

The Threat to Innovation, Interoperability, and Government Procurement Options From Recently Proposed Definitions of “Open Standards”

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As the information technology (IT) marketplace becomes more competitive and heterogeneous in nature, the need for interoperability among diverse systems and components increases dramatically.² Whereas 20 years ago, individuals and corporations customarily bought all of their IT equipment and services from one of the major vendors such as Digital, HP, IBM, or NCR, today they purchase and deploy multi-vendor networks of interoperable hardware and software.

Today IT vendors accomplish interoperability in several often complementary and overlapping ways, including specifically designing interoperable products, publication of technology and licensing of related intellectual property (IP), and implementation of industry standards, including open standards such as TCP/IP, GSM, HTML, 802.11, and XML.³

Regarding open standards, there is general consensus that their adoption and widespread deployment in products and services is a significant tool for achieving interoperability. However, while most agree on the *value* of open standards for helping achieve interoperability, there is some debate about how best to *define* “open standards.” Unfortunately, certain recent attempts to define this important term in Europe and elsewhere are inconsistent with well-established industry norms. These proposed definitions would (1) undermine the successful efforts of leading standards developers, such as the European Telecommunications Standards Institute (ETSI), the European Committee for Standardization (CEN), the International Telecommunication Union (ITU), the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the Internet Engineering Task Force (IETF),

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The views expressed herein are solely those of the author and do not necessarily represent the positions of Microsoft or of any lawyer or employee of Microsoft.

² “Interoperability” is generally defined as the ability of heterogeneous networks, applications, or components to exchange and use information. See, e.g., Harry Newton, *Newton’s Telecom Dictionary: The Official Dictionary of Telecommunications Networking and Internet* (2001) (defining “interoperability” as “the ability to operate software and exchange information in a heterogeneous network, i.e., one large network made up of several different local area networks.”). See also *The European Interoperability Framework for Pan-European eGovernment Services Version 1.0*, <http://europa.eu.int/idabc/en/document/3761> (“Interoperability means the ability of information and communication technology (ICT) systems and of the business processes they support to exchange data and to enable the sharing of information and knowledge.”); E-Government Act of 2002 § 3601 (1), 44 U.S.C. § 3601 (1) (2002) (defining interoperability as “the ability of different operating and software systems, applications, and services to communicate and exchange data in an accurate, effective, and consistent manner[.]”).

³ IT customers can also achieve interoperability by selective vendor purchasing i.e. purchasing products and services from vendors who have worked together to ensure their products interoperate, or purchasing a suite of products that have been designed or certified to work well together.

the Institute of Electrical and Electronics Engineers Standards Association (IEEE), the Open Mobile Alliance (OMA), ECMA, and the American National Standards Institute (ANSI), (2) impede technological innovation and interoperability going forward, and (3) limit the universe of standards available to European and other governments in their procurement decisions.

This paper proposes a definition of “open standards” that would avoid these problems and continue to facilitate innovation, competition, and interoperability in the IT marketplace, as well as maximum flexibility in government procurement.

Recent IDA Definition of “Open Standards”

A prolonged discussion in the European Union (EU) about the definition of open standards in the context of eGovernment services recently resulted in a statement by an agency called the Interchange of Data between Administrations (IDA)⁴ that is at odds with long-established industry norms with respect to open standards. IDA’s definition of an “open standard” is included at page 9 of its European Interoperability Framework for pan-European eGovernment Services (*see* <http://europa.eu.int/idabc/en/document/3761>). IDA states that the following are the minimal characteristics of an open standard:

- “1) The standard is adopted and will be maintained by a not-for-profit organisation, and its ongoing development occurs on the basis of an open decision-making procedure available to all interested parties (consensus or majority decision etc.).
- 2) The standard has been published and the standard specification document is available either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee.
- 3) **The intellectual property – i.e. patents possibly present – of (parts of) the standard is made irrevocably available on a royalty-free basis.**
- 4) **There are no constraints on the re-use of the standard.**” (emphases added)

This proposed definition is squarely at odds with the approach taken by the world’s leading standards development organizations. For example, contrary to the IDA definition, the intellectual property rights (IPR) policies of ETSI, IEEE, IETF, ISO/IEC, ITU, OMA, ANSI, ECMA, and other leading standards organizations do not mandate royalty-free licensing or prohibit other “constraints on the re-use of the standard.” Rather, these organizations have policies that seek reasonable and non-discriminatory (RAND) licensing commitments, including the possibility of charging a reasonable royalty, as a basis for standards-related IP licensing for participants in the organization’s standards activities.⁵

⁴ IDA is a project of DG Enterprise in the European Commission, and actively interacts with EU member states regarding eGovernment interoperability efforts.

