

**THE EXPANDING ROLE  
AND IMPORTANCE OF STANDARDS IN  
THE INFORMATION AND COMMUNICATIONS  
TECHNOLOGY INDUSTRY**

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**ABSTRACT:** Standards play a particularly critical role in the information and communications technology (ICT) industry: they facilitate important interoperability goals. Standards development processes in the ICT industry are extraordinarily complex, and many aspects of these processes are not well understood. Inspired by discussions at a workshop that included leading practitioners, academics, and policymakers specializing in standards, the authors identify factors that explain both the growing importance and the growing complexity of standards in the ICT industry. The authors provide a framework for understanding how standards development efforts are structured, with a particular focus on the more informal specification development groups known as Consortia. The authors also explore two particular challenges in standard setting: the development of intellectual property policies that adequately balance different stakeholder interests, and the potential for ethical conflict issues.

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Standards adopted by various types of private and quasi-governmental standards-setting organizations (SSOs) play a critical and growing role in the development and commercialization of many technologies.<sup>1</sup> No industry is more dependent upon and affected by such standards than the information and communications technology (ICT) industry, which encompasses computer, telecommunication, and personal entertainment technologies and products. Standards are critical to the interoperability of different products and technologies developed by different ICT companies and are of growing importance at a time of globalization because, unlike government regulation, private standards can be international in their application. Yet, in some situations, standards can be an impediment to technology innovation and implementation. For example, standards can be counterproductive if they are duplicative or inconsistent with other standards, fail to properly understand and anticipate technology trajectories, are anticompetitive, or have been designed to further parochial commercial or political interests.

Despite the growing importance of standards in an increasingly globalized world, surprisingly little scholarly analysis and discourse addresses this important field. As one pair of authors recently lamented somewhat tongue in cheek, “standards quite often fall into the category of ‘boring things’ that fail to elicit much attention or scrutiny.”<sup>2</sup> This attention deficit may be due in part to the complexity and lack of transparency of standard-setting activities, which are currently accessible primarily to experts within the ICT companies directly affected by such standards. To help address that gap, in January 2010, the Center for Law, Science & Innovation at Arizona State University’s Sandra Day O’Connor College of Law convened the first meeting of an intended series of annual workshops on standards that bring together leading practitioners, scholars, and other stakeholders to discuss current issues and controversies in standard setting.

This article grows out of that first workshop (the ASU Workshop). Part I begins with a discussion of the role and importance of standards in the ICT industry and includes a framework for understanding the wide variety of SSOs employed in this industry. Part II explores two particular challenges in the current standard-setting protocol: the development of intellectual property policies that adequately balance different stakeholder interests, and the potential for ethical conflict issues in standards development.

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1. U.S. STANDARDS STRATEGY COMM., AM. STANDARDS INST., UNITED STATES STANDARDS STRATEGY 4 (2010), available at [http://publicaa.ansi.org/sites/apdl/Documents/Standards%20Activities/NSSC/USSS\\_Third\\_edition/USSS%202010-sm.pdf](http://publicaa.ansi.org/sites/apdl/Documents/Standards%20Activities/NSSC/USSS_Third_edition/USSS%202010-sm.pdf) (“[S]tandards are more essential today than at any time in our nation’s history.”); see also OFFICE OF TECH. ASSESSMENT, TCT-512, GLOBAL STANDARDS: BUILDING BLOCKS FOR THE FUTURE 3 (1992) (stating that standards are ever present and affect our lives in multiple ways).

2. Stefan Timmermans & Steven Epstein, *A World of Standards but not a Standard World: Towards a Sociology of Standards and Standardization*, 36 ANN. REV. SOC. 69, 71 (2010).

## **I. THE ROLE AND IMPORTANCE OF STANDARDS IN THE ICT INDUSTRY**

This Part describes the importance and role of standards in the ICT industry, the variety of SSOs and specification-development groups, and complicating factors in creating standards in the ICT industry. It suggests a framework for understanding different organizational approaches to standard-setting.

### **A. Basic Importance, Role, and Posture of Standards in the ICT Industry**

Standards are critically important in the ICT industry. ICT products consist of a variety of equipment, devices, and components that work only if they can connect to, and operate with, other equipment, devices, and components often made by other manufacturers. Examples of such equipment include computer hardware, computer chips, software, printers, modems, scanners, Internet networks, wireless communication devices, and many others. Technology standards provide an interface between these various devices to ensure that they are compatible and can function together. Many of these interoperability standards are now terms in daily use by the public. WiFi has transformed how we go online. USB cables enable us to connect our computers, phones, cameras, music players, and countless other devices. We send text messages using SMS. New devices and new ways to communicate are enabled by 3G and 4G telecommunication networks. We listen to MP3-formatted music and view DVDs and Blu-Ray discs. We browse the Internet, viewing web pages rendered in HTML.

These well-known standards barely scratch the surface of important ICT industry standards. Standards such as PCI and PCI-Express, for example, are relatively unknown to consumers but have played a crucial role in the ICT hardware industry. Large ICT companies like Intel, Microsoft, and Oracle are involved in hundreds of different standards development efforts at any given time.

The convergence of computing and communications has magnified the importance of standards. Consider a single device that enables phone calls over a cellular network and over the Internet (VOIP), sends and receives text and multimedia messages, connects to WiFi access points, browses the Internet, plays music and video, and takes photos and transfers them to a PC. The development and operation of this device would use potentially hundreds of different standards.<sup>3</sup>

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3. See Brad Biddle et al., *How Many Standards in a Laptop? (And Other Empirical Questions)* 2010 INT'L TELECOMM. UNION SEC. TELECOMM. STANDARDIZATION KALEIDOSCOPE ACAD. CONF. PROC. 123 (empirical study which identifies 251 technical interoperability standards implemented in a modern laptop computer, and estimates that the total number of standards relevant to such a device is much higher).

ICT standards are usually developed by SSOs in which various industry representatives actively participate to represent novel and diverse models of governance and a form of self-regulation.<sup>4</sup> The format, process, participation, and outputs of different SSOs vary considerably.<sup>5</sup> Important issues may include the question of whether a particular technology is standardized, the cost and performance tradeoffs associated with the standards, whether particular intellectual property (IP) is included, and licensing terms associated with IP.<sup>6</sup> Accordingly, many ICT industry companies devote substantial resources to standards development.<sup>7</sup>

Even though most standards are developed by private SSOs, government regulators and policymakers are also key stakeholders in connection with standards.<sup>8</sup> Antitrust regulators frequently scrutinize standards development efforts to ensure that standardization efforts promote innovation and consumer welfare and do not enable collusion or other kinds of anticompetitive behaviors.<sup>9</sup> Policymakers may also have special concerns when private-sector-driven standards are adopted into public regulations, or when standards affect significant matters of public policy.<sup>10</sup> Additionally, policymakers in some regions of the world increasingly appear to be using standards as a tool of industrial policy to advance particular national interests. Notably, there is no global consensus on the right governmental approach to standards policy: the United States generally embraces a “bottom-up” private sector-driven model of standards development, whereas the European Union and increasingly China have a more government-centric “top-down” approach.<sup>11</sup>

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4. Kevin Werbach, *Higher Standards: Regulation in the Network Age*, 23 HARV. J.L. & TECH. 179, 179 (2009) (“standardization is regulation.”); Jane K. Winn, *Standard Developing Organizations as a Form of Self-Regulation* (July 25, 2006) (manuscript at 1), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=924008](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=924008).

5. See *infra* Part I.B.

6. See Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-in: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351, 352 (2007); see generally Brian Kahin, *Common and Uncommon Knowledge: Reducing Conflict Between Standards and Patents*, in OPENING STANDARDS: THE GLOBAL POLITICS OF INTEROPERABILITY 177 (Laura DeNardis, ed., 2011) (describing the importance of standards in the information technology field and reconciling patent enforcement and standard rights).

7. Brian DeLacey et al., *Strategic Behavior in Standard-Setting Organizations*, at 1, 2 (Harvard NOM Working Paper No. 903214, 2006), available at <http://ssrn.com/abstract=903214>.

8. See generally Stacy Baird, *The Government at the Standards Bazaar*, 18 STAN. L. & POL’Y REV. 35 (2007) (stating that government regulators should step in and offer standards when there is a critical public interest in the subject or the matter is vital to national security, defense, public safety, or general health).

9. U.S. DEP’T. OF JUSTICE & FED. TRADE COMM’N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 6–7 (2007), available at <http://www.justice.gov/atr/public/hearings/ip/222655.pdf>; David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1934 (2003).

10. Teece & Sherry, *supra* note 9, at 1918.

11. See Christopher S. Gibson, *Globalization and the Technology Standards Game: Balancing Concerns of Protectionism and Intellectual Property in International Standards*, 22 BERKELEY TECH. L.J. 1403, 1410–18 (2007) (comparing U.S., Chinese, and E.U. standards-setting approaches); Jane K. Winn, *US and EU Regulatory Competition in ICT Standardization Law &*

Consumers are also key stakeholders in standards.<sup>12</sup> As any owner of a Betamax player or an orphaned mobile phone power adapter can attest, standards (or the lack thereof) can have real-world impacts. Consumers benefit from product interoperability, increased product choices, and competition between vendors.

Notwithstanding the importance of standards, the standards-development process is not well understood. Few people, including practicing lawyers and graduating law students, have a comprehensive view of standards development. Some ICT company representatives (and their associated consultants and service providers) are experts at standards development, but this expertise tends to be narrowly focused on achieving immediate business objectives in particular technology areas. Knowledge is rarely shared in a systematic way outside of a particular company. Regulators and policymakers have some insight into standards development (for example, in the course of investigating a problematic standardization activity, or when participating in government-driven efforts) but they have relatively little insight into private-sector-driven efforts and rarely capture or share knowledge in a comprehensive way. Standards are a black box for consumers; they blissfully enjoy the benefits without any knowledge of the operations or development. And academic analysis of standards development has been sparse. A recent paper by four economists at the Harvard Business School noted, “[I]t is striking how little work has addressed the question of how standards-setting organizations work in practice.”<sup>13</sup> A discussion of the variety of SSOs is warranted.

