



STANDARDS PRIMER

*An Overview of Standards Setting Bodies and Patent-Related Issues That Arise
In The Context of Standards Setting Activities*

*A Paper developed by IPO's Standards Setting Committee.
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*** This paper was created by the authors for the Intellectual Property Owners Association all of whom are members of the Standards Setting Committee to provide background to and for the benefit of IPO members. It should not be construed as providing legal advice or as representing the views of IPO.***

A copy of this paper can be found on the IPO website at www.ipo.org/articles.

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FOREWORD

The IPO Standards Committee has recognized the need to have informational material describing standards setting bodies and the patent-related issues that arise in the context of standards setting activities.

In recent years there has been a proliferation of publications on standards setting, however few simply provide the basics. The Committee intends to produce a Standards Primer comprised of two white papers to assist the reader in becoming familiar with the key concepts associated with standards and patent policies.

The first of the white papers will provide an overview of standards setting organizations (SSOs), including the structure and relationships among SSOs, their development processes, and the key aspects of SSO patent policies – patent disclosure and licensing obligations. The second white paper will address patent-related issues that may arise when implementing a standard, commercializing standardized technology, or purchasing standardized technology for one's own use.

The white papers are intended to provide general background for lawyers and non-lawyers who wish to better understand the standards landscape and, in particular, the patent issues that arise in connection with standards setting activities. For a more in-depth analysis of the standards development process and patent policies, please see the American Bar Association (ABA) publication entitled *Standards Development Patent Policy Manual* (Contreras 2007) which is referenced within this paper.

The Committee is not providing legal advice in the white papers and recommends that anyone seeking legal guidance on a standards-related patent issue solicit the advice of his or her own counsel.

Overview of Standards Setting Organizations, Standards Development Processes, and Patent Policies

I. INTRODUCTION

Globalization and the convergence of communications, digital media, information technology and software have fueled the demand for products and services to work together. Downloading maps to mobile devices, listening to personal audio books or music anywhere and anytime, and watching video clips posted on the Internet – all have become mainstream activities but each require the interoperation of products and services offered by different companies. Technical standards enable such interoperability, and standards setting organizations (SSOs) serve as a venue for such standards to be created.

Each year thousands of technical standards are developed by almost as many SSOs. SSOs have many common characteristics, but they also have differences that make each unique. Sharing intellectual property in order to develop and implement a standard is a complex matter, and there has been recent litigation, proposed legislation, and government activity affecting standard setting activities and patent rights. Understanding standards and how to navigate the standards setting process is crucial to anyone who is involved in the development, licensing, implementation or purchase of standardized technologies.

