



October 3, 2011

Ernest McDuffie
National Initiative for Cybersecurity Education
National Institute of Standards and Technology
100 Bureau Drive, Stop 8930
Gaithersburg, MD 20899-8930

Dear Dr. McDuffie:

Attached please find the Association for Computing Machinery's perspective on the Draft Strategic Plan of the National Initiative on Cybersecurity Education.

ACM is committed to ensuring the health of computing as a science and profession. We welcome the NICE initiative's strategic plan, which clearly highlights the need for a stronger cybersecurity workforce and education pipeline supplying it. Numerous recommendations in the strategy align with many active projects ACM is undertaking to improve computing education. We support this initiative, offer our expertise as you move forward and make the following high-level recommendations, which we have expanded upon in our detailed comments:

- **The initiative should highlight education as well as training throughout the strategy.** While training of professionals is important, ensuring we have an educated workforce in computing and cybersecurity is just as critical to the success of this initiative. Training and education are two different but similar avenues for giving the workforce the skills and knowledge they will need to manage the complex problems of securing our infrastructure.
- **Addressing problems in K-12 computer science education will improve cybersecurity education.** Addressing cybersecurity threats requires developing a larger workforce with stronger technical computer science skills. This foundation must start with K-12 computer science education; however, K-12 computer science education continues to be marginalized within our schools. Without computer science courses, cybersecurity education will have no home within K-12.
- **Cybersecurity Licensing is Premature.** Licensing professionals (or de facto licensing through mandatory certification) should provide confidence that that individual has both the education and training necessary to secure critical infrastructure. However, our assessment is that the body of knowledge is not well-developed enough nor is the profession well-defined enough to warrant licensing.
- **Privacy, security, safety, ethics and international issues must be linked throughout the document.** Privacy is not the same as security, but it is related and it is important that people understand that even a secure system can cause them to lose privacy. And a secure system



can still be unsafe and hurt people and systems, and a safe system might still leak private information. Privacy, security, safety and ethics are closely allied properties and educational goals should not separate them. Finally, cyber infrastructure crosses international borders; therefore, the strategy must recognize the need for international collaboration.

We appreciate the opportunity to comment on the NICE Draft Strategic Plan, and believe that the Initiative is a needed step forward to coordinating the nation's cybersecurity capacity. We look forward to contributing feedback to the further refinement of the Plan and the eventual implementation of NICE.

Regards,

Eugene H. Spafford
Chair, U.S. Public Policy Council
Association for Computing Machinery

Robert B. Schnabel
Chair, Education Policy Committee
Association for Computing Machinery

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With over 100,000 members, the Association for Computing Machinery (ACM) is the world's oldest and largest educational and scientific computing society. The ACM U.S. Public Policy Council (USACM) serves as the focal point for ACM's interaction with U.S. government organizations, the computing community, and the U.S. public in all matters of U.S. public policy related to information technology. Should you have any questions or need additional information, please contact Cameron Wilson, our Director of Public Policy, at 202-659-9711 or at cameron.wilson@acm.org