

September 24, 2015

National Institute of Standards and Technology  
100 Bureau Drive, Stop 1070  
Gaithersburg, MD 20899-1070

Re: Public comment on the draft report NISTIR 8074, *Strategic U.S. Government Engagement in International Standardization to Achieve U.S. Objectives for Cybersecurity*

Dear NIST:

Thank you for the opportunity to comment on the draft report NISTIR 8074, *Strategic U.S. Government Engagement in International Standardization to Achieve U.S. Objectives for Cybersecurity*.

With more than 100,000 members, ACM (Association for Computing Machinery) is the world's largest educational and scientific computing society, uniting computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges. ACM advances cybersecurity through its international activities, special interest groups, conferences, publications, digital library collections, policy statements, and curriculum recommendations. These comments were developed by the ACM U.S. Public Policy Council (USACM) with input from the ACM Education Policy Committee, the ACM Education Board, the ACM Education Council, and the ACM Task Force on Cybersecurity Education. ACM U.S. Public Policy Council statements represent the views of the Council and do not necessarily represent the views of the Association.

We support U.S. coordination and participation in the development, implementation, and use of international standards for cybersecurity. The challenges of cybersecurity confront governments, businesses, organizations, and individuals globally. Because the cybersecurity infrastructure crosses international borders, cybersecurity policy must recognize and promote international cooperative action to build a more secure and trustworthy global digital ecosystem. Given that security does not guarantee privacy, we are pleased to see that Recommendation 7 encourages privacy research and development and the development of technically sound international cybersecurity standards that minimize privacy risks.

We applaud the inclusion of education and training as fundamental elements to achieve the overall U.S. cybersecurity policy objectives. Their inclusion clearly highlights the need for a stronger cybersecurity workforce and an education pipeline that supports it. We are pleased to see that recommendations in this draft report align with many projects ACM is actively undertaking to improve computing and cybersecurity education and workforce development. Among its activities, ACM produces and keeps current international curricular guidelines in all areas of computing, including cybersecurity. These guidelines are used in the United States and worldwide to standardize and assist in the accreditation of college and university programs.

We appreciate the breadth of community expressed in the draft report. Fostering and leveraging cooperation among government, industry, academic institutions, professional societies, and other



stakeholders is vital to achieving cybersecurity and resiliency of our infrastructures, continued innovation, and an educated computing and cybersecurity workforce.

We provide a few brief suggested additions and edits in the attached Comment Template for Volume 1.

Thank you again for the opportunity to comment on this draft interagency report on U.S. engagement in international cybersecurity standardization. We look forward to continuing to work with NIST and other policy leaders on this and other important computing and cybersecurity technical, research, education, and workforce development issues.

Sincerely,

Eugene H. Spafford, Ph.D.  
Chair, U.S. Public Policy Council (USACM)  
Association for Computing Machinery

Attachment: Comment Template for Volume 1

Comment Template for NISTIR 8074 Volume 1, Report on Strategic U.S. Government Engagement in International Standardization to Achieve U.S. Objectives for Cybersecurity (Draft)