⁵ See, e.g., IPR policies of **ANSI** (Section 3.1.1 of ANSI Essential Requirements document (available at <http://www.ansi.org>), stating that essential patent holders may indicate that a license will be made available to implementers either on a compensation-free basis or “under reasonable terms and conditions that are demonstrably free of any unfair discrimination”); **ECMA** (<http://www.ecma-international.org/memento/codeofconduct.htm>, Section 1.2) (“A written statement from the patentee is required, according to which he is prepared to grant licences on a reasonable, non-discriminatory basis.”); **ETSI** (http://www.etsi.org/legal/ipr_a.htm, Section 6.1) (holders of essential IPR must be prepared to grant “licences on fair, reasonable and non-discriminatory terms and conditions under such IPR.”); **IEEE** (<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>) (letter of assurance that essential patent

The European Commission itself has recognized the appropriateness of a RAND-based approach in its recommendation that all European standards organizations ensure that “any intellectual property rights (IPRs) [that standards] might contain[] can be used by market operators on fair, reasonable and non-discriminatory conditions.”⁶ As a result, many technologies have been successfully standardized by these European organizations and are now available for widespread implementation, or have already been broadly implemented by industry to solve an interoperability need, often under reasonable royalties and other RAND terms.

Likewise, several of the world’s leading standards organizations, acting as part of the “Global Standards Collaboration”⁷ recently resolved to (1) “strongly support the adoption of effective intellectual property rights that are transparent, widely accepted and encourage broad-based participation and the contribution of valuable technical solutions *by respecting intellectual*

holders are encouraged to file with IEEE affords them the following option: “The Patent Holder is prepared to grant a license to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions to comply with the [Proposed] IEEE Standard.”); **IETF** (<http://www.ietf.org/rfc/rfc3979.txt?number=3979>), Section 6.5 (“all persons will be able to obtain the right to implement, use, distribute and exercise other rights with respect to an Implementing Technology a) under a royalty-free and otherwise reasonable and non-discriminatory license, or b) under a license that contains reasonable and non-discriminatory terms and conditions, including a reasonable royalty or other payment, or c) without the need to obtain a license from the IPR holder.”); **ISO/IEC** (<http://www.iec.ch/tiss/iec/Directives-Part1-Ed5.pdf>), Section 2.14.2(b) (“If the proposal is accepted on technical grounds, the originator shall ask any holder of such identified patent rights for a statement that the holder would be willing to negotiate worldwide licenses under his rights with applicants throughout the world on reasonable and non-discriminatory terms and conditions. Such negotiations are left to the parties concerned and are performed outside ISO and/or IEC.”); **ITU** (<http://www.itu.int/ITU-T/dbase/patent/patent-policy.html>), Section 2.2 (“The patent holder is not prepared to waive his rights but would be willing to negotiate licenses with other parties on a non-discriminatory basis on reasonable terms and conditions. Such negotiations are left to the parties concerned and are performed outside the ITU-T.”); and **OMA** (http://www.openmobilealliance.org/about_OMA/ipr.html), Licensing Declaration, at 1, (“Upon disclosure of an Essential IPR, the Open Mobile Alliance shall ask the relevant Member to give a declaration that it will license such essential IPR in accordance with the Application Form (i.e. on fair, reasonable and non-discriminatory terms.”).

It is worth noting that all of the foregoing standards organizations, except for ISO/IEC, have recently revised or are in the process of revising their IPR policy and/or their patent licensing declaration forms, and in each case they have affirmed or are in the process of affirming the availability of a RAND licensing option.

⁶ *General Guidelines for the Cooperation Between CEN, CENELEC and ETSI and the European Commission and the European Free Trade Association*, 2003/C 91/04 at 91/11 (28 March 2003) (available at http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/c_091/c_09120030416en00070011.pdf). See also U.S. OMB Circular A-119, “Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities”, (available at <http://www.whitehouse.gov/omb/circulars/a119/a119.html>) (encouraging federal use of “voluntary consensus standards” adopted through a process which includes “provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory and royalty-free or reasonable royalty basis to all interested parties.”).