II. OVERVIEW

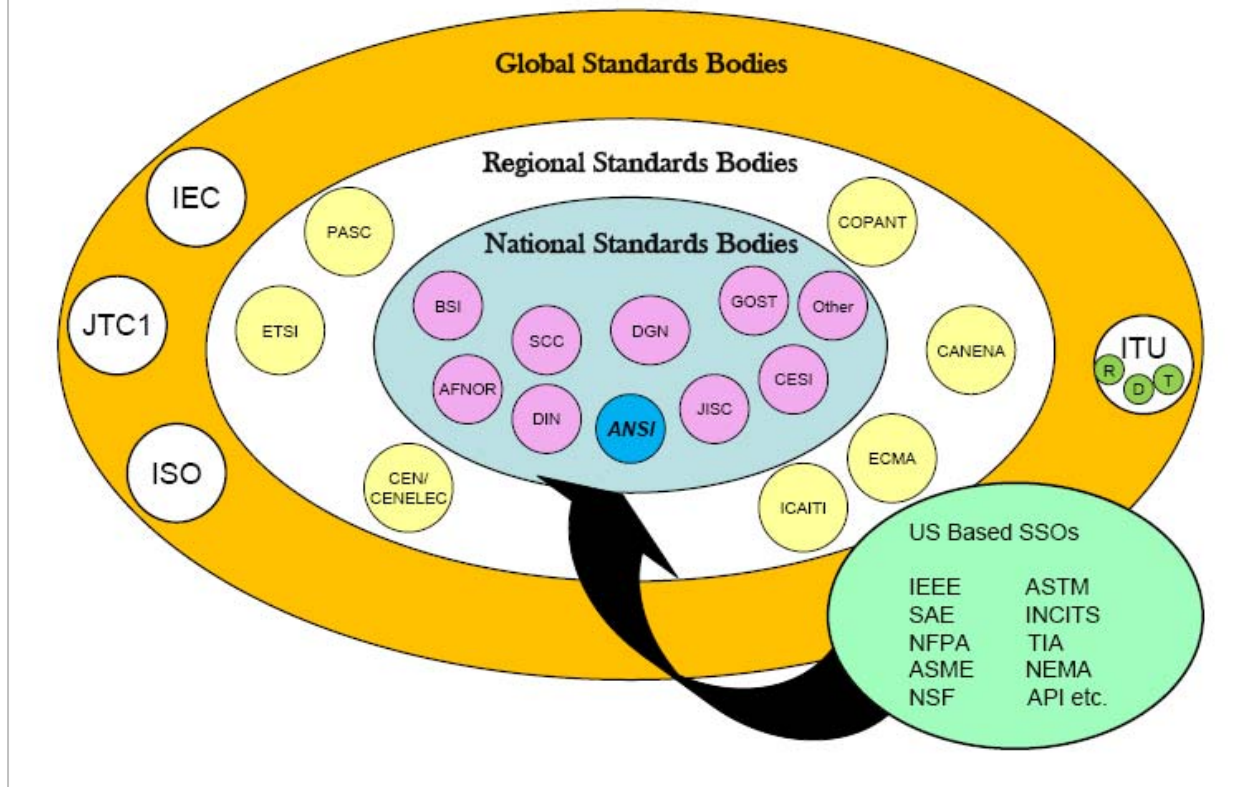
This paper begins with a review of the interrelationships between the different SSO levels (international, regional and national) and types (“formal standards setting bodies” and “consortia”). This paper then examines the standards development process, noting the general similarities across most SSOs. A key aspect of an SSO’s standards development process is the implementation of its patent policy¹ and this paper also provides a high level overview of the how the patent policy interacts with and supports the standards development process. Also described are those events in the standards development process that may trigger patent disclosure or licensing obligations under the applicable patent policy. Although there are many types of standards, this paper focuses on voluntary, market-driven standards that are developed in a consensus-based manner by SSOs.

III. SSO TAXONOMY

It is useful to classify SSOs by geographic scope at three levels: International Bodies; Regional Bodies; and National Bodies. Figure 1, *Global Standards Arena*, depicts the relationships among these levels of SSOs. Note that there are many attributes beyond geographic scope that may be used to characterize SSOs and not all SSOs fit neatly into the levels depicted in Figure 1, but such distinctions are beyond the scope of this introductory paper.

¹ This paper uses the term “patent policy” rather than intellectual property rights (IPR) policy. A patent policy may be one component of a broader IPR policy.

Global Standards Arena



<Figure 1 >

Source: based on diagram from Clyde Camp
<http://www.crcamp.com>

International Standards Setting Bodies

The outer ring in Figure 1 shows 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. Based in Geneva, Switzerland, these international standards developers are comprised of member countries and generally have broad standardization authority and significant longevity. Detailed descriptions of the ITU, ISO, IEC, and JTC1 are provided in Appendix A, *Overview of Select International, Regional and National Standards Setting Organizations*.

The standards developed by the ITU, ISO, IEC, and JTC1 (in some cases referred to as “Recommendations”) are considered “International Standards” and are recognized by national administrations around the world and are often referenced in official documents such as treaties (e.g. North American Free Trade Agreement). The standards developed and/or ratified by these International Bodies may be mandated by various governments. As a result, the output of the ITU, ISO, IEC, and JTC1 has significant recognition in trade and are widely referenced by national administrations.