#	SOURCE	TYPE i.e., Editorial Minor Major	PAGE; LINE # etc.	RATIONALE for CHANGE	PROPOSED CHANGE (specific replacement text, figure, etc. is required)
1			pp. 7-8 Table 1 Column 3	Mobile computing is a growing area of IT applications where security standards are important. See, e.g., NIST draft special publication, 1800-1d <i>Securing Electronic Records on Mobile Devices</i> .	[Examples of Some Key IT Applications] Add column "Mobile Computing" or revise column 3 header to "Cloud and Mobile Computing."
2			p. 10 line 394	Add professional societies because they play an important role.	Add text: "Lastly, leveraging strong government/private sector/university/professional societies cooperation is needed to ensure the availability of USG expertise."
3			p. 10 line 397	Add "computing" because it is a major academic area of technical, undergraduate, and graduate educational programs.	Add text: "The USG should also support standards education in technical, <u>undergraduate</u> , and graduate educational programs, especially in <u>computing</u> , engineering, business, sciences, and technology to ensure the development of future generations of U.S. cybersecurity standards participants."
4			p. 11 line 411	Add "curricular development" activities because such initiatives and model curriculum can help educators and policy leaders.	Add text: "Many U.S. based private sector entities also run relevant standards education and <u>curricular development</u> activities and welcome USG participation and collaboration."
5			p. 11 lines 415-417	Add ACM's curricula guidelines because they provide advice and guidance to the computing education community.	Add text: "The Association of Computing Machinery produces and keeps current international curricular guidelines in all areas of computing (computer science, computer engineering, software engineering, information technology, information systems, and cybersecurity) that standardize and assist in the accreditation of collegiate programs. Cyber and computer security knowledge areas are included in each of the guidelines." <a href="http://www.acm.org/education/curricula-recommendations">http://www.acm.org/education/curricula-recommendations</a>
6			p. 2 lines 45-47	Industry is among several major stakeholders participating in open standards processes and procedures of U.S. SDOs. The open standards process requires that the broad range of interested and affected parties be given fair and equitable access to participate in standards development	Add text: "The U.S. standardization community is comprised largely of non-governmental Standards Developing Organizations (SDOs). These groups are shaped by industry, <u>academic institutions, professional societies, consumer groups, and nonprofits participation</u> and are motivated by

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				and for standards to be responsive to the diverse concerns of stakeholders. Suggest making consistent with text on page 3, lines 136-137, 140-143.	market forces, <u>public interest, and consumer protection.</u> "
7			p. 2 lines 69-71	Consideration should be given to the latest computing research to help ensure that standards and assessment tools are technically sound.	Add text: "Supporting the development and use of new standards by taking into account: the scope of standardization work of candidate SDOs, U.S. industry preferences, USG needs, <u>the latest computing research</u> , and the recent track record of candidate SDOs in particular areas of cybersecurity standardization."
8			p. 2 lines 94-95	U.S. research universities contribute to innovation and economic competitiveness.	Add text: "Supporting the development and use of international standards in collaboration with U.S. industry <u>and academia</u> , to foster open and fair competition."
9			p. 3 lines 140-143	Academic institutions, scientific and technical professional societies, and a range of nonprofits participate in standards development. Suggest making consistent with text on p. 2, lines 45-47.	Add text: "While Federal agencies possess certain responsibilities related to standards, such as in their own use of standards or in their development of technical regulations, there is a much greater reliance in the United States on the private sector, including companies and industry groups, <u>academic institutions, professional societies, consumer groups</u> , and other interested parties, in standards development."
10			p. 10 lines 385-387	Federal government candidates for SDO leadership positions also should have a good understanding of technical and scientific research priorities and perspectives.	Add text: "It is in the best interests of Federal agencies to support qualified Federal representatives (including contracted technical experts) in SDO leadership positions. Candidates for such leadership positions should be both technically knowledgeable and thoroughly familiar with the SDO's development processes and policies, and have a good understanding of USG and U.S. industry <u>and academia</u> priorities and perspectives."
11			p. 11 lines 436-439	Academic institutions also provide important contributions to innovation and economic competitiveness. Suggest making consistent with text on page 3, lines 136-137.	Add text: "Ensuring effective U.S. leadership in the relevant standards developing bodies for cybersecurity requires awareness of specific SDO environments, coordination of

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					USG interests with U.S. industry, <u>academia</u> , and organization interests to prioritize and achieve U.S. objectives, and a robust focus on education and training."
12			p. 12 lines 460- 462	Add "academia" [academic institutions] and "nonprofits" as relevant private sector actors because they participate in the development, convergence, and adoption of technical specifications and standards.	Add text: "Such a mechanism would help to ensure that both internal agency and overall USG efforts are coordinated and support U.S. objectives when working with relevant private sector actors, including SDOs, industry, <u>academia</u> , <u>nonprofits</u> , NGOs, and international partners."