⁷ The “Global Standards Collaboration” (GSC) started as an initiative of the ITU, ETSI, the United States’ Committee T1, and the Japanese TTC. GSC’s goal is to promote global standards in technical areas of common interest, principally with respect to telecom infrastructure. Current participants include ITU, ETSI, ATIS, TIA, TSACC (Canada), TTA (Korea), TTC (Japan), ARIB (Japan), CCSA (China) and ACIF (Australia). See <http://www.gsc.etsi.org/> for additional background on GSC. Guests and observers at the most recent GSC-10 conference - held in Sophia Antipolis, France - included representatives from the American National Standards Institute (ANSI), the Asia Pacific Telecommunity (APT), the Open Mobile Alliance (OMA), and the Sector Board 4 of International Electrotechnical Commission (IEC).

property rights, including the right of the intellectual property holder to receive reasonable and adequate compensation for the shared use of its technology;” (2) “strongly support definitions of ‘open standards’ that reflect the following characteristics: such standards are (i) made available to the general public, (ii) developed (or approved) and maintained via a collaborative and consensus driven process, and (iii) subject to a RAND/FRAND intellectual property rights policy;” and (3) “strongly voice their opposition to policies that mandate compensation-free licensing provisions.”⁸

In sum, criteria #3 of the IDA definition would appear to exclude standardized technologies that are licensed under RAND terms that include a reasonable royalty, and might thereby restrict the ability of European governments to procure technologies that have been standardized by many of the world’s leading IT standards organizations and consortia. This would be particularly surprising and inadvisable, given the fact that the “open standards” that EU governments have previously identified and on which they are *already* currently relying for their eGovernment interoperability efforts were adopted by standards organizations and under RAND policies that the IDA definition would now appear to call into question.⁹ Such an approach could also have a significant chilling effect on the standards process both in terms of discouraging companies from participating in standards organizations and impeding standards-based solutions from becoming available for widespread adoption.

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http://portal.etsi.org/docbox/workshop/gsc/GSC10_Closing_Plenary/gsc10_closing_23%20Resolution%2015%20Intellectual%20Property%20Rights%20Policies.doc (emphases added). See also *id.* (“intellectual property rights policies typically provide incentives to interoperate, innovate and compete by:

- i. respecting intellectual property,
- ii. balancing the interests of all stakeholders so that the outcomes are representative, inclusive and more broadly supported,
- iii. being open and transparent for all to review and understand,
- iv. promoting the use of the best technical solutions given commercial requirements,
- v. being consistent with internationally accepted norms such as widely accepted RAND/FRAND-based intellectual property rights policies,
- vi. recognizing the right of intellectual property right holders to receive reasonable and adequate compensation for the shared use of their technology.”).

Cf. also Report of the Department of Justice’s Task Force on Intellectual Property, Oct. 2004. <http://www.usembassy.it/pdf/other/TaskForceIPR.pdf>, 41-42) (criticizing suggestions that “antitrust laws should be used to force owners of intellectual property rights to share ‘essential’ technology with others, even when that would require them to assist their competitors. ... Owners of intellectual property rights should be free to decide independently whether to license their technology to others, without fear of violating the antitrust laws.”).

⁹ See, e.g., http://www.ososs.nl/matrix/matrix.jsp?id=10927&start=0&f_stand_niveau=standaard&f_stand_niveau=cluster&f_Aandacht_gebied_indicator=techniek (listing two pages of standards adopted by ECMA, IETF, ISO, OASIS, W3C, and ANSI-accredited standards developers, which the Dutch government has classified as “open standards”). In fact, many of these open standards are covered by specific RAND licensing statements that have been filed with the relevant standards organization by essential patent holders. See, e.g., <http://www.ietf.org/ietf/IPR/CISCO-peterson-sip-identity.txt> (Cisco’s patent disclosure and RAND licensing declaration to IETF for “Session Initiation Protocol” (SIP)); <http://www.ietf.org/ietf/IPR/ATT-SIP> (AT&T’s patent disclosure and RAND licensing declaration to IETF for SIP); <http://www.ietf.org/ietf/IPR/certicom-ipr-rfc3526-rfc2409-ikev2.txt> (Certicom’s patent disclosure and RAND licensing declaration to IETF for the “Internet Key Exchange” standard (IKE)); <http://www.ietf.org/ietf/IPR/IBM-diffie-hellman.html> (IBM’s patent disclosure and RAND licensing declaration to IETF for the “S/MIME” standard).

ANSI Rebutts a Similar Definition of “Open Standards”

A similarly misguided attempt to define open standards recently occurred in the context of a summit at the U.S. Federal Trade Commission (FTC), in which a commenter submitted the following set of principles to define an “open standard:”

- “1. **Everyone is free to copy and distribute the official specification for an *open standard* under an *open source* license.**
2. **Everyone is free to make or use embodiments of an *open standard* under unconditional licenses to patent claims necessary to practice that standard.**
3. **Everyone is free to distribute externally, sell, offer for sale, have made or import embodiments of an *open standard* under patent licenses that may be **conditioned only on reciprocal licenses to any of licensees’ patent claims necessary to practice that standard.****
4. **A patent license for an *open standard* may be terminated as to any licensee who sues the licensor or any other licensee for infringement of patent claims necessary to practice that standard.**
5. **All patent licenses necessary to practice an *open standard* are worldwide, royalty-free, non-exclusive, perpetual and sublicensable.”¹⁰ (emphases added)**