## **B. The Variety of Standards-Setting Organizations**

The ASU Workshop described in the introduction to this article brought together leading practitioners, scholars, and other stakeholders with extensive experience in standards development. Given the level of expertise of the workshop participants, the authors of this paper were struck by the observation that the participants did not share a common vocabulary or conceptual framework for describing different standards-development structures and methodologies. Here, the authors explore a framework for understanding the variety of ways SSOs are organized, with a particular focus on less formal standards-development methodologies.<sup>14</sup> For context, some examples of standards and the organizations that created them are:

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*Policy*, 2005 INST. ELECTRICAL ELECTRONIC ENGINEER SEC. STANDARDIZATION INNOVATION INFO. TECH. PROC. 283–84 (comparing European and American regulatory standards).

12. Jane K. Winn & Nicolas Jondet, *A “New Approach” to Standards and Consumer Protection*, 31 J. CONSUMER POL’Y 459, 464 (2008).

13. Delacey et al., *supra* note 7, at 3.

14. During the workshop participants discussed a framework based in part on a “SSO Taxonomy” described in a white paper published by the Intellectual Property Owners Association (IPO). INTELL. PROP. OWNERS ASSOC. STANDARDS SETTING COMM., INTELL. PROP. OWNERS ASS’N, STANDARDS PRIMER: AN OVERVIEW OF STANDARDS SETTING BODIES AND PATENT-RELATED ISSUES THAT ARISE IN THE CONTEXT OF STANDARD SETTING ACTIVITIES 3–9 (2009) [hereinafter STANDARDS PRIMER], available at <http://www.ipo.org/AM/Template.cfm?Section=>

- *WiFi*: 802.11 specifications developed by the Institute of Electrical and Electronics Engineers (IEEE), a large member-driven 501(c)(3)<sup>15</sup> nonprofit SSO.<sup>16</sup> The Wi-Fi Alliance, a 501(c)(6) industry association made up of 400 company members, provides compliance testing (including a “WiFi Certified” logo program) and marketing services.<sup>17</sup>
- *USB*: The USB Promoters Group, a contractual arrangement between a small group of major ICT companies, acts as steward for the USB specifications; the USB Implementers Forum, a 501(c)(6) body with 800 members, distributes the specifications and provides compliance testing and marketing.<sup>18</sup>
- *SMS*: SMS was developed as part of the Global Systems Mobile (GSM) telephony protocol, which was initially created by a consortium of 13 European governments and then later transferred to the European Telecommunications Standards Institute (ETSI), an independent nonprofit SSO.<sup>19</sup>
- *3G and 4G*: 3G and 4G are families of standards for wireless communications defined by the International Telecommunication Union (ITU), a Geneva-based U.N. body run by government member states.<sup>20</sup>
- *MP3*: Created by the Moving Picture Experts Group, a working group of the International Standards Organization (ISO).<sup>21</sup> ISO is a Geneva-based international-standard-setting body composed of representatives from various national standards organizations.<sup>22</sup>
- *DVD and Blu-Ray*: The DVD and Blu-Ray optical disc formats were established through private negotiations between commercial parties and are managed by the DVD Forum and Blu-ray Disc Association,

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Search&section=Standards\_Setting\_Webinar\_10\_21\_09&template=/CM/ContentDisplay.cfm&ContentFileID=61348. Part I.B of this article draws from concepts in the IPO paper and from the related workshop discussion, but ultimately reflects solely the views of the authors.

15. Section 501(c) of the Internal Revenue Code identifies different types of nonprofit corporations. See 26 U.S.C. (c) of t (2006). See also *infra* Part I.B.2.c.

16. *Organization*, WI-FI ALLIANCE, <http://www.wi-fi.org/organization.php> (last visited Nov. 25, 2011).

17. *Id.*

18. *About USB Implementers Forum, Inc.*, USB IMPLEMENTERS FORUM, INC., <http://www.usb.org/about> (last visited Nov. 25, 2011).

19. *About 3GPP*, 3GPP, <http://www.3gpp.org/About-3GPP> (last visited Nov. 28, 2011); see also *I. Introduction to SMS Messaging*, DEVELOPER’S HOME (Nov. 28, 2011), <http://www.developershomes.com/sms/smsIntro.asp>.

20. *IMT-Advanced (4G) Mobile Wireless Broadband on the Anvil*, INT’L TELECOMM. UNION (Nov. 21, 2010), [http://www.itu.int/newsroom/press\\_releases/2009/48.html](http://www.itu.int/newsroom/press_releases/2009/48.html); *Licensing Policy for 3G Generation Mobile*, INT’L TELECOMM. UNION (Apr. 4, 2011), <http://www.itu.int/osg/spu/ni/3G/>.

21. *Overview of the MPEG Committee*, MP3’ TECH, <http://www.mp3-tech.org/> (last visited Nov. 28, 2011).

22. *About ISO*, INT’L ORG. FOR STANDARDIZATION, <http://www.iso.org/iso/about.htm> (last visited Jan. 4, 2012).

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respectively.<sup>23</sup> The DVD Forum is an unincorporated association based in Japan and made up of member companies.<sup>24</sup> The Blu-Ray Disc Association is a California Nonprofit Mutual Benefit Corporation.<sup>25</sup>

- *HTML*: Originally proposed as a standard by the Internet Engineering Task Force (IETF), the standardization arm of the nonprofit Internet Society; later established by the World Wide Web Consortium, a nonprofit with 360 diverse members. HTML was also adopted as an ISO standard.<sup>26</sup>

First, Part II.B.1 describes the basic organizational differences among different types of SSOs. Part II.B.2 describes different organizational approaches employed by one subtype of SSO: Consortia.

### 1. *SDOs v. Consortia*

While SSOs make it their business to develop and promulgate standards, specifications and guidelines, they do not themselves have standardized structures. At the highest level, SSOs can be broken down into two types: (1) formal standards-development organizations (SDOs); and (2) specification-development consortia or special interest groups (sometimes called *SIGs* or *Fora* but referred to in this paper as *Consortia*). That is, the superset of SSOs is comprised of two subsets: SDOs and Consortia.

The defining characteristic of an SDO is formal recognition by a government authority (although, as described below, in the case of U.S.-based SDOs this quality of *government recognition* is attenuated).<sup>27</sup> The most well-known SDOs are the International Telecommunications Union (ITU), the International Organization for Standardization (ISO), and the International Electrotechnical Commission (IEC). These are international bodies that develop and adopt formal international standards.<sup>28</sup> There are also regional SDOs, such as the European Telecommunications Standards Institute (ETSI), which is recog-

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23. *About DVD Forum*, DVD FORUM, <http://www.dvdforum.org/about-mission.htm> (last visited Nov. 28, 2011); BLU-RAY DISC ASS'N, <http://us.blu-raydisc.com/> (last visited Nov. 28, 2011).

24. *The DVD Forum Charter*, DVD FORUM, <http://www.dvdforum.org/about-charter.htm> (last updated Mar. 8, 2010).

25. BLU-RAY DISC ASS'N, AMENDED & RESTATED BYLAWS OF BLU-RAY DISC ASSOCIATION 1 (2010), available at [http://www.blu-raydisc.com/Assets/Downloadablefile/BDA\\_Bylaws\\_%28v2.0%29-18618.pdf](http://www.blu-raydisc.com/Assets/Downloadablefile/BDA_Bylaws_%28v2.0%29-18618.pdf).

26. *Mission*, w3C (Oct. 14, 2011, 5:00 AM), <http://www.w3.org/Interaction/>.

27. Winn, *supra* note 11, at 283–284.

28. Membership in each organization is led by national delegations. STANDARDS PRIMER, *supra* note 14, at 4. The ITU, ISO and IEC have historically been acknowledged as the principal bodies that can produce formal international standards that are recognized under the World Trade Organization's Technical Barriers to Trade (TBT) Agreement. *Id.* For a critical assessment of this phenomenon, see James A. Thomas, *PlainTalk: Time to Take Stock*, ASTM STANDARDIZATION NEWS (Aug. 2000), [http://www.astm.org/PRESIDENT/08\\_00\\_time\\_to\\_take\\_stock.html](http://www.astm.org/PRESIDENT/08_00_time_to_take_stock.html).

nized by the European Union.<sup>29</sup> Additionally, almost every country has some form of national body to oversee and coordinate its standardization process.

In the United States, the American National Standards Institute (ANSI) is the national body that provides input to the ISO and IEC on behalf of the United States.<sup>30</sup> Notably, ANSI is not a government agency, but rather an independent nonprofit entity. ANSI itself does not develop standards, but it does accredit SSOs that comport with ANSI's rules. ANSI designates standards as "American National Standards" when certain criteria are met. Given the quasi-governmental role played by ANSI, SSOs accredited by ANSI sufficiently meet the government recognition criteria such that the 200-plus standards setting organizations accredited by ANSI would be considered SDOs in our taxonomy. ANSI-accredited SDOs include organizations that are quite important to the ICT industry, such as the IEEE<sup>31</sup> (which developed the WiFi<sup>32</sup> and Ethernet specifications,<sup>33</sup> among other things) and the JEDEC Solid State Technology Association, formerly known as the Joint Electron Devices Engineering Council (JEDEC) (which develops widely adopted computer-memory-related specifications).<sup>34</sup>

The government recognition test provides the most categorical distinction between an SDO and a Consortium, but other generalizations apply. SDOs are typically open to all interested participants and they follow robust procedural rules aimed at ensuring transparency and due process for all participants.<sup>35</sup> As discussed further below, Consortia often limit participation and employ more streamlined governance models. SDOs usually refer to their technical specifications as *standards*, while Consortia often frame their output as *industry specifications*. However, there are exceptions to these general rules. Nongovernmental participation is limited at the ITU, for example. Additionally, organizations like the World Wide Web Consortium (W3C) or the IETF—

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29. *About ETSI*, EUR. TELECOMM. STANDARDS INST., <http://www.etsi.org/WebSite/About/ETSI/AboutEtsi.aspx> (last visited Jan. 4, 2012).

30. *Introduction to ANSI*, AM. NAT'L STANDARDS INST., [http://www.ansi.org/about\\_ansi/introduction/introduction.aspx?menuid=1](http://www.ansi.org/about_ansi/introduction/introduction.aspx?menuid=1) (last visited Jan. 4, 2012).

31. AM. NAT'L STANDARDS INST., ANSI ACCREDITED STANDARDS DEVELOPERS 81 (Jan. 3, 2012), <http://publicaa.ansi.org/sites/apdl/Documents/Standards%20Activities/American%20National%20Standards/ANSI%20Accredited%20Standards%20Developers/JAN12ASD.pdf>.