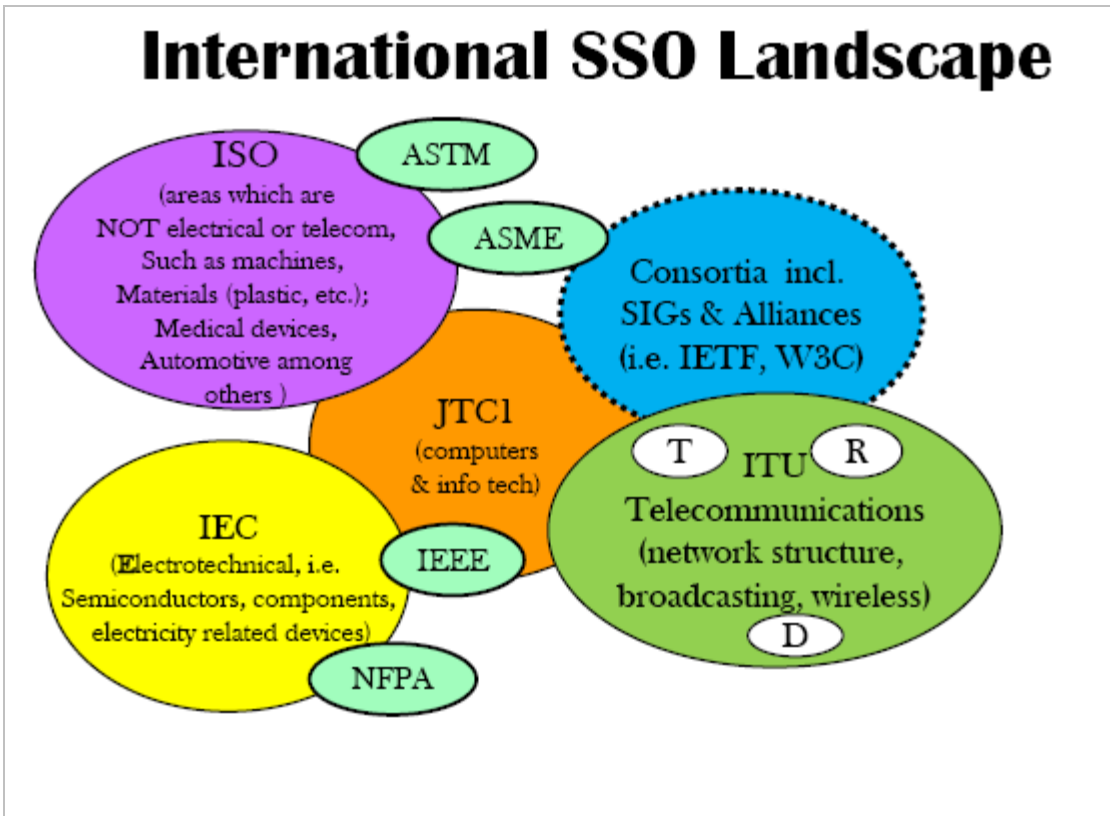
Standards produced by SSOs based in USA also have significant recognition in international trade and are also widely referenced by national administrations throughout the world. There are varying opinions, however, as to whether the standards developed by bodies other than the ITU, ISO, IEC, and JTC1 should be considered “International Standards.” For example, while ASTM International (formerly known as American Society for Testing and Materials or ASTM) has existed for over a hundred years and its standards are widely respected and implemented in every country throughout the world, yet certain national and regional administrations do not recognize ASTM standards as “International Standards.” For its part, the U.S. Government does not limit its definition of “international standard” to only standards that are developed by the ITU, ISO, IEC, and JTC1. The Office of the U.S. Trade Representative has indicated to the World Trade Organization (WTO) that the U.S. Government encourages the adoption of “international standards” to reduce Technical Barriers to Trade² and considers international standards originating from a wide variety of standards bodies, including those developed by Consortia (discussed below).