Principle #2’s reference to “unconditional licenses” and principle #5’s requirement for mandatory royalty-free and sublicensable patent licenses echo the fourth and third criteria in the proposed IDA definition. ANSI submitted a responsive letter to the FTC pointing out the key shortcomings of this proposed definition. Among other things, ANSI observed the following:

Contrary to the implication of these “principles,” ANSI does not understand the term “open standard” to refer to a standard that is unconditionally and freely available to those who wish to practice such standard. A holder of an essential patent typically has the right to require that implementers execute licenses containing reasonable and non-discriminatory terms and conditions. This is true even if the standards-body’s patent policy is based on a “royalty-free” licensing commitment or the patent holder itself has agreed to offer its essential patents to implementers for free.

Indeed, we are not aware of any standards body that mandates that all essential patents be subject to “unconditional licenses” or that must be “sublicensable.” The standards bodies that often are cited as examples of well-recognized, “open standards” developers (such as those accredited by ANSI, OASIS, W3C, ISO, IEC, and ITU) would not meet the “principles” set forth above, as none of them require holders of essential patents to waive all of their rights in connection with those patents. Instead, most standards bodies adopt a

¹⁰ Comments of Lawrence E. Rosen to FTC on E-Mail Authentication Summit, Sept. 29, 2004 (available at <http://www.ftc.gov/os/comments/emailauthentication/512447-0038.pdf>).

patent policy that seeks to balance (a) the legitimate ownership rights of participants who are willing to contribute their innovative technology to a standards development effort with (b) the needs of those seeking to implement the standard so they have sufficient access to that technology on a reasonable and open basis.¹¹

Key Problems with the IDA and Similar Definitions of “Open Standards”

Both the IDA definition of open standards and the open standards “principles” suggested to the FTC are rooted in a desire, largely by proponents of “open source software” (OSS) such as Linux, to remove patents, royalties, and licensing restrictions from standards implementations (or at least from implementations of some artificially designated *subset* of standards, such as “software” or “Internet” standards), so as to avoid incompatibilities with RAND licensing created by certain OSS licenses.¹² For example, because certain OSS licenses prohibit royalties, field of use restrictions, or sublicensing restrictions, the above definitions attempt to re-define open standards to fit within these OSS restrictions.¹³

¹¹ Comments of ANSI to FTC on E-Mail Authentication Summit, Oct. 27, 2004.

¹² There are currently more than 50 licenses governing the distribution of OSS. The Open Source Initiative (OSI) (www.opensource.org) maintains a list of these licenses. OSS licenses differ widely with regard to the nature and degree of restrictions they impose on licensees. Some OSS licenses are extremely permissive, such as the Berkeley Software Distribution (BSD) license, which is a simple software license whose only requirements are copyright attribution and license reproduction, although redistributions of the software may be made under any other license. Others impose greater obligations. The GNU General Public License (GPL), for example, presents challenges to business models that rely on direct commercialization of the software itself and requires that any work that includes GPL code, if distributed at all, be distributed under the terms of the GPL. This makes it difficult for a GPL-based implementation to include any technology being licensed with per-unit royalty obligations or other restrictions that would be inconsistent with the terms of the GPL.

¹³ “Open standards” and “open source software” are entirely distinct concepts. Open standards are technical *specifications* developed through an open, market-driven, consensus-based process (see proposed definition below), whereas OSS is *software* that is licensed in a particular way (*i.e.*, under the terms of one of the more than 50 OSI licenses) and that may be used to *implement* an open standard in a particular product or service. Whether a standard qualifies as “open” has nothing to do with the type of the software used to implement that standard. It is equally feasible for an open standard to be implemented in proprietary software as in OSS. ANSI and others, including the U.S. State Department, have criticized attempts to conflate OSS and open standards. See *e.g.*, ANSI FTC Letter, note 11, *supra*, at 2 (“ANSI also believes it is important that issues relating to ‘open source’ software – which is referenced in the first ‘principle’ set forth above – not be confused with ‘open standards.’ ‘Open source’ software refers to software that is distributed under a certain specified software distribution license. It has nothing to do with the process by which a technical standard or specification is formulated and embedded technology is licensed.”); U.S. State Department Comments on the March 21st Version of the World Summit on the Information Society (WSIS) Draft Declaration and Action Plan, May 29, 2003 (available at <http://www.state.gov/e/eb/rls/othr/21083.htm>) (“It is important to draw a distinction between open source software and open standards. The WSIS documents currently discuss the two issues in a manner that creates confusion. *Open standards* generally refer to technical standards or specifications that are developed through a well-defined process. Open standards can improve interoperability and may facilitate interactions ranging from information exchange to international trade, thus fostering market competition. Because of these benefits, the use of open standards is encouraged whenever practicable. *Open source software* is a term used to describe software that is intended to be openly distributable, under a variety of different licensing arrangements. The United States recognizes that open source software can contribute to increased access and diversity of choice but it is only one of many possible models for the development of software. The WSIS documents should not promote one over the other (*i.e.* open source vs. proprietary), but should instead foster the availability of diverse alternatives and the freedom to choose among those alternatives. In short, the WSIS should remain neutral with respect to different technologies and modes of technology development.”).