32. WI-FI ALLIANCE, WI-FI CERTIFIED™ MAKES IT W-FI: AN OVERVIEW OF THE WI-FI ALLIANCE APPROACH TO CERTIFICATION 2 (Sept. 2006), [http://www.wi-fi.org/sites/default/files/membersonly/WFA\\_Certification\\_Overview\\_WP\\_en.pdf](http://www.wi-fi.org/sites/default/files/membersonly/WFA_Certification_Overview_WP_en.pdf).

33. Ilijtsch van Beijnum, *Speed Matters: How Ethernet Went from 3Mbps to 100Gbps . . . and Beyond*, ARS TECHNICA (July 14, 2011 9:30 PM), <http://arstechnica.com/gadgets/news/2011/07/ethernet-how-does-it-work.ars>.

34. AM. NAT'L STANDARDS INST., *supra* note 31, at 97; *JEDEC-Talking Points Fact Sheet*, JEDEC, [http://www.jedec.org/sites/default/files/JEDEC-TalkingPointsFactSheet-final\\_sm.pdf](http://www.jedec.org/sites/default/files/JEDEC-TalkingPointsFactSheet-final_sm.pdf) (last visited Jan. 4, 2012).

35. *See, e.g., ANSI Essential Requirements: Due Process Requirements for American National Standards*, AM. NAT'L STANDARDS INST., 4 (Jan. 2010), <http://publicaa.ansi.org/sites/apdl/Documents/Standards%20Activities/American%20National%20Standards/Procedures,%20Guides,%20and%20Forms/2010%20ANSI%20Essential%20Requirements%20and%20Related/2010%20ANSI%20Essential%20Requirements.pdf>.

Consortia in our broad categorization—have participation and procedural rules similar to those of many SDOs. IETF and W3C are also examples of Consortia that refer to their output as “standards.”

The organizational structure and operational procedures of SDOs generally tend to be well documented and reasonably well understood. Consortia, in contrast, are often opaque to nonparticipants. Further, Consortia are structured in a bewildering variety of ways. A description of the various types of Consortia follows. These Consortia run the gamut from reciprocal licensing programs to nonprofit, mutual benefit corporations. As it is with SSOs generally, rarely can it be said that one size of Consortia will fit all, or that any two Consortia will exactly mirror each other.

## *2. Types of Consortia*

There are a number of models and techniques for the development of industry specifications. Sometimes, the promoters of a specification—several companies acting in concert, or potentially a single company—will simply define and publish a specification. In other cases the promoters may decide that a more formal structure is needed, especially where there will be multiple related specifications and updates, or when sophisticated compliance testing efforts are necessary. The latter model is driven by the particular motivation of the early promoters, and potentially influenced by the needs of adopters of the specification. Part I.B.2 describes several models of specification development, including Single Promoter Specifications, Contractual Consortia, Incorporated Consortia, a hybrid model, and others.

### *a. Single-Promoter Specifications*

While not technically a Consortium, one of the most basic forms of promotion for a specification is for a single company to make a specification available for industry adoption. The company may employ a so-called just publish model, which would not include the promise of a patent license to those claims necessary for the implementation of the specification (often defined as *Necessary Claims*). To foster broader adoption of the specification, however, many companies include a covenant not to assert Necessary Claims when they are used to implement the specification. Examples of this can be seen in the Microsoft Open Specification Promise<sup>36</sup> and IBM’s Interoperability Specifications Pledge.<sup>37</sup>

A promoter of a specification might also call for the execution of a royalty-free license agreement, which grants implementers a license to Necessary Claims of the specification promoter and requires the implementer to

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36. *Open Specification Promise*, MICROSOFT CORP., <http://www.microsoft.com/openspecifications/en/us/programs/osp/default.aspx> (last visited Nov. 25, 2011) [hereinafter *Microsoft Open Specification Promise*].

37. *Interoperability Specifications Pledge*, IBM, <http://www-03.ibm.com/linux/ossstds/lsp/list.html> (last visited Nov. 24, 2011).

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license its own Necessary Claims to the promoter of the specification and any other implementers. Intel uses this model with the Enhanced Host Controller Interface (EHCI) specification, for example.<sup>38</sup>

The business motive for the single-promoter approach often appears to be that the promoters are encouraging adoption of noncore technologies to drive the market demand for their core technologies. The promoter develops the specification, essentially giving it away to the industry to promote competition between implementers, while at the same time driving the demand for the promoter's products.

#### b. Contractual Consortia

In some circumstances, multiple promoters jointly develop a specification. In such a scenario, each promoter may be willing to contribute their Necessary Claims, but each also wants a licensing commitment from the other promoters. The promoters will execute a Promoters Agreement, which addresses the licensing commitment in Necessary Claims and joint ownership in the specification copyright. A Promoters Agreement typically establishes procedural rules for developing specifications, including the process for contributing Necessary Claims, reviewing draft specifications, and adopting final specifications. A Promoters Agreement generally will also include some sort of governance provisions, defining decision-making procedures and other logistical concerns. This Promoters Agreement is the basic building block of the *Contractual Consortium*.

In situations where the promoters are hoping to further develop the specification or drive quick industry adoption, they will include provisions within the Promoters Agreement that allow other companies to contribute ideas into the specification development process, and to enable implementers to adopt the specification. This is usually accomplished with another set of agreements known as *Contributors Agreements* and *Adopters Agreements*.<sup>39</sup>

A Contributors Agreement will often mirror the Promoters Agreement in that it will require the contributor to contribute Necessary Claims to the specification, or later versions of the original specification. Like the Promoters Agreement, it will set forth the requirements for participating in meetings where the specifications are developed. In contrast, an Adopters Agreement will usually be limited to a reciprocal licensing commitment and will not allow adopters to participate in specification development.

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38. *EHCI Specification*, INTEL CORP., <http://www.intel.com/technology/usb/ehcispec.htm> (last visited Nov. 24, 2011).

39. For an example of a Contributor Agreement for the Wireless USB specification, see, *Wireless Host Controller Interface Specification for Wireless Universal Serial Bus-Contributor Agreement*, INTEL CORP. (Jun. 3, 2004), <http://www.intel.org/content/dam/doc/technical-specification/wireless-host-controller-ubs-interface-contributor-agreement.pdf>. For a copy of the associated Adopters Agreement, see *Wireless USB Adopters Agreement*, USB IMPLEMENTERS FORUM INC., [http://www.usb.org/developers/wusb/WUSB\\_Adopters\\_Agreement\\_Final\\_020411.pdf](http://www.usb.org/developers/wusb/WUSB_Adopters_Agreement_Final_020411.pdf) (last visited Nov. 25, 2011).

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The mere adoption of a specification through one or many contracts is not always enough to police compliance with the specification. Promoters may want to ensure that products that implement the specification actually comply with the technical requirements of the specification. Accordingly, the promoters may include interoperability or compliance-testing-requirements provisions within the various agreements. These programs may be administered through so-called plug fests where promoters, contributors, and adopters get together and test the interoperability of their products or use some other means of determining compliance with the specification.<sup>40</sup> An example of a multiagreement Contractual Consortium with a compliance program may be found in the MXM Graphics Module SIG.<sup>41</sup>

The Contractual Consortia model may be viewed as fast and efficient, avoiding the costs and time associated with establishing a more formal, independent consortium. There are potential drawbacks to the Contractual Consortia model, however. Legal risks arise in the areas of partnership and trademark law, and promoters of Contractual Consortia may face certain practical implementation challenges.

The Promoters Agreement and the associated Contributors and Adopters Agreements typically include a disclaimer of partnership. Regardless of this disclaimer, those not privy to these contracts may believe that the various contracting parties have created an association of two or more persons engaged in an enterprise: the enterprise of specification development and promotion. The legal definition of a partnership is generally stated as “an association of two or more persons to carry on as co-owners a business for profit.”<sup>42</sup> While it can be argued that the contracts that create Contractual Consortia do not contemplate group profit, it can also be argued that the reason for executing these agreements is to allow the contracting parties to benefit in some manner. If a Contractual Consortia is determined to be a legal partnership, partnership liability claims could be raised against the various parties to these agreements, although the likelihood of success is unclear.

Assuming that the group does not meet the definition of partnership, questions concerning ownership of any trademarks or service marks associated with the specification become complex. Because there is no independent entity (no partnership or incorporated body), the service mark or marks must be held by one of the contracting parties and licensed to the other parties. This may, in

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40. See, e.g., Cindy Arce, *What's a Plugfest?*, CEA DIGITAL DIALOGUE (Mar. 12, 2010), <http://blog.ce.org/index.php/2010/03/12/whats-a-plugfest/>. For more on CEA-hosted plugfests, see also *PlugFests*, CONSUMER ELECTRONICS ASS'N, <http://www.ce.org/Standards/plugfests.asp> (last visited Jan. 4, 2012). For a description of a Microsoft-hosted plugfest, see *Plugfests and Events*, MICROSOFT CORP., <http://www.microsoft.com/openspecifications/en/us/applied-interoperability/testing/plugfests-and-events/default.aspx> (last visited Jan. 4, 2012).

41. *MXM Graphics Module*, MXM-SIG.ORG, <http://www.mxm-sig.org/index.cfm> (last visited Nov. 24, 2011).

42. REVISED UNIF. P'SHIP ACT § 101 (1997).

turn, lead to administrative costs and burdens placed on the licensing party that that party might not want.

The contractual model also creates money-management challenges. If the promoters desire to share costs associated with some aspect of specification development—even something as simple as costs of reserving hotel conference rooms, for example—then one promoter must act as a *de facto* treasurer for the group, collecting and disbursing funds from other promoters. For many companies this sort of activity may be impossible as an accounting matter, and perhaps could create some legal risks (for example, if funds were mismanaged) even where logistically feasible.

### c. Incorporated Consortia

Perhaps the most formal Consortia structures are *Incorporated Consortia*. In the United States, these organizations are usually organized under Section 501(c)(6) of the Internal Revenue Code, as well as the nonprofit-corporation statutes of the domicile jurisdiction.<sup>43</sup> Merely being organized under these statutes does not in itself qualify the organization for tax-exempt status. Instead, the corporate entity must file the appropriate applications for recognition of tax-exempt status.<sup>44</sup>

Incorporated Consortia may be formed to develop and promote one particular specification or family of specifications, or to develop and publish best-practices documents or design guidelines. For instance, PCI-SIG was originally established to promote the PCI Local Bus Specification, a method of connecting different components inside a computer.<sup>45</sup> Over time, the base specification was adapted and updated into a family of interconnected specifications such as the PCI-X and PCI Express specifications.<sup>46</sup> The Digital Living Network Alliance, on the other hand, has developed a number of design guidelines that in effect delineate best practices in the development of interconnected products for home entertainment networks.<sup>47</sup> It does this by referencing existing standards and specifications instead of developing its own independent specifications.