In part because of this difference of opinions among administrations as to which SSOs produce international standards, the SSOs (other than the ITU, ISO, IEC, and JTC1) with significant longevity and which develop standards widely used throughout the world are sometimes referred to as “Little i” organizations while the traditional international SSOS are sometimes referred to as “Big I” organizations. An overview of ASTM International and another U.S.-based SSO that has significant recognition in international trade – the Institute of Electrical and Electronic Engineers (IEEE) – is provided in Appendix A.

Increasing Cross-Referencing Between International Bodies

In the past, the standards for a particular product may have come within the ambit of a single SSO. Because of the widespread use of common technologies across disparate industries, SSOs now often cooperate to develop and implement technology-specific standards that cross industry boundaries. For example, the ITU has historically been the primary SSO for standards covering telecommunication products. With the widespread adoption of technologies such as multimedia that are used in, but not specific to, telecommunications products, the standards of other SSOs, such as those of the JTC1 and various consortia, have become pertinent to the telecommunications industry. Similarly, in the automobile industry the predominant SSO is ISO, but as a result of advances in technology, such as intelligent transportation systems which includes electronic tolls and automatic crash notification using wireless, ISO requires secondary inputs from standards developed by IEC, JTC1, and ITU. Figure 2, *International SSO Landscape*, depicts the international standardization arena for many industry sectors.

²Technical Barriers to Trade, Annex 3: Code Of Good Practice For The Preparation, Adoption And Application Of Standards <http://www.jurisint.org/pub/06/en/doc/16.htm>



<Figure 2 >

Regional Bodies

Regional standards developers are similar to international SSOs in that the standards that they develop and/or ratify may be mandated by national administrations in that region. These Regional Bodies often represent a number of countries in a region. An example of a regional SSO is the European Telecommunications Standards Institute (ETSI) which is recognized by the European Commission and whose standards can be referenced and/or mandated by 27 member nations. Additional information regarding ETSI can be found in Appendix A. In the case of the Western Hemisphere, the Pan American Standards Commission or, in Spanish, La Comisión Panamericana de Normas Técnicas (COPANT), is administrated through the governments of the various countries in the region and provides the standards community in the Americas with a forum to exchange information and views on international standardization activities and coordinate regional positions and input to the ISO and IEC.

National Bodies

Almost every country has some form of National Body to oversee and coordinate its standardization process. This National Body may be a governmental, quasi governmental (such as a trade association with strong input from the government) or a non-governmental body which oversees the country's standardization process.

In many countries, this National Body is integrated within the governmental agency associated with trade and commerce (for example, a government agency such as Ministry of Commerce) and it is that agency which coordinates official input to the international standardization bodies such

as the ISO and IEC. For example, the China Electronics Standardization Institute (CESI) is the official body that coordinates China's input to the JTC1. A short description of CESI is included in Appendix A.

Because the ITU is a specialized agency of the United Nations, many countries designate the governmental agency associated with input to the United Nations (such as the Ministry of Foreign Affairs in Japan) to be the National Body for standards input into the ITU. In the U.S., the Department of State provides the official input to the ITU in consultation with other related governmental entities (Federal Communications Commission, Department of Homeland Security, etc.) and views from the industry.

Some National Bodies are ostensibly trade associations composed of members from the same nation that are involved in a particular industry sector and which provide input to the international SSOs on behalf of that nation. Such associations may receive oversight from a governmental agency which may have final authority as to what the national position will be with regard to the country's input to the international SSOs. For example, in Brazil the government is heavily involved in ABINEE (the Brazilian Electrical and Electronics Industry Association) which provides input on behalf of Brazil to the IEC.