There are significant problems with this approach. First, as noted, it is inconsistent with the approach taken in the IPR policies of leading open standards organizations worldwide which expressly acknowledge the right of patent holders to charge reasonable royalties, and to place reasonable restrictions - such as field-of-use restrictions,¹⁴ reciprocity requirements,¹⁵ and restrictions on sublicensing¹⁶ - on the licensing of their essential technology covering an open standard. For example, the IPR policies and/or the model patent licensing declaration forms of ITU,¹⁷ W3C,¹⁸ IETF,¹⁹ and the WiFi Alliance,²⁰ among many others, make clear that such terms are acceptable RAND provisions.

Second, many highly successful and widely deployed open standards are covered by such RAND licenses. For example, licensing for the following open standards, among countless others, involves field-of-use restrictions and reciprocity requirements: Session Initiation Protocol (SIP),²¹ Dynamic Host Configuration Protocol (DHCP),²² WLAN protocol,²³ XML Configuration Access Protocol (XCAP),²⁴ Internet Key Exchange (IKE),²⁵ and GSM.²⁶ The WS-

¹⁴ A field-of-use restriction is a provision specifying the particular purpose for which the license is granted and for which the patented technology may be used by the licensee. In connection with standards, licensing commitments are almost always linked to licensing essential patent claims for use in implementing the standard in question.

¹⁵ A reciprocity requirement is the quid pro quo required of the licensee to grant a license to any patents the licensee may own that are essential to implement the same standard.

¹⁶ Under a restriction on sublicensing, the licensee that receives a license from the patent owner can not, in turn, grant a license to another third party that wishes to redistribute a product including the patent owner's technology, although any such third party can obtain its own license directly from the patent owner.

¹⁷ See <http://www.itu.int/itudoc/itu-t/patents/policy/pd-form.pdf> (including reciprocity and field-of-use restrictions directly in patent licensing declaration options on ITU-T patent disclosure form, indicating that *all* licenses relating to ITU-T standards contain such restrictions).

¹⁸ See <http://www.w3.org/Consortium/Patent-Policy-20040205/>, Section 5 ("With respect to a Recommendation developed under this policy, a W3C Royalty-Free license shall mean a non-assignable, non-sublicensable license to make, have made, use, sell, have sold, offer to sell, import, and distribute and dispose of implementations of the Recommendation.") .

¹⁹ See <http://www.ietf.org/rfc/rfc3905.txt?number=3905>, Section 3 (setting forth IETF's model patent licensing declaration form, which identifies reciprocity, royalties, and restrictions on sublicensing as commonplace RAND licensing terms).

²⁰ See http://www.wi-fi.org/OpenSection/pdf/Wi-Fi_IPR.pdf (WiFi Alliance IPR Policy allowing conditions for reciprocity, field-of-use, defensive suspension, and non-sublicensing).

²¹ See <http://www.ietf.org/ietf/IPR/CISCO-peterson-sip-identity.txt> (Cisco patent disclosure and licensing declaration to IETF for SIP). See also <http://www.ietf.org/ietf/IPR/ATT-SIP> (AT&T patent disclosure and licensing declaration to IETF for SIP).

²² See <http://www.ietf.org/ietf/IPR/MOTOROLA-DHCP> (Motorola patent disclosure and licensing declaration statement to IETF for DHCP); <http://www.ietf.org/ietf/IPR/apple-ipr-rfc-2131.txt> (Apple patent disclosure and licensing declaration to IETF for DHCP).

²³ See <http://www.ietf.org/ietf/IPR/telecom-italia-ipr-wlan-access.txt> (Telecom Italia patent disclosure and licensing declaration to IETF for WLAN).

²⁴ See <http://www.ietf.org/ietf/IPR/NOKIA>; <http://www.ietf.org/ietf/IPR/nokia-ipr-draft-ietf-xcon-cpcp-xcap-00.txt> (Nokia patent disclosure and licensing declaration to IETF for XCAP).