Like Contractual Consortia, Incorporated Consortia are organized around multilateral contracts. In this case, the contract is a Membership or Participation Agreement. Among other things, this agreement requires the members of the Consortium to abide by the obligations set forth in the Consortium's Bylaws and Intellectual Property Rights Policy in exchange for access to mem-

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43. 26 U.S.C. § 501(c)(6) (2006).

44. INTERNAL REVENUE SERV., U.S. DEP'T OF THE TREASURY, PUB. NO. 557, TAX-EXEMPT STATUS FOR YOUR ORGANIZATION, at 47 (2010), available at <http://www.irs.gov/pub/irs-pdf/p557.pdf>; see also *Bluetooth SIG Inc. v. United States*, 611 F.3d 617, 620–621 (9th Cir. 2010).

45. *PCI-SIG Overview*, PCI-SIG, [http://www.pcisig.com/news\\_room/overview/association/pcisig\\_overview.pdf](http://www.pcisig.com/news_room/overview/association/pcisig_overview.pdf) (last visited Nov. 25, 2011).

46. See *Specifications*, PCI-SIG, <http://www.pcisig.com/specifications> (last visited Jan. 6, 2012).

47. *Getting Started*, DIGITAL LIVING NETWORK ALLIANCE, [http://www.dlna.org/digital\\_living/getting\\_started/](http://www.dlna.org/digital_living/getting_started/) (last visited Nov. 24, 2011).

bership benefits, which include access to the specifications or design guidelines and the benefits of the licensing commitments that accompany them.

Just as Contractual Consortia have different levels of contracts with different rights and obligations, Incorporated Consortia may have different membership levels. Some organizations, such as PCI-SIG, have only one level of membership with all members treated equally.<sup>48</sup> Others, such as the Continua Health Alliance (an organization focused on establishing systems of interoperable telehealth devices and services), have three levels of membership with the highest level paying the highest dues but enjoying more member benefits than the lower, less-expensive levels.<sup>49</sup> The various membership levels tend to mirror the three types of Contractual Consortia agreements: promoters, contributors and adopters.

Incorporated Consortia Bylaws provide for the governance of the organization as well as the process for the development of specifications or design guidelines. The Bylaws may provide for the election of Directors, the permanent right for certain members to appoint Directors, or a combination of permanent and elected seats on the Board of Directors. Likewise, the Bylaws will generally provide for the establishment of working groups to handle the actual development of the specifications or design guidelines, as well as groups to handle marketing and groups to run compliance or certification programs. Incorporated Consortia with multiple membership levels may limit participation, voting, and governance of working groups to certain membership levels. Finally, the Bylaws will delineate the various qualifications and benefits afforded to the different membership levels, or members as a whole.

Like Contractual Consortia, Incorporated Consortia typically provide their members with a promise by the other members to grant them licenses in the Necessary Claims needed to implement the Consortia's specification. This *Intellectual Property Rights Policy* may be a stand-alone document, or included in the Bylaws.

Among the benefits of Incorporated Consortia are the ability to own and license trademarks associated with the group's specifications or design guidelines. Included with these benefits is the ability to administer compliance or certification programs associated with using the Consortium's marks with the compliant or certified products of its members. Additionally, the corporate structure makes managing money easier, as the promoters can contribute funding into a bank account controlled by the entity. Finally, as an independent entity, the Incorporated Consortia avoids any partnership implications that may be associated with Contractual Consortia.

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48. See, e.g., *Join PCI-SIG*, PCI-SIG, [http://www.pcisig.com/membership/join\\_pci\\_sig/](http://www.pcisig.com/membership/join_pci_sig/) (last visited Jan. 4, 2012) (offering membership for \$3000).

49. See, e.g., *Continua Health Alliance Membership*, CONTINUA HEALTH ALLIANCE, <http://www.continuaalliance.org/about-the-alliance/join.html> (last visited Jan. 4, 2012) (offering the opportunity to join as a "Promoter," "Contributor" or "Supporting Participant," at different price points and with different associated membership benefits).

*Biddle et al.*

d. The Hybrid (Combining Elements of Contractual and Incorporated Consortia)

The Promoters of a Contractual Consortia specification may opt to additionally establish an independent incorporated nonprofit entity to drive industry adoption of the specification. Under this model, specification development and ownership is governed by a contract between the promoters, but other matters—such as trademark ownership, marketing functions, and interactions with adopters—are handled by an independent organization. This independent nonprofit organization may operate a compliance program and can own and license the service marks or certification marks associated with the specification (thus avoiding the trademark ownership issue). Perhaps the most prominent example of this model is the USB Implementers Forum.<sup>50</sup>

A similar hybrid option for promoters is to create a limited liability company or other for-profit corporation to act as an agent for the promoters and manage the licensing and compliance programs under the specification. High-Definition Multimedia Interface (HDMI) serves as a prominent example of this model. In the case of HDMI, adopters can execute an agreement with HDMI LLC that provides a license to Necessary Claims of the promoter companies, a trademark license, and various other rights.<sup>51</sup> This limited patent pool is then intended as a unitary resource for implementers to obtain the licenses necessary to implement the specification or participate in the entity's compliance programs.<sup>52</sup>

Hybrid models enable promoters to engage in specification development under a contractual agreement, but delegate the complexity associated with managing adopter relationships and compliance-testing programs to a separate legal entity. The promoters, however, may find that the contractual model still becomes unwieldy. For example, any time the promoters want to engage with any separate legal entity (their own agent or any other party), the agreement of all promoters is required. Over time the administrative burden of obtaining separate approval and signatures on multiparty agreements may prove inefficient.

e. Other Models

One of the perceived drawbacks of Incorporated Consortia is the time and expense associated with the actual organization of the entity. Given multiple founders, the negotiation of the Bylaws and Intellectual Property Rights Policies of Incorporated Consortia can be burdensome. One attempt at alleviating this burden can be found in the structure of Institute of Electrical and Elec-

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50. *USB-IF Compliance Program*, USB IMPLEMENTERS FORUM, INC., <http://www.usb.org/developers/compliance/> (last visited Nov. 25, 2011).

51. *HDMI Specification Adopter Agreement*, HDMI, 3–5, [http://www.hdmi.com/pdf/HDMI\\_Adopter\\_Agreement\\_2002.11.01.pdf](http://www.hdmi.com/pdf/HDMI_Adopter_Agreement_2002.11.01.pdf) (last visited Nov 23, 2011).

52. *See e.g., Becoming an Adopter*, HDMI, [http://www.hdmi.org/manufacturer/adopter\\_registration.aspx](http://www.hdmi.org/manufacturer/adopter_registration.aspx) (last visited Nov. 23, 2011).

tronics Engineers Industry Standards and Technology Organization (IEEE-ISTO).<sup>53</sup> IEEE-ISTO's goal is to serve as an umbrella organization to administer various programs that are, in most aspects, similar to individual subsidiary corporations. The different programs define their own missions, set their own dues and largely define their own governing rules. IEEE-ISTO pools the resources of its member programs under one corporation and provides the member programs with most of the administrative and corporate compliance services necessary for them to operate as they would if they were independent entities.

Another model, conceptually distinct from a Consortium, is the "many-to-many licensing model" adopted by MPEG LA, a firm that attempts to aggregate particular standards-related patent claims into a patent pool that can be accessed by any adopter.<sup>54</sup> The licensing policies in many Consortia include a promise of access to a license in Necessary Claims, but it is not up to the Consortium to go out and secure the licenses for the members. The MPEG LA patent pool model attempts to fill this gap. Standards and specifications are administered under one umbrella entity, where the actual licenses are granted to those who wish to implement the standards and specifications. This affords the implementers of the standard or specification with some level of certainty that they have all of the licenses necessary to implement, without having to search for and negotiate multiple patent licenses.

Patent pools and Incorporated Consortia can work together in a model adopted by the HDBaseT Alliance, a Consortium focused on digital home networking.<sup>55</sup> Under this model, specification development and other administrative duties are carried out under the Incorporated Consortium. Most of the original licenses of Necessary Claims under the first HDBaseT specification are handled both as a promise of a license in the Alliance Intellectual Property Rights Policy as well as a patent pool where that promise is fulfilled.

### **C. Complicating Factors in Standards Development**

The problem of poor understanding of standards and standard setting is compounded by the extraordinary complexity of the ICT standards development process. Standards can and do vary "in scope, specificity, flexibility, exactitude, cost, and payoff."<sup>56</sup> Industry technical specifications and standards are developed in a bewildering variety of ways: some are driven by governments; some by large, diverse groups of industry and academia; some by large industry groups; some by small groups of companies; still others by noncommercial grassroots efforts.

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53. IEEE-ISTO, <http://www.ieee-isto.org> (last visited Nov. 25, 2011).

54. *About*, MPEG LA, <http://www.mpegla.com/main/Pages/About.aspx> (last visited Nov. 24, 2011) (internal quotation marks omitted).

55. *About the Alliance*, HDBASET ALLIANCE, [http://hdbaset.org/about\\_us](http://hdbaset.org/about_us). (last visited Nov. 25, 2011).

56. Timmermans & Epstein, *supra* note 2, at 75.

There are other important scenarios—such as relatively informal contract-based technical collaborations between parties—which result in a technical specification that the parties themselves adopt and make available to others (for example, a supplier may agree on an interface with one customer and then publish that interface specification so that other customers can also use it). Sometimes these informally developed specifications are provided to more formal standards-development organizations and evolve into formal standards.<sup>57</sup>

Another complicated area that is indirectly related to standards development is the world of open-source software. While typically developing software code instead of technical specifications, open-source efforts demonstrate informal but often highly effective mechanisms for organizing interested parties and agreeing upon technical details. Increasingly, methodology and concepts pioneered in the open-source software communities are being applied to standard setting in a wide variety of contexts in the ICT sector and elsewhere.<sup>58</sup>

Two additional factors have recently emerged that add to the complexity of the ICT standards-development environment. Telecommunications, software, and hardware have historically been standardized in different forums, subject to different rules and different cultures. Increasingly these lines are blurring as technologies converge, creating confusion and culture clashes as different standardization paradigms collide. Forums and methods that worked for one sector seem alien or ineffective to those familiar with another sector. For example, the relatively freewheeling culture of the Internet Engineering Task Force—the group that produces a number of key Internet standards—may prove difficult to navigate for a telecommunications industry engineer accustomed to the long-established, highly formal processes of the International Telecommunications Union.