Other National Bodies are independent, non-profit entities. An example is the American National Standards Institute (ANSI) in the U.S. ANSI is the national body that provides input to the ISO and IEC on behalf of the U.S. ANSI itself does not develop standards, but rather oversees the standards process, accredits SSOs, and ratifies standards. ANSI's view of international standards can be found in its published United States Standards Strategy.³ A short description of ANSI is included in Appendix A.

Consortia

In addition to the formal standards setting bodies, Consortia play a large role in the standards development process. A "Consortium" generally refers to a collaboration of stakeholders with the common goal of the standardization of a specific technology or application. Consortia are often intended to have a global presence, but in some cases their focus is limited to regional or national interests. There are two general types of Consortia: Special Interest Groups, and large industry collaborations forming associations or alliances ("Alliances").

A Special Interest Group tends to focus on a single standard for a specific technology or industry. The Special Interest Group's activities are, in most cases, limited to the development and possibly promotion of the standard it is developing. The life cycle of a Special Interest Group is generally short lived and many are often disbanded after the standard is developed.

An Alliance, on the other hand, is comprised of members that work collaboratively to develop multiple related standards for a technology. In addition to standardization, the Alliance may offer other programs such as logo and certification programs, marketing and/or promotional events, or training and/or support services related to the technology being standardized. The life cycle of an Alliance may be relatively long since the scope of the technology is far reaching and continues to evolve.

³ United States Standards Strategy, http://www.ansi.org/standards_activities/nss/usss.aspx, also available in Spanish and Chinese