Security standard has a joint declaration from IBM, Microsoft, and Verisign (at OASIS) that expressly offers a non-sublicenseable license on request,²⁷ and all EPCglobal radio frequency identification standards may involve a prohibition on sublicensing.²⁸ Likewise, well-known and commonly used standards, such as MPEG, GSM, 3GPP, and IEEE 1394, all involve IP licensing that is *not* royalty-free.²⁹

In short, standards promulgated by standards organizations that often are cited as examples of well-recognized “open standards” developers (such as ETSI, IEEE, IETF, ISO/IEC, ITU, OASIS, W3C, OMA, ECMA, and those accredited by ANSI) would not meet the criteria set forth in the above-proposed definitions. Indeed, if either of these definitions were accepted as the definition of “open standard,” hundreds of international standards that have been developed and widely deployed by these and other such leading standards developers would not qualify as open standards.³⁰ This fact alone highlights the significant shortcomings of the foregoing proposed definitions of open standards.

²⁵ See <http://www.ietf.org/ietf/IPR/certicom-ipr-rfc3526-rfc2409-ikev2.txt> (Certicom’s patent disclosure and licensing declaration to IETF for IKE).

²⁶ GSM was adopted by ETSI, which, as noted, has a RAND-based IPR Policy.

²⁷ See <http://www.oasis-open.org/committees/wss/ipr.php>.

²⁸ See http://www.epcglobalinc.org/action_groups/031223EPCglobalIPPpolicy12152003A.pdf, Section 3.2 (“Participant and its Affiliates shall ... grant to the extent that it owns or has a right to grant, a nonexclusive, nontransferable, non-sublicensable, worldwide royalty-free and otherwise reasonable and non-discriminatory license upon request in, its Necessary Claims”).

²⁹ Moreover, any attempt to distinguish “software” or “Internet” standards from other standards and set them aside for special IPR-related treatment would be unsustainable. Many so-called “software” or “Internet” standards are implemented in hardware, many formerly “hardware” standards have components that are implemented in software, and Internet-related standards may implicate other technology communities besides software. In short, there is no clear, principled, and immutable dividing line that could justify such an artificial distinction. Additionally, there are significant standards bodies that promulgate standards impacting the Internet under full RAND-based IPR policies, such as ETSI, IEEE, IETF, ISO/IEC JTC-1, ECMA, OMA, and ITU. And standards related to DRM, codecs, computer languages, etc., which certainly are important to the Internet, are largely subject to royalty-bearing, RAND licensing commitments. Even W3C and OASIS - two well-known and well-respected standards organizations which focus on the development of web-related standards - have a RAND component to their IPR policies. W3C has an admittedly limited, but nonetheless present, full RAND (*i.e.*, permitting royalties and/or fees as well as other reasonable and non-discriminatory terms) “opt-out” provision (see <http://www.w3.org/Consortium/Patent-Policy-20040205/>, Section 7), and OASIS permits its committees to operate under a full RAND IPR policy. See <http://www.oasis-open.org/who/intellectualproperty.php>, Section 10.1.

³⁰ See *also* Open Letter dated 2/15/05 from Business Software Alliance (BSA) to IDABC regarding IDA’s draft European Interoperability Framework, <http://europa.eu.int/idabc/en/document/4018/194> (“BSA has substantial concerns, however, that the EIF’s definition of ‘open standards’, if adopted as proposed, would exclude many critical and well-established technologies that are implemented on the basis of accepted open standards. These include standards such as **ebXML** (an XML specification for e-commerce, maintained by OASIS), **GSM** (maintained by ETSI), **SNMPv3** (an updated version of the widely deployed Simple Network Management Protocol, maintained by IETF), **802.1X** (a leading wireless network access control specification, maintained by IEEE), and **DHCP** (Dynamic Host Configuration Protocol, for transferring information on network, maintained by IETF), as well as countless other leading standards that are incorporated into IT products on the market today. BSA also believes the EIF confuses the distinct concepts of open standards and open-source software and could be read to support procurement preferences for such software.”).

While OSS is a relatively new and important phenomenon that has spurred additional competition with proprietary software and enhanced consumer choice, it makes no sense to undo the time-tested and very successful open standards legal framework to favor any specific licensing, development, or business model over others.

Not Just Tradition for Tradition's Sake - RAND Policies Foster Innovation

Intellectual property laws encourage investment in innovative research and development by rewarding creators with certain proprietary rights.³¹ Patents give inventors the right to earn a return on their investment by exploiting their innovations on an exclusive basis. Patent holders also can decide to license their innovations to third parties. Patent licensing promotes competition and consumer interests in several ways. Notably, licensing gives both inventors and users of new technologies strong incentives to work together to maximize the efficient use of their respective resources. Licensing also promotes the broad dissemination of technology innovations, which benefits consumers in the form of new, competing products, and lower prices. Additionally, licensing may provide innovative firms with funds to reinvest in research and development, leading to further advances in technology.