Another complicating factor is globalization.<sup>59</sup> Most countries have national standards bodies that regulate different national industries. The ICT industry, in contrast, is fundamentally global. Moreover, much of the ICT standardization activity has been driven by the private sector. This model has worked well under the U.S. government's approach to standards. Other national standards bodies are struggling to define their role within ICT standards,

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57. See, e.g., David Ng, *One Size-Fits-All Mobile Phone Charger: IEC Publishes First Standard*, CELLULAR NEWS (Jan. 10, 2011), <http://www.cellular-news.com/story/47664.php> (describing the adoption by the IEC of a specification developed by the USB Implementers Forum).

58. Laura DeNardis, *Open Standards and Global Politics*, 13 INT'L J. COMM. L. & POL'Y 168, 179 (2009); Nicos L. Tsilas, *The Threat to Innovation, Interoperability, and Government Procurement Options from Recently Proposed Definitions of "Open Standards"*, 10 INT'L J. COMM. L. & POL'Y (SPECIAL ISSUE) 1, 1 (2005); Andy Updegrove, *W3C Launches New "Agile" Standards Development Platform*, CONSORTIUMINFO.ORG (Aug. 17, 2011, 8:04 AM), <http://www.consortiuminfo.org/standardsblog/article.php?story=20110817080459979>.

59. See generally Gibson, *supra* note 11 (discussing how globalization complicates standards setting).

however, and in some cases seem uncomfortable with the bottom-up, private-sector-oriented model generally favored by U.S. policymakers and most commercial interests.<sup>60</sup>

The diversity of models used in the formation and administration of SSOs suggests that one size cannot fit all. The differing needs and desires of the key players in the development of standards and industry specifications seem to dictate a need for flexibility in the organization and administration of SSOs. The models discussed above are only a few of the more notable examples. Just as new specifications are constantly under development, so too are refinements to the organizational models for SSOs. At the same time, the diversity of standard-development models potentially may create inefficiency. Better understanding of different models may enable more streamlined and effective specification-development efforts. Future research might focus on identifying conditions where one model would be more effective than another. To aid such future research, a discussion of some of the specific problems with current standard-setting protocol is warranted.

## **II. KEY CHALLENGES IN STANDARD-SETTING**

This Part explores two particular problem areas within contemporary models of standards development: intellectual property policies and ethical dilemmas. The difficulty of balancing the different intellectual property interests of various stakeholders is a well-recognized—if rather intractable—problem in standards development. The potential for ethical conflicts, such as the possibility that an individual’s membership on an SSO board could clash with ethical duties owed to his employer, is a less-explored phenomenon, but also presents some difficult tensions.

### **A. Intellectual Property Policies**

The relationship between standards and patents has long been a favorite topic of standards-focused legal experts. Notwithstanding our earlier assertion that standards generally are an underexplored area of academic inquiry, the particular topic of patents and standards has generated a significant amount of academic analysis.<sup>61</sup> Unsurprisingly, the subject generated robust and sophisticated discussion at the ASU Workshop. The discussion in this Part draws inspiration from that discussion, but ultimately attempts a modest feat: we outline a framework for understanding several key patent-related issues in

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60. Jane K. Winn, *Globalization and Standards: The Logic of Two-Level Games* 5 *U.S. J. L. POL’Y FOR INFO. SOC’Y* 185, 199 (2009).

61. See generally Brad Biddle, *Literature Review: Recent Scholarship Focused on Technology Standards (Jan. 2005–Jul. 2009)*, STANDARDSLAW.ORG (Aug. 16, 2009), [http://standardslaw.org/wp-content/uploads/Standards\\_Lit\\_Review\\_Biddle\\_16AUG09.pdf](http://standardslaw.org/wp-content/uploads/Standards_Lit_Review_Biddle_16AUG09.pdf) (identifying 41 academic papers focused on patents and standards).

standards development from the perspective of an ICT company engaged in a standards-setting effort. The goal is to provide an introduction to, and summary of, three important concepts that are addressed in SSO intellectual property policies: the definition of necessary claims, the scope and nature of patent licensing obligations, and patent disclosure rules.

ICT companies face a risk when they implement a specification or standard that the company's actions relating to that implementation potentially infringe upon patent rights held by another party. In other words, absent a license granted by the owner of such a patent, companies must consider whether the company's efforts to implement an SSO's published standard could result in a patent infringement claim by the owner.

These concerns about potential blocking patents are exacerbated by the fact that the development of cutting-edge interoperable and compatible devices and other technologies often implicates a large number of patent rights held by multiple patent holders. For example, building a mobile device with multiple features and components could possibly implicate up to hundreds of patents held by others.<sup>62</sup> Given the likelihood that features specified by various standards will include patented technology, a company that implements the SSO's standards will want to understand and reduce the risk of being sued for patent infringement by a holder of a potential blocking patent.

Part II.A.1 discusses IP Policies within an SSO generally. Next, the concept and impact of necessary claims is introduced in Part II.A.2. Parts II.A.3–4 then discuss common SSO contractual obligations that require participating patent holders to grant licenses to necessary claims and disclose their relevant patent portfolios.

### 1. Adoption of SSO IP Policies

Because of concerns about potential blocking patents and other IP issues, SSOs generally negotiate and adopt a policy, often called a *Patent Policy* or an *Intellectual Property Right Policy* (herein collectively referred to as IP Policy), which attempts to address, among other issues, certain concerns about potential blocking patents owned or otherwise controlled by SSO participants.<sup>63</sup> Many SSOs take steps to have their IP Policies impose reciprocal licensing promises on all implementers, even those that were not actively involved in development of the particular standard.<sup>64</sup> SSOs have no ability to impose licensing obligations on parties who choose not to participate in the SSO. Con-

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62. See Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not to)*, 48 B.C. L. REV. 149, 150–51 (2007) (providing a general discussion of problems presented by multiple patents in the ICT field).

63. See COMM. ON TECHNICAL STANDARDIZATION, AM. BAR ASS'N., STANDARDS DEVELOPMENT PATENT POLICY MANUAL ix–xiii (Jorge L. Contreras ed., 2007) [hereinafter PATENT POLICY MANUAL] (providing a detailed overview of the many issues and provisions that are typically addressed in an SSO's IP Policy).

64. See discussion *infra* Part II.A.3.

sequently, the IP Policy cannot solve the problem of potential blocking patents owned or controlled by a nonparticipant.

## *2. IP Policies Focus on Necessary Claims*

IP Policies typically do not attempt to govern every conceivable type of patent claim that may arise in the development and subsequent implementation of the SSO standards. Usually there are practical reasons why an SSO cannot attempt such a broad application of its IP Policy.

One fundamental reason for not engaging in such a broad endeavor is that prospective participants may become alienated and decline to participate if an SSO's IP Policy obligates a potential participant to license patent claims that the participant believes are particularly valuable. An IP Policy that has an overly broad application, or is otherwise perceived to be too burdensome or unfair, could have the unintentional impact of limiting the number of industry players that are willing to participate in that SSO.<sup>65</sup>

To address this situation, SSO IP Policies generally narrow their application to only those patent claims that are necessary or essential to allow implementation of the SSO's approved standards. In other words, the governing application of an IP Policy is typically limited to only those patent rights that are unavoidably infringed by an implementer for the purpose of implementing the standard.<sup>66</sup> These are often called *Essential Claims* or *Necessary Claims* (hereinafter collectively referred to as *Necessary Claims*).<sup>67</sup>

Because of the profound ramifications of an IP Policy's definition of *Necessary Claims*, it is not surprising that there are often protracted negotiations between founding members of an SSO concerning the final scope and meaning of the term. Also, it is not surprising that the scope and meaning of *Necessary Claims* can vary greatly from one IP Policy to the next.<sup>68</sup>

The meaning and scope of *Necessary Claims* is often the most analyzed provision in an IP Policy. For example, some IP Policies may include, while others may exclude, *optional portions* of the standard from the type of implementations that give a participant a right to seek a license in another participant's *Necessary Claims*.<sup>69</sup>

Other IP Policies may limit the meaning of *Necessary Claims* to "technically feasible" implementations (whatever the cost of that implementation)

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65. See Damien Geradin & Miguel Rato, *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent-Hold Up, Royalty Stacking and the Meaning of FRAND* 3 EUR. COMPETITION J. 101, 104 (2007) available at <http://ssrn.com/abstract=946792> (discussing how SSO bylaws that are perceived to be "burdensome or unfair" can deter technology developers from joining the SSO).

66. See PATENT POLICY MANUAL, *supra* note 63, at 10–13 for a further discussion of the scope and significance of *Necessary Claims*.

67. PATENT POLICY MANUAL, *supra* note 63, at 10–13.

68. *See id.*

69. *Id.* at 16–17 ("Optional Portions" are defined as "those Portions or criteria of a Standard that may, but are not required to, be selected in an implementation of the Standard.") (internal quotation marks omitted).

compared to more cost-effective “commercially reasonable/feasible” implementations.<sup>70</sup> Another common concern of some prospective participants as they evaluate an IP Policy is whether the scope and meaning of Necessary Claims will encompass the company’s patent rights in its underlying or enabling technology. A license commitment applicable to underlying or enabling technologies is often not acceptable to certain prospective participants.<sup>71</sup>

Another concern of some participants is whether their Necessary Claims will be limited to their contributions made during the development of the standard or, by contrast, whether their Necessary Claims obligation could arise from contributions to the standard made by others. It might become difficult for a participant to monitor which of its patent rights might be included among Necessary Claims if such inclusion could potentially result from actions of others engaged in the development of the standard.

Prospective SSO participants scrutinize IP Policies to evaluate which patents in their company’s patent portfolio could be included in and governed as Necessary Claims. A prospective member’s comfort level with the scope of the Necessary Claims is often a gauge of the company’s willingness to participate with that SSO.

### 3. *Obligation to Grant RAND License in Necessary Claims*

The Necessary Claims definition is important because IP Policies will impose a licensing obligation in connection with these claims. Most SSOs require participants to license their Necessary Claims on *reasonable and nondiscriminatory* (RAND) terms to implementers that seek to implement the SSO’s applicable standard.<sup>72</sup>

The typical RAND provision is not itself the actual licensing instrument.<sup>73</sup> Instead, a typical RAND term is a contractual covenant of the granting participant, pursuant to which that entity agrees that it will, at some point in the future, grant a license on reasonable and nondiscriminatory terms to any requesting implementer of that SSO’s applicable standard.<sup>74</sup> The actual RAND license is a bilateral agreement negotiated between and executed by only the

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70. *Id.* at 18–19 (distinguishing between technical and commercial feasibility, and discussing how the difference applies to IP Policies) (internal quotation marks omitted).