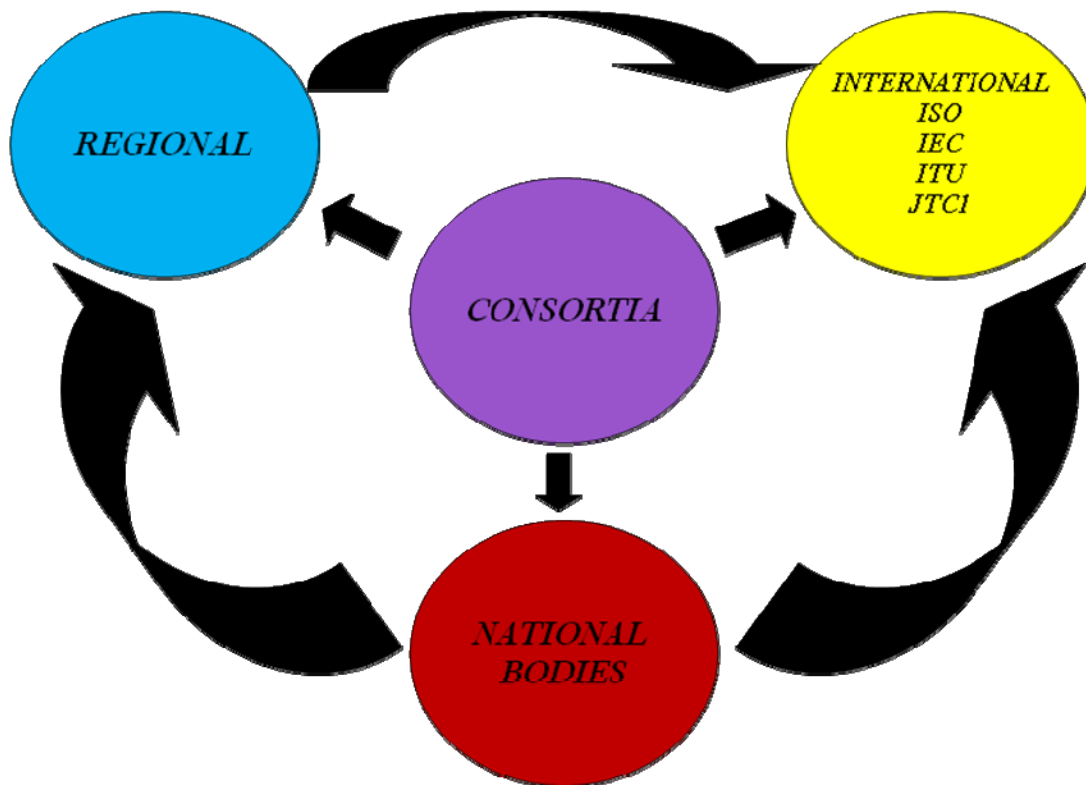
Relationships Among SSOs

The relationship between formal SSOs and Consortia is complex and interdependent. Before the advent of the computer and digital revolution, there was little, if any, relationship between Consortia and formal SSOs. The increasing need for interoperability and shorter development cycles has made it difficult, however, for formal SSOs to ignore prominent and widely adopted industry standards developed by Consortia specifically organized to meet those needs.

Over the past two decades, the standards developed by many Consortia have been recognized and accepted as input by national, regional and international SSOs. Prominent examples include the Internet Engineering Task Force (IETF) and World Wide Web Consortium (W3C), both of which provide input to many standards bodies at the national, regional and international level.

National, Regional, or International SSOs may formally ratify standards originally developed at Consortia and ratification by these bodies may result in broader adoption of the standard because the standard can then be referenced by national administrations in regulations.

Input of Consortia to Formal SSOs



<Figure 3>

As shown in Figure 3, *Input of Consortia to Formal SSOs*, there are many paths that a Consortium can pursue to contribute its standards to national, regional and/or international SSOs. Depending on the technology and the nature of its relationship with the SSO (that is, whether there is a formal agreement recognizing the Consortium's standards), a Consortium can contribute at many levels to the standards development process.

National Bodies may similarly broaden the adoption of their standards by having them ratified by regional or international SSOs. An example is IEEE which developed a standard for wireless Local Area Network (LAN) technology (IEEE 802.11) that was approved by ANSI as an U.S. National Standard and then subsequently approved by JTC1 as an International Standard. Likewise, Regional Bodies may expand the reach of their standards with the ratification of those standards by international SSOs such as when ETSI developed a wireless standard for mobile phones in Europe (GSM) which was subsequently adopted as an international standard by the ITU.

Some formal SSOs will only recognize or ratify standards developed by SSOs that meet certain recognized standards development process requirements. An example of a recognized standards development process is one that is accredited by ANSI. ANSI will audit an SSO's standards development processes and accredit the SSO if its processes comply with certain basic requirements set by ANSI. ANSI's requirements for accreditation promote a balance of interests, due process, openness, transparency, and consideration of all comments. The overview of ANSI on Appendix A includes background on the principles of the ANSI Essential Requirements for accreditation.

IV. SSO ORGANIZATIONAL STRUCTURES

Each SSO has a different governance and membership structure according to the scope of its technology, membership needs and institutional history. As explained above, the two main types of SSOs are formal, recognized bodies (international, regional, national bodies) and Consortia (single technology, short term Special Interest Groups, or multiple technologies, long term Alliances).

Special Interest Groups usually are unincorporated and formed through multiparty agreements. There may be different membership levels referred to by different terms such as promoters, adopters, or contributors. As the name implies, promoters usually have the most influence over the development and adoption of the standard. Often, only promoters and contributors may participate in the standard development activities of the Special Interest Group. Furthermore, membership has its privileges and members of a SIG may have exclusive access to the technology or be entitled to certain licensing conditions. Non-members are often denied access to the standards developed and approved by the Special Interest Group, or have limited access to the technology, and in most cases are not subject to any special licensing conditions which are exclusive to the members of the SIG.

Alliances are generally incorporated non-profit organizations consisting of voting and non-voting members. Alliances are governed by a Board of Directors or a similar steering committee and typically form a number of other committees to oversee project management, marketing, and standards development. The committees that develop standards are often referred to as technical committees or technical working groups.