Standards organizations like ETSI, ITU, ISO, IEC, IETF, OMA, ECMA, and ANSI have long recognized the need for policies governing the inclusion of patented technologies in standards when such inclusion optimizes the technical solution to a standardization challenge. Their fundamental objective is to *balance* the rights of patent owners with the needs of implementers who wish to create products that incorporate the standard. This healthy, cooperative relationship between innovators that contribute to a standard and implementers that make use of the standard engenders technical advancement and spurs industry uptake of the technology, thereby enhancing interoperability.

As noted, most standards bodies strike this much-needed and delicate balance between the interests of implementers and patent holders by allowing patent holders who are participating in the standardization process to commit to license their essential patent claims covering a standard to all implementers of the standard on RAND terms. Such RAND policies seek to provide a level of assurance to implementers with respect to the availability of essential patent claims that may be held by participants in the standards process. RAND also ensures that the licensing terms will be reasonable. In this way, RAND licensing promotes the rapid adoption of standards and new technologies, and encourages entry by the greatest number of new producers. This results in comprehensive standards, better products, and lower prices for consumers.

³¹ See, e.g., Declaration of Principles of the "World Summit on the Information Society" (WSIS) (available at http://www.itu.int/wsis/documents/doc_multi.asp?lang=en&id=1161|1160, #42) ("Intellectual Property protection is important to encourage innovation and creativity in the Information Society; similarly, the wide dissemination, diffusion, and sharing of knowledge is important to encourage innovation and creativity. Facilitating meaningful participation by all in intellectual property issues and knowledge sharing through full awareness and capacity building is a fundamental part of an inclusive Information Society."); GSC-10 Resolution on Intellectual Property Rights Policies, (available at http://portal.etsi.org/docbox/workshop/gsc/GSC10_Closing_Plenary/gsc10_closing_23%20Resolution%2015%20Intellectual%20Property%20Rights%20Policies.doc (noting that "protection of intellectual property rights is necessary to ensure that the best and most innovative technology is made available for inclusion in standards and that such innovation should be encouraged").

Destroying the Balance

The IDA and like definitions would unravel the delicate balance that has been achieved by these RAND-based IPR policies. By mandating royalty-free licensing and unfettered sublicensing and by prohibiting other reasonable licensing terms, the proposed IDA approach would likely deter key patent holders from participating in and contributing to the standards development process. This, in turn, would deprive such standards of the best technical solutions and would allow the key patent holders (who would not be subject to the organization's IPR policies) either to refuse to license their essential technology or to impose unreasonable terms and conditions on implementers of the standard. In short, attempts to ensure patent-free or royalty-free standards through an inflexible and anti-RAND definition of open standards could actually backfire and result in blocking patents or usurious licensing fees. In either case, the unfortunate result would be a breakdown of the innovation cycle, where important new standards and products might never see the light of day.

This is not to say that there is anything wrong with a particular standards group in a given situation trying to achieve a royalty-free standard. In fact, certain standards organizations, such as the W3C, have an IPR policy that prefers the adoption of royalty-free open standards,³² and some organizations like OASIS allow standards participants to decide at the outset whether a working group will be RAND-royalty bearing or RAND royalty-free. And it is possible that working groups at times will seek to design around certain technical solutions if such solutions are covered by patents that are only licensable for a fee (this sometimes occurs at the IETF). However, the royalty-free licensing approach should not be codified in a definition as a generic requirement for *all* "open standards." Rather, as with the IPR policies cited above, the question of royalties and other license conditions should be left to be defined under the general requirement of "reasonable and non-discriminatory (RAND) terms." Such an approach would appropriately avoid calling into question the "openness" of many well-known and commonly used open standards, such as GSM, MPEG, 3GPP, SNMP, 802.11, and IEEE 1394 - all of which involve IP licensing that is *not* royalty-free - and would continue to promote the high level of interoperability and innovation achieved under the current framework.

Toward a Proper Definition of "Open Standards"

A proper definition of an "open standard" that 1) is consistent with the policies of ETSI, ISO, IEC, IETF, ITU, OMA, ECMA, ANSI and other leading standards organizations, as well as with the hundreds of well-known and universally deployed standards they have produced, and yet which also 2) accommodates the pursuit of royalty-free licensing commitments from patent holders in a given situation, is set out below:

"An 'open standard' is a technical specification (*i.e.*, a set of technical functionality requirements) that has the following characteristics:

³² See <http://www.w3.org/Consortium/Patent-Policy-20040205/>. As noted above, however, even the W3C policy allows for a RAND licensing exception under which royalties could be charged in certain circumstances. See *id.* Section 7 ("Exception Handling"). It also expressly allows for sublicensing restrictions, which the above definitions would preclude. See note 18, *supra*.