71. *See id.* at 12–13 (discussing and defining “enabling technologies”).

72. PATENT POLICY MANUAL, *supra* note 63, at 47. See Timothy F. Haslach, *Facilitating Interoperability and De Facto Standardization*, in TECHNOLOGY LICENSING STRATEGIES: LEADING LAWYERS ON STRUCTURING AGREEMENTS, NEGOTIATING VALUE, AND CAPITALIZING ON INTELLECTUAL PROPERTY 105, 109–10 (2007) for a discussion of licensing commitments and licensing statements. See also Biddle et al., *supra* note 3, at 123, which found that about 75% of specifications implemented in a modern laptop computer were developed under RAND IPR terms. See also Miller, *supra* note 6, at 355 (discussing some challenges associated with the more typical RAND licensing commitment).

73. PATENT POLICY MANUAL, *supra* note 63, at 47.

74. STANDARDS PRIMER, *supra* note 14, at 14.

granting entity holding the applicable Necessary Claims and the particular party that seeks rights in those Necessary Claims.

In addition to the RAND covenant, some IP Policies contain other provisions that attempt to impose additional requirements on the structure of these bilateral RAND license agreements. One significant variation on the traditional RAND model is *RF-RAND*: An IP Policy may require that the holder of a Necessary Claim offer to license its claims on *royalty free* and otherwise reasonable and nondiscriminatory terms.<sup>75</sup>

As an alternative to mandating RAND or RF-RAND license terms, some IP Policies contain a provision pursuant to which each participant agrees not to assert its rights in its Necessary Claims against other implementers who are implementing the applicable standard in accordance with the IP Policy (*Non-Assertion Clause*). A typical Non-Assertion Clause may also state that if the participant that holds the applicable Necessary Claim nonetheless sues an implementer in violation of the Non-Assertion Clause, then the suing party will lose its rights under the IP Policy.<sup>76</sup>

IP Policies normally do not attempt to mandate all of the terms that must be included in a particular RAND or RF-RAND license.<sup>77</sup> Indeed, because of the nature of negotiating separate bilateral agreements, the licenses will not necessarily have identical terms and conditions (subject, however, to the obligation to otherwise comply with the requirements of the IP Policy).

#### 4. Patent Disclosure Procedures

In addition to imposing licensing obligations for Necessary Claims, some SSO IP Policies require some type of early disclosure or notice of the existence of applicable Necessary Claims during some portion of the developmental stages of a standard.<sup>78</sup> Other SSOs rely solely on licensing promises to address the problem of potentially blocking patents.<sup>79</sup>

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75. The royalty-free RAND license is also referred to as RAND-Z or RAND-Zero. See Teece & Sherry, *supra* note 9, at 1955.

76. See, e.g., *Microsoft Open Specification Promise*, *supra* note 36.

77. But see *infra* note 78, for a discussion of the growing interest in Ex-Ante Disclosure of detailed licensing terms.

78. In recent years there have also been proposals that IP Policies should go one-step beyond the disclosure of the mere existence of Necessary Claims by including so-called “ex ante” disclosure requirements in an IP Policy (hereinafter “Ex Ante Disclosure”). Ex-Ante Disclosure, generally, means that the holder of a Necessary Claim will be required to disclose not only the existence of its Necessary Claim, but may “also be permitted (or required) to reveal the specific economic and other terms upon which” it would be willing to license those Necessary Claims to implementers. Andrew Updegrave, Editorial, *It’s Time to Get on the Ex Ante Bus*, CONSORTIUM STANDARDS BULL., June 2006, at 3, available at <http://www.consortiuminfo.org/bulletins/pdf/jun06.pdf>. Despite the potential benefits of Ex-Ante Disclosure provisions, it appears that “standards organizations have not rushed to embrace the *ex ante* idea.” Timothy Simcoe, *How Much Ex Ante Is Enough?*, TALK STANDARDS (Sept. 23, 2009, 5:12 AM), <http://www.talkstandards.com/how-much-ex-ante-is-enough/> (emphasis added). While commentators have presented several reasons why they believe standards organizations have not warmly embraced of Ex-Ante Disclosure provisions, it appears one key reason cited by several participants at the ASU Workshop is the real

Having some level of disclosure of Necessary Claims may enable the SSO's technical working group engaged in the development of the applicable standard to "design around" the disclosed Necessary Claims during the working group's development process.<sup>80</sup> Additionally, a disclosure procedure allows implementers to identify applicable Necessary Claims so that they can ultimately seek applicable RAND licenses.<sup>81</sup>

Disclosure procedures can be difficult to implement as a practical matter. One key issue is whether the disclosure obligation imposes a duty on each SSO participant to conduct a company-wide search for its Necessary Claims. Broad search requirements may be viewed as an unrealistic burden by certain companies, particularly large multinational corporations with large patent portfolios and many affiliates.<sup>82</sup>

Even if an IP Policy states that the disclosure obligation does not impose a company-wide obligation, uncertainty may remain about whether individuals in a participating company (and, potentially, in its affiliated companies) need to be engaged to fulfill the disclosure obligations. Because of this concern, IP Policies often state that the disclosure obligation is limited to the actual, personal knowledge of those representatives of a company actively engaged in developing the applicable standard, but even this standard may create compliance concerns for some participants, while also potentially reducing the value of disclosures.

Other disclosure issues that raise concerns among participants include:

(i) Are there time limits to the disclosure obligation? For example, while the disclosure obligation during a designated disclosure period might be obvious, what are the exact obligations after these disclosure periods end and how long do these obligations last?

(ii) Not all IP Policies are clear about what information needs to be disclosed. If the participant has patents, does the participant simply identify those patents which it believes are Necessary Claims or should it provide

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or perceived concern that negotiating these types of provisions will be extremely difficult and protracted and, thus, will add another major layer of complexity to what are often already complex negotiations involved in creating the IP Policy.

79. As a general rule disclosure rules appear to be more common in SDOs; Consortia frequently rely on licensing obligations alone.

80. Andrew Updegrave, Ex Ante *Disclosure: Risks, Rewards, Process and Alternatives*, CONSORTIUM STANDARDS BULL., June 2006, at 12, available at <http://www.consortiuminfo.org/bulletins/pdf/jun06.pdf>. See also PATENT POLICY MANUAL, *supra* note 63, at 31 (discussing patent disclosure procedures and their importance to SSOs); Andrew Updegrave, *Intellectual Property Rights and Standards Setting*, in THE ESSENTIAL GUIDE TO STANDARDS (2007) [hereinafter Updegrave, *Intellectual Property Rights*], <http://www.consortiuminfo.org/essentialguide/intellectual.php> (discussing further reasons for, and practical challenges associated with, patent disclosures).

81. See PATENT POLICY MANUAL, *supra* note 63, at 31. See also, Updegrave, *Intellectual Property Rights*, *supra* note 80.

82. IP Policies often impose obligations, including disclosure, on affiliates of members in addition to the member itself. Robert M. Webb, *There Is a Better Way: It's Time to Overhaul the Model for Participation in Private Standard-Setting*, 12 J. INTELL. PROP. L. 163, 219 (2004). Thus, a "company-wide" disclosure obligation could become a daunting task for members that are large multinational corporations with multiple affiliates.

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more information about why it concluded that these patents are Necessary Claims (which could potentially reveal trade secrets)?

(iii) Does the duty of disclosure only encompass patent registrations? Should it encompass the disclosure of *still-confidential* patent applications? How would such a disclosure be phrased?

SSOs are realizing that a balanced and fair IP Policy is an important feature in attracting and retaining members and other implementers of its standards. Expending sufficient time and effort to formulate an appropriate definition for the IP Policy's Necessary Claims is a critical aspect of that IP Policy, particularly because the meaning and scope of Necessary Claims has a significant impact on the breadth of licensing obligations and on potential disclosure procedures.

### **B. Ethical Conflict Issues in Standards Development**

Standards-development efforts can raise a complex array of ethical issues. For example, participants in these efforts frequently play dual roles: they may be employees of companies with strong commercial interests in the outcome of a specification-development process and simultaneously serve as members of the board of directors of the SSO directing the process. These dual-role participants risk potential conflicts between legal duties owed to their employer and duties owed to the SSO. Other examples involve attorneys: in-house counsel for a company may be asked to advise these dual-role participants on matters that implicate the legal interests of the SSO, or counsel for the SSO may find their communications to their SSO client compromised by dual-role participants in ways that risk undermining the protections of the attorney-client privilege.

Among the group of practitioners, scholars, and other stakeholders with experience in standards development at the ASU Workshop, there was a striking consensus that standards development raises difficult ethical issues and that these issues have not been adequately explored in academic literature or elsewhere.<sup>83</sup> However, there was an equally striking *lack* of consensus among these experts on the precise nature of these issues, the seriousness of the associated risks, and on the appropriate way to analyze them.

Part II.B attempts to identify a noncomprehensive set of key ethical issues that might arise in the standards-setting context, with a particular focus on conflicts of interest. The effort focuses on high-level issue spotting rather than extensive analysis of particular issues. Even with this limitation, a challenge to this effort arises from the diverse structures and processes used to create standards. For example, issues that might arise in the context of a nonprofit incorporated Consortium may be quite different from those that arise in a "Big I"

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83. Supporting this view: none of the over 70 academic papers on standards identified in a recent literature review addressed the topic of ethics. See generally Biddle, *supra* note 61.

standards-development organization.<sup>84</sup> Accordingly, it is important to recognize that the issues identified below might apply only in a limited set of standards-setting circumstances.

Parts II.B.1–6 describe conflicts in various configurations. First, the authors illustrate conflicts between SSO board duties and duties to an employer. Second, conflicts outside of an SSO board role are described, including problems that may arise when a corporate employee contributes to an SSO's efforts in an individual capacity. Next, potential conflicts for attorneys are presented, including in-house and outside counsel. Finally, some best practices are proposed for mitigating some of these ethical concerns.

### 1. *Conflicts between Board Duties and Duties to Employer*

Consortia and other SSOs engaged in specification development are often formed as nonprofit corporations under applicable U.S. state law; many apply for tax exempt status as a nonprofit mutual benefit corporation under Section 501(c)(6) of the Internal Revenue Code.<sup>85</sup> Under this model, a small group of promoter companies provide start-up funding for the new corporation, and these promoter companies name a representative to the Board of Directors of the new entity. Each promoter company typically names a company employee to serve on the Board of the new SSO. As a matter of corporate law, Board members must be natural persons.<sup>86</sup> The individual serving on the Board is generally not compensated by the SSO.

