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Computer & Communications Industry Association

CCIA Recommendations for NIST

Supporting Innovation with Expertise, Standards, and Enabling Technology

- Innovation Policy
- Support for Chief Information Technology Officer
- Advanced Infrastructure: Cyberinfrastructure, Service Science, and Smart Government
- Coordination with PTO on Standards and Patents
- Prioritize Needs for ICT Standards and Update OMB Circular A-119

Innovation Policy

Innovation is vital to long-term economic, environmental, and social challenges, but lacks championship and focus under existing bureaucratic structures. The Administration should implement the America COMPETES Act by constituting the contemplated council on innovation and funding the Technology Innovation Program, the study on barriers to innovation, and the study of service science. While leadership on innovation policy should be provided at the White House under the National Economic Council and OSTP [ideally renamed OSTIP], an Office of Innovation Policy should be established at NIST to support and coordinate administration policy,

initiatives, agency programs, research, and policy development, as appropriate. NIST already has a Strategic Planning and Economic Analysis unit that provides limited support for science and technology policy.¹ It houses investment and outreach programs (TIP and MEP), it provides standards support for all of the federal government, and it engages at a pragmatic level with virtually all of American industry. While some lament the demise of the Technology Administration and its Office of Technology Policy, there is in fact an opportunity to craft a new vision of innovation policy supported by an agency with both theoretical and hands-on expertise and a strong tradition of professionalism. At the same time, this vision can provide enhanced prestige and focus to NIST, an agency that is too often seen as a grab bag of programs and mandates.

Support for Chief Information Technology Officer

U.S. leadership in advancing and utilizing information and communications technology is vital to advancing national competitiveness, increasing productivity, progress in addressing scientific and technological challenges, and the efficient and effective functioning of the federal government. While the role of the proposed "chief technology officer" has not been fully defined, it should not duplicate the Associate Director for Technology at OSTP, nor should it be the Chief Information Officer contemplated in early versions of the E-Government Act of 2002. Instead, the position should be charged with overseeing the diverse public policy aspects of ICT as enabling technology for all sectors. The "CTO" would in effect be a Chief Information Technology Officer (CITO) – a position broad enough without burdening it with responsibility

¹ http://www.nist.gov/director/planning/policy_studies.htm

for other technologies. He or she should provide vision and high-level coordination for managing the complex relationship of ICT to different programs and policy domains, including standards, intellectual property, broadband, government IT (esp interoperability and services to the public), and advanced cyberinfrastructure. While the position needs a White House base, and OMB, NSF, PTO, NTIA, and NIST all lead in particular areas, NIST is best suited to coordinate because of its competence in standards, its working relationship with the private sector, and its research and programs on innovation-enabling technology.

Advanced Infrastructure: Cyberinfrastructure, Service Science, and Smart Government

The infrastructure and skills for generating and applying new knowledge remain a critical and enduring source of competitive advantage. One of the greatest challenges in technology-enabled innovation is evolving agreement on infrastructural standards and services in parallel with understanding and designing field-specific applications. Presently only NSF has a major program on advanced cyberinfrastructure, and it is focused on academic communities. NIST should work with NSF, but it should play a central, catalytic role in coordinating the advance of knowledge infrastructure across sectors – academic, government, and industry – along with context-sensitive implementation of the related socio-technical research agenda.

Coordination with PTO on Standards and Patents

Tension and conflict between standards and patents is of increasing concern in ICT and services (especially financial services). To date, only the FTC has confronted these issues, whereas PTO and NIST, the

complementary sister agencies charged with supporting innovation, have stayed on the sidelines with little to say. The administration should commit to solving the tension in a proactive and collaborative manner by engaging both agencies at two levels:

a. Coordination on Innovation Economics

While NIST already has some capacity to undertake economic analysis in support of innovation, PTO has none, even though it is charged with providing policy advice to the administration on intellectual property policy. However, the PTO has announced that it is hiring a chief economist. We have separately advocated an institute for “innovation economics and patent policy” funded from patent renewal fees to be housed at the PTO but formally insulated from direct political and economic influence. The agenda for this institute should be coordinated with broader and complementary policy research activities in the NIST Office of Innovation Policy.

b. Minimize Conflict Between Patents and Standards

In the ICT domain, the expansion of patentable subject matter, lower threshold standards, and increased incentives for patenting have brought patents into growing conflict with industry-consensus standards. This presents problems for innovation and competition in the private sector as well as for government users of ICTs, who must look to industry-consensus standards under OMB Circular A-119. An interagency task force, including NIST, PTO, and the Department of Justice (with the FTC as an observer) should evaluate and make recommendations for areas of conflict between patents and standards. These

include: “ex ante” licensing (disclosure of licensing terms in advance of standard-setting); bad faith behavior by participants; ambush of industry standards by outsiders; royalty-stacking; and avoidance of licensing or non-assertion commitments.

Prioritize Needs for ICT Standards and Update OMB Circular A-119

ICT interface standards play a unique role in enabling complexity, open architecture, innovation, and the development of new markets. The ICT sector has developed its own practices and institutions (“consortia”) for advancing standards quickly and on a global scale – but often independent of international standards organizations. NIST’s Information Technology Laboratory should consult with industry on NIST priorities specific to ICT standards. It should consider high-level coordination of definitions, guidelines, and practices; accreditation and certification; protection of open processes against patent ambush; and other options for improving the quality and integrity of consensus-based standards development.

OMB Circular A-119 is presently focused on the old problem of excessive use of government-specific standards, a problem that has been largely resolved. A-119 should be enhanced to provide coherent government-wide guidance on the quality, utility, control, and terms of availability of ICT standards (“standards for standards”), especially in specific contexts such as interoperability across agencies, services to the public, software implementations, and differentiating between consensus and non-consensus standards.

