part *Framework for Action* for cybersecurity and are organizing a series of four NSF-sponsored workshops that will involve the entire community in the development of a more coherent national strategy.

In summary, higher education plays a critical role in cybersecurity for the United States. Higher education is now organized as a community to study and address this issue on a national scale; has the will and the endorsement of its top national leaders; and is well positioned to work with the federal government and other sectors on both traditional and innovative solutions.

(A complete copy of the *Higher Education Contribution to National Strategy to Secure Cyberspace* is available at <http://www.educause.edu/asp/doelib/abstract.asp?ID=NET0027>)

Submitted by the staff of EDUCAUSE on behalf of the higher education community. For further information about this report or the EDUCAUSE/Internet2 Computer and Network Security Task Force, contact Rodney Petersen at 202.872.4200 or rpetersen@educause.edu