While the details can differ depending on applicable state law, generally the individual appointed to the Board of a nonprofit corporation incurs three duties to the corporation imposed by corporate law: a duty of *care*, a duty of *loyalty*, and a duty of *obedience*.<sup>87</sup> The duty of care requires that the Board member exercise “reasonable care when he or she makes a decision as a steward of the organization.”<sup>88</sup> Pursuant to the duty of loyalty, Board members must meet a “standard of faithfulness,” characterized by one commentator as an obligation to “give undivided allegiance when making decisions affecting

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84. STANDARDS PRIMER, *supra* note 14, at 5 (internal quotation marks omitted). The Big I standards-setting organizations are “the four widely recognized, well-established, formal international-standards developers: the International Telecommunication Union (ITU), the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and the Joint Technical Committee (JTC1) which is a joint group of IEC and ISO.” *Id.* at 4.

85. *See, e.g.*, Bluetooth SIG, Inc. v. United States, No. C05-1778-JCC, 2008 WL 312712, at \*2 (W.D. Wash. Feb. 1, 2008), *aff'd*, 611 F.3d 617 (9 Cir. 2010). Other examples of this model of SSO include the USB Implementers Forum, PCI-SIG, Inc., and the Wi-Fi Alliance. *See By Laws of PCI-SIG (An Oregon Nonprofit Corporation)*, PCI-SIG (June 29, 2010), [http://www.pcisig.com/membership/about\\_us/bylaws/Bylaws\\_of\\_PCI-SIG\\_May\\_2010\\_signed.pdf](http://www.pcisig.com/membership/about_us/bylaws/Bylaws_of_PCI-SIG_May_2010_signed.pdf); *About USB Implementers Forum, Inc.*, USB Implementers Forum, Inc., <http://www.usb.org/about> (last visited Nov. 25, 2011); *Organization*, WI-FI ALLIANCE, <http://www.wi-fi.org/organization.php> (last visited Nov. 25, 2011).

86. *See, e.g.*, DEL. CODE ANN. tit. 8, § 141(b) (2010).

87. BRUCE R. HOPKINS, LEGAL RESPONSIBILITIES OF NONPROFIT BOARDS 13 (2d ed. 2009).

88. *What Are the Legal Responsibilities of Nonprofit Boards*, BOARDSOURCE, <http://www.boardsource.org/Knowledge.asp?ID=3.364> (last visited Dec. 1, 2011).

the organization.”<sup>89</sup> The duty of obedience requires the Board member to be faithful to the organization’s mission: she is “not permitted to act in a way that is inconsistent with the central goals of the organization.”<sup>90</sup>

Typically the individual serving on the Board of an SSO remains employed by their promoter-company employer. Accordingly, the employee serving on the nonprofit Board is simultaneously subject to a duty of loyalty to their employer: under most state laws, an employee has a duty to act solely for the benefit of the employer when engaging in any conduct that relates to the employment.<sup>91</sup> This duty may be further amplified in an employment contract. These legal duties to the employer are complemented by the practical reality that the employer provides the individual’s salary and career path, incentivizing loyalty to the employer.

At the time of formation of a new Consortium, the interests of the new entity and the interests of the various promoter companies that formed the entity are likely to be well aligned; however, these interests could diverge over time. A promoter company may change its strategy and decide that it supports a competing standards effort. Perhaps in such a case the promoter company’s interests would be best served by a Board vote in favor of delay or abandonment of a specification, while the broader interests of the SSO would be served by releasing the specification. The individual serving on the Board of the nonprofit SSO would face a potential conflict: she may be unable to simultaneously discharge their duties owed to the SSO and to their employer.

Conflicts of interest can be resolved in various ways, such as by appropriate disclosures, recusal from particular decisions, or resignation from either position. In any given case, however, the individual facing a potential conflict may encounter difficult decisions. The interests of the individual and her employer may not be well aligned. For example, suppose the employer strongly desires a particular outcome from a Board vote and dismisses the employee’s concerns about a potential conflict. The individual may be left to decide on her own whether a conflict exists and what action to take. Moreover, as further discussed below, the legal resources typically available to such individuals—in-house counsel at their employer and outside counsel for the SSO—may not be in a position to advise the individual.

The individual sitting on an SSO Board facing a potential conflict between duties owed to the SSO and duties owed to their employer may take some comfort in the fact that, to date, the associated risks appear to more theoretical than practical. There appears to be no reported cases where an individual was subject to liability in such circumstances, and the experts at the ASU Workshop did not raise any examples of individuals facing liability. Two theories may account for this apparent disconnect between theoretical and

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89. *Id.*

90. *Id.*

91. *See, e.g.,* CAL. LABOR CODE §§ 2860, 2863 (West 2001) (codifying the “duty of loyalty”).

actual risk. First, while the existence of duties owed in connection with service on a nonprofit Board is clear, the question of precisely who can assert breach of such duties and what remedies are available is less clear, and this lack of clarity may disincentivize litigation.<sup>92</sup> Second, participants in standards-development efforts may tacitly recognize that individuals serving on SSO Boards will advance the interests of their employers, notwithstanding potential breaches of duties imposed by principles of corporate law. That is, in a situation where the employer provides substantial funding to launch a new SSO, appoints an employee to the Board of the SSO, and pays the salary and all costs related to that employee's participation on the Board, the expectation of the employer, the employee *and all other members of the SSO* may be that the employee is there to advocate for the interests of the employer. In such a case, behavior that might theoretically amount to a breach of duties owed to the SSO could be perceived by all stakeholders involved as consistent with the norms of the standard-setting environment.

## 2. Conflicts Arising Outside of Dual Roles

While the dual-role scenario—under which an individual serves both as a Board member for an independent nonprofit and as an employee of a corporation with a strong interest in the activities of the nonprofit—presents perhaps the most overt conflict of interest risks, conflicts could conceivably arise in other scenarios as well. As a general matter, standards development can present various circumstances where individuals play ambiguous roles, and this ambiguity can give rise to potential conflicts. Two examples are identified below.

First, consider the example of the Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA). The IEEE-SA has produced over 3,400 technical standards, including critical information-technology standards such as Ethernet and WiFi.<sup>93</sup> The IEEE-SA permits two classes of members: individual members and corporate members. Standards development efforts in the IEEE are performed through a process based either on individual-based ballots or corporate ballots, but not both.<sup>94</sup> The vast majority of IEEE standards are developed based on the individual-ballot process.<sup>95</sup>

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92. Evelyn Brody, *The Board of Nonprofit Organizations: Puzzling Through the Gaps Between Law and Practice*, 76 *FORDHAM L. REV.* 521, 560 (2007).

93. See *IEEE Standards Online Collections*, IEEE, [http://www.ieee.org/publications\\_standards/publications/subscriptions/prod/standards\\_overview.html](http://www.ieee.org/publications_standards/publications/subscriptions/prod/standards_overview.html) (follow “IEEE All-Inclusive Standards” and “IEEE All Information Technology Standards” hyperlinks) (last visited Nov. 23, 2011).

94. See *FAQs: IEEE-SA Membership*, THE IEEE STANDARDS ASS'N, <http://standards.ieee.org/faqs/about.html#9> (last visited Nov. 21, 2011).

95. The IEEE-Standards website lists 22 standards development projects underway under the corporate balloting model. See *Corporate Standards in Development*, STANDARDS.IEEE.ORG, <http://standards.ieee.org/develop/corpchan/corpstdsdev.html> (last visited Nov. 28, 2011). It also lists over 800 under development under the individual balloting model. See *Browse Standards by*

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The IEEE-SA Bylaws require that *individual* participants “shall act based on their qualifications and experience.”<sup>96</sup> Representatives in the *corporate* process “are appointed by an entity to represent that entity and act on its behalf. Such representatives may participate in IEEE-SA standards-development activities and take action based upon instruction from the entity for which they have been appointed as an entity representative.”<sup>97</sup> One interpretation of the Bylaws would be that individual participants should act based *solely* on their qualifications and experience, and should not look to their employers for direction; only when acting as an entity representative under the rarely used corporate-ballot process should an individual take action based on instructions from her employer. At least one participant at the ASU workshop advocated for this interpretation.

Some IEEE-SA materials, however, suggest a more nuanced interpretation of the obligations of individuals. The membership page of the IEEE-SA website states that “[w]hile participants may represent the interests of their employers, individual members participate in the process and ballot as individuals, rather than as a corporate entity.”<sup>98</sup> Moreover, the Bylaws contain provisions that require disclosure of affiliation by participating individuals, and processes for avoiding dominance in the voting process by individuals affiliated with the same organization.<sup>99</sup> This more nuanced approach seems to better comport with the practical reality that many of the participants in the IEEE-SA standards process are in fact funded by their employers and participate as part of their core job activities. Indeed, at the ASU workshop one participant dismissed the idea that participants acted purely in an individual capacity, free from employer influence, as an “obvious fiction.”

Under either interpretation of the IEEE-SA Bylaws, individual participants face potential complexity. The Bylaws appear to impose some obligation for individuals to act in ways that potentially create a conflict with their employers. Imagine a scenario where an employer, who funds an individual’s participation, insists on a particular option that the individual is convinced would be ill-advised. A choice to unequivocally advocate for the employer-desired position, for example, would seem to open the individual up to at least a theoretical risk of liability for breach of the contractual obligation to follow the Bylaws and related policies set forth in the IEEE-SA membership agreement.

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*Topic*, STANDARDS.IEEE.ORG, <http://standards.ieee.org/develop/project/> (last visited Nov. 28, 2011).

96. *IEEE-SA Standards Board Bylaws*, IEEE STANDARDS ASS’N, 8 (Feb. 2011), [http://standards.ieee.org/develop/policies/bylaws/sb\\_bylaws.pdf](http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf).

97. *Id.*

98. *IEEE-SA Membership*, IEEE STANDARDS ASS’N, <http://standards.ieee.org/membership/> (last visited Nov. 25, 2011) (emphasis added).

99. See *IEEE-SA Standards Board Bylaws*, IEEE STANDARDS ASS’N, 10–11 (Feb. 2011), [http://standards.ieee.org/develop/policies/bylaws/sb\\_bylaws.pdf](http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf) (sections 5.2.1.3 Dominance and 5.2.1.5 Disclosure of affiliation).