A National Body will have a different structure depending on how it oversees the standards development process in its nation and seeks input to develop a national position for input into International Bodies. Some National Bodies have formal structure in relation to its nation's governmental agencies (e.g., Korea, Japan). Other National Bodies will have a relatively less formal structure and process for developing its national position for input into International Bodies. In the U.S., ANSI has two Councils which develop the U.S. position for input to ISO and IEC, respectively. While governmental input is accepted by these Councils, there is no governmental authority overseeing the process, and input is sought from all stakeholders in the standards process.

A Regional Body's structure will differ depending on whether it is a voluntary body or governmental body. COPANT is an example of a regional body which is administered by the national administrations of its region. ETSI is an example of a voluntary, regional SSO. Though it has a close relationship with the European Commission (EC) and is officially recognized as a European Standards Organization (ESO) by the EC, ETSI is a non-profit, voluntary standards organization with minimum input from governmental agencies.

Voting procedures in International Bodies (ITU, ISO, IEC, and JTC1) are designed so that each country member has a vote. A Regional Body's voting procedures might adhere to the one country, one vote principle as well, but could also vary according to its membership bylaws and technology focus.

V. ESTABLISHING THE RULES AND PROCEDURES OF AN SSO

To facilitate the standards development process and achieve the goal of developing standards which can be successfully commercialized, SSOs usually require that members agree in advance to abide by the rules of the SSO. SSOs often accomplish this by requiring that members sign a Membership Agreement (or other similarly titled agreement) as a condition to participating in the standards development process. When an SSO is incorporated, the Membership Agreement may incorporate by reference rules that can be found in the SSO's Bylaws. The Bylaws may also describe the development processes, classes of membership, voting rules, and other aspects of the SSO.⁴

The SSO's rules and policies regarding intellectual property may be comprised of several components, including the patent policy and other terms regarding copyright, trademark, and confidential information, and might be found in separate, standalone documents or be incorporated into the Membership Agreement, Bylaws or other documents.

It is important that an SSO member review the Membership Agreement, Bylaws (if applicable) and other governing documents to ensure that it understands the SSO's standards development process and complies with its responsibilities and obligations to the SSO and other members.




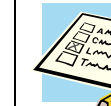
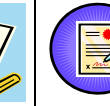




VI. STANDARDS DEVELOPMENT PROCESS

While SSOs have some latitude in defining their standards development process, there are usually similarities in the general milestones of the standards development process irrespective of the

⁴ See Jorge L. Contreras, ed., *Standards Development Patent Policy Manual* (American Bar Association, 2007).

SSO. Figure 4, *General Milestones in the Standards Development Process*, describes the key milestones in the standards development process that are common to many SSOs.⁵

GENERAL MILESTONES IN THE STANDARDS DEVELOPMENT PROCESS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
INITIA TE PROJE CT	DEVEL OP COMM. DRAFT	AGREE ON COMM. DRAFT	ISSUE COMM DRAFT. BALLOT	RESOL VE BALLO T COMM ENTS	DEVEL OP CONSE NSUS & ISSUE NEW BALLO T	PUBLIC COMM ENT, DEVEL OP CONSE NSUS & ISSUE FINAL BALLO T	FINAL APPRO VAL BY OVERSI GHT BODY	PUBLI SH
								

<Figure 4>

(1) Initiate Project

This step will vary from SSO to SSO but will likely include the development of proposals and charters, defining the scope of projects, and the formation of a technical committee⁶. Once approval has been given, a technical committee will usually begin to draft the standard.

(2) Develop Committee Draft

The drafting process typically involves technical contributions being submitted by the SSO members participating in the technical committee, the technical committee drafting a preliminary proposal, and then combining and refining proposals to form the proposed draft standard.

(3) Reach Agreement on Committee Draft

Once a somewhat stable document for the proposed draft standard is produced by the technical committee, agreement is sought to send the committee draft for ballot.

(4) Issue Committee Draft Ballot

The technical committee will issue a ballot among its members for the proposed Draft Standard and will receive comments and feedback during the comment period.

⁵ For reference purposes a copy of these common milestones in the