(1) Open standards are regularly developed, maintained, approved, or affirmed by consensus, in a voluntary, market-driven standards-setting organization that is open to all interested and qualified participants;

(2) Open standards are published without restriction (in electronic or tangible form) in sufficient detail to enable a complete understanding of the standard's scope and purpose (*e.g.*, potential implementers are not restricted from accessing the standard);

(3) Open standards are publicly available without cost or for a reasonable fee for adoption and implementation by any interested party; and

(4) Any patent rights necessary to implement open standards are made available by those developing the specification to all implementers on reasonable and non-discriminatory (RAND) terms (either with or without payment of a reasonable royalty or fee).³³

It is important to note that as technical standards often compete and evolve to meet industry needs, their nature also may evolve over time. So, for example, pursuit of a proprietary standard by a group of companies may make the most sense under certain circumstances because, for example, the standard can be developed and adopted more quickly than in the open standards process and because only a few organizations will rely on the standard to achieve interoperability. Later, if that proprietary standard becomes more broadly well known and implemented by other organizations, it may rise to the status of a *de facto* standard. At such point, it may also be contributed to an open standards organization, such as ITU or ISO, for affirmation as an open standard in order to achieve even wider implementation.

³³ Various well-established standards organizations and industry organizations have recently adopted definitions of "open standards" that are very similar to the above-proposed definition. See, *e.g.*, **ITU-T** (available at <http://www.itu.int/ITU-T/othergroups/ipr-adhoc/openstandards.html>) (concluding that it was "necessary to do this to avoid confusion given the various different interpretations of the term ['open standard']". This way when 'open standards' are referred to in discussion, it is clear exactly what is being talked about - at least in ITU-T." <http://www.itu.int/ITU-T/e-flash/016-may05.html>); **ANSI** (available at http://www.ansi.org/about_ansi/introduction/introduction.aspx?menuid=1 and <http://www.ansi.org/standards/cips>) (prompted largely by ANSI's view of the unacceptable nature of the IDA definition of open standards discussed above); **GSC-10** (available at http://portal.etsi.org/docbox/workshop/gsc/GSC10_Closing_Plenary/gsc10_closing_12%20Resolution%2004%20Open%20Standards.doc); **BSA** (*i.e.*, The Business Software Alliance, which represents the world's commercial software industry and its hardware partners before governments and the international marketplace) (available at <http://www.bsa.org/usa/policy/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=22407&hitboxdone=yes>). Notably, the ITU-T, ANSI, GSC-10, and BSA definitions all recognize the availability of RAND licensing (either compensation-free or with a reasonable royalty) as a key component to a standard's classification as an "open standard."

Conclusion

The IDA and like definitions of open standards threaten well-established and highly effective norms and mechanisms that have succeeded for many years in fostering the development and widespread adoption of the best technical standards in the world. If any of these definitions were adopted, standards bodies that often are cited as examples of well-recognized “open standards” developers (such as CEN, ETSI, ISO, IEC, IETF, ITU, OMA, ECMA, OASIS, and those accredited by ANSI) would not qualify as open standards organizations, and hundreds of international standards that have been developed and widely deployed by these and other such leading standards organizations would not qualify as open standards.

In addition, because the mandatory royalty-free, unfettered sublicensing, and “no other re-use constraints” conditions of these definitions fail to adequately accommodate the rights and interests of patent holders, they would discourage key technology contributions to the standards development process and thereby impede innovation and interoperability.

Finally, these proposed definitions would limit the universe of “open” standards available to European and other governments in their procurement decisions and thereby further derail technological innovation and interoperability going forward.

By contrast, ETSI, IETF, ISO/IEC, ITU, OMA, ECMA, OASIS, ANSI, and other leading standards organizations have continually embraced (and, in many cases, recently affirmed) the wisdom of RAND-based IPR policies as the best mechanism for achieving the optimal balance between patent holders and implementers and thus for fostering a high level of innovation and interoperability. The definition of “open standards” proposed in the final section of this paper preserves this balance, yet is also flexible enough to accommodate an open standards effort that seeks royalty-free licensing commitments from patent holders in a given situation. The best way for IDA and others to avoid the pitfalls and deleterious effects described above and to continue to foster the significant levels of innovation, competition, and interoperability being driven by the current standards development process is to replace their proposed definitions of open standards with this more balanced, time-tested and flexible one.