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The controversy over Open Office XML provides the context for a second example that illustrates how ambiguity over standards-related roles can lead to an allegation of a conflict of interest.<sup>100</sup> In the midst of an acrimonious dispute about the international standardization process for Microsoft-supported OOXML, the Free Software Foundation Europe alleged that dual roles played by one individual in connection with ISO and at the standards-development body ECMA amounted to an “an insufficiently resolved conflict of interest.”<sup>101</sup> No remedial action or other changes, however, appear to have been taken in connection with this allegation.

### *3. Conflict Issues for Company Participants*

Another potential concern for companies that participate in a standards-setting effort might be that a conflict of interest of a particular individual could be imputed to that individual’s employer in a manner that would create liability for the employing company. An individual serving on an SSO Board who is accused of not meeting her duties to the SSO might point to an employer mandate as the cause for their failure to meet their duty. One can imagine difficult tensions that could arise between employer and employee in such a scenario. Further, one can imagine other Board members of the SSO perceiving that the employer is the bad actor in these circumstances. Whether such tensions could rise to actionable legal claims either between employee and employer or between the SSO and the employer is unclear. No such cases appear to have been litigated, but prudence would seem to dictate that employers be mindful of the duties owed by their employees to the SSO and careful to not pressure these individuals into situations that create a conflict of interest.

### *4. Conflicts for In-House Counsel*

In-house counsel for companies participating in standards-development efforts also can face complex ethical questions. One scenario arises when an individual begins serving on an SSO Board. That individual may have a longstanding relationship with in-house counsel for their shared employer: that in-house counsel routinely advises the individual in the context of that individual’s activities performed on behalf of the employing corporation. Joining an SSO Board may raise legal issues for the individual that are separate from the legal interests of the employing corporation. For example, the individual may be concerned about personal liability in the event that the SSO is sued, and she may want to understand the scope of any indemnities offered either by the SSO or by her employer (who is likely directing the employee to join the Board). Further, once the individual is on the Board, at times they represent

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100. See, e.g., Ryan Paul, *Microsoft's Office Open XML Now an Official ISO Standard*, ARS TECHNICA, <http://arstechnica.com/microsoft/news/2008/04/microsofts-office-open-xml-now-an-official-iso-standard.ars> (last visited Nov. 23, 2011).

101. Letter from Shane Coughlan to SNV Schweizerische Normen-Verinigung (Aug. 13, 2007), available at <http://siug.ch/ms-ooxml/fsfe-letter.pdf>.

the interests of the SSO, a separate legal entity. The in-house counsel has one client, however: the employing corporation. Tenets of professional responsibility require that the attorney *not* offer legal advice to the individual in his or her individual capacity, nor to the SSO.<sup>102</sup> Maintaining this responsibility may require difficult discernment of boundaries and a change to the historical working relationship between the individual and the in-house counsel.

At a practical level, the individual in this circumstance may not have good options for obtaining appropriate legal advice. Engaging a personal attorney to advise on the risks of serving on a board, while perhaps prudent, may not be a realistic option for some employees. SSOs often employ outside counsel to represent the interests of the SSO, but for budgetary or other reasons this outside counsel may not be available and engaged on all SSO activities. In-house counsel for the employing corporation may be tempted to fill these gaps, particularly when the issues arise in the context of the ongoing relationship between the individual and the in-house counsel on other corporate matters, but it is clear that personal legal advice for the individual and legal advice for the SSO are outside the proper scope of in-house counsel duties.

A related point concerns the maintenance of the attorney-client privilege. A conversation between in-house counsel and the board-serving individual could be protected by the attorney-client privilege, provided that the various elements of the privilege are met *and the individual is acting in their capacity as an employee of the employing corporation*.<sup>103</sup> If the individual is acting in their capacity as a representative of the SSO, however, then there is no attorney-client relationship and no applicable privilege. It would thus be imperative for in-house counsel and the individual to have a clear understanding of what role the individual is playing at any given moment. Further, the individual would need an understanding of the requirements to maintain privilege. For example, the individual could not take privileged information learned while acting as an employee and disclose it to fellow Board members while acting as a Board member.

The situation seems to call for something analogous to *Upjohn* warnings, normally used in the context of corporate investigations.<sup>104</sup> *Upjohn* warnings are a mechanism for making clear that counsel for a corporate entity represents that entity, and not the constituent individuals who are part of the organization.<sup>105</sup> While the specific focus of *Upjohn* warnings is to maintain the ability

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102. Grace M. Giesel, *Upjohn Warnings, the Attorney-Client Privilege, and Principles of Lawyer Ethics: Achieving Harmony*, 65 U. MIAMI L. REV. 109, 161–62 (2010). While an in-house attorney could theoretically represent multiple clients, including potentially the individual board member and the SSO, this arrangement would be extremely unusual and highly problematic. The interests of the various parties are likely to be legally adverse and simultaneous representation would presumably violate conflict-of-interest principles. See MODEL RULES OF PROF'L CONDUCT R. 1.7 (2009).

103. Giesel, *supra* note 102, 151–52.

104. *Upjohn Co. v. United States*, 449 U.S. 383 (1981).

105. A.B.A. White Collar Crime Committee Working Group, *Upjohn Warnings: Recommended Best Practices When Corporate Counsel Interacts With Corporate Employees*, AM.

of the entity to waive privilege in counsel-employee discussions in certain circumstances, the broader point of the warning is to establish an unambiguous understanding between counsel and an individual about the precise nature of their relationship.<sup>106</sup> In-house counsel may find the concept useful to address the potential ambiguities surrounding the relationship with employees serving on SSO Boards.

### *5. Issues for Outside SSO Counsel*

Outside counsel for SSOs may find themselves facing the mirror image of issues faced by in-house counsel. Maintaining privilege in communications with SSO constituents is a particularly challenging point. If an SSO is faced with litigation or a similar legal dispute, the organizations that participate in the SSO will be key stakeholders and will be deeply interested in obtaining all available information about the dispute. Given this interest and the individual's legal and practical loyalties to her employer, the individual serving on the SSO Board will have strong incentives to share information with the employer. For outside counsel, ensuring that Board members do not disclose information in a manner that defeats privilege may prove difficult.

Discovery may present a similar challenge. As a practical matter, the Board members of SSOs often utilize the email addresses of their primary employer to do Board business, and thus key SSO communications and other documents are stored on systems that are not controlled by the SSO. If these documents are subpoenaed, the organization that controls the documents may not have identical incentives to the SSO. For example, the SSO might be inclined to fight a subpoena under a privilege theory, whereas the organization hosting the documents might be willing to produce the documents (perhaps even without notice to the SSO) to close the matter quickly and cheaply. Similarly, when faced with a discovery demand, counsel for an SSO might find that they do not have practical control of or access to key documents.

Outside counsel for SSOs might also face the inverse of the issue faced by in-house counsel asked to opine on matters outside of their client's purview. In some cases outside counsel for SSOs develop strong relationships with the individuals serving on the SSO Board. These individuals may ask counsel to discuss matters that go beyond the scope of the SSO and impact the legal interests of the individual's primary employers or the individual's personal legal interests. In such a case, outside counsel may be well served to bring *Upjohn*-style clarity to the discussion, as explored above.

Finally, standards-setting efforts may present outside counsel with particularly complex conflicts of interest and attorney-client relationship-formation issues. SSOs routinely include parties whose interests are adverse outside of the standard-setting context. In the course of SSO formation, counsel might

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BAR ASS'N, 14 (July 17, 2009), <http://meetings.abanet.org/webupload/commupload/CR301000/newsletterpubs/ABAUpjohnTaskForceReport.pdf>.

106. Giesel, *supra* note 102, at 110–11.

need to engage directly with a number of these parties simultaneously, raising the need for, at a minimum, artful conflict disclosures and waivers.<sup>107</sup> After an SSO is formed, counsel may find that the SSO's interests become legally adverse to member companies participating in the SSO, or that members engage in disputes that create new potential conflicts for counsel.

#### *6. Best Practices for Mitigating Conflict Risks*

As discussed above, the ASU Workshop demonstrated some consensus that ethical matters related to standards deserve attention, but there was a lack of consensus over the nature and degree of these ethics-related risks. Given this observation, and given the fact that the topic of ethical issues in standards development is virtually unexplored in the academic and practitioner literature, it is unsurprising that no best practices or similar guidelines have been documented. No attempt will be made to do so here, but we will observe that the area seems ripe for further analysis.

Two simple concepts highlighted above may be candidates for inclusion in a broader best practices effort:

- Employers should recognize that employees serving on SSO Boards are serving in an individual capacity and face *potentially* conflicting duties. Taking care to avoid having *actual* conflicts arise serves all parties' interests, including the employer.
- In-house and outside counsel engaged in standards efforts can learn from the concept of *Upjohn* warnings, and apply the idea when engaging with dual-role employees.

Additionally, SSO communications processes, document management, and conflict management for outside counsel might be other areas for focused attention. In sum, ethical issues surrounding standards setting are complex, and having better tools to analyze and manage them would benefit all stakeholders involved with the standards-setting process.



Standards provide structure and consistency to many areas of technology and are a critical component of most of the informational services and products we rely on in our daily lives, for example, the Internet, our computers, our phones, our televisions, and countless other technology-dependent devices. Despite being an integral component of many industries, standards are largely created and flourish or fail behind the scenes. The 2010 ASU Workshop helped bring standards to the forefront by providing an opportunity for standards practitioners to come together and engage in discourse on pressing issues in the standards field.

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107. See MODEL RULES OF PROF'L CONDUCT R. 1.7.

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This article describes several key topics in standards practice today and demonstrates the complex technological and legal environment in which standards operate. The multitude of interests represented in standards development, the diversity of entities adopting standards, and the breadth of experience of the various parties involved make standards a growing yet challenging area of legal practice.

Historically, the discipline of standards has been largely ignored by legal academia and neglected in the training of young lawyers. In recent years, however, the role of standards has greatly evolved and expanded; once limited to technical specifications, standards now play a central role in technology development, management, and governance. Because of this increasing role as a driver and regulator of technology, standards are being recognized for their vital importance to legal practice and legal scholarship. To continue engagement with the standards community, in April 2011, ASU hosted a two-day standards roundtable that addressed the increasingly global context for standards development. With additional conferences and other future events focused on the intersection of standards, technology and the law, the Center for Law, Science & Innovation at the Sandra Day O'Connor College of Law will continue to foster dialogue within the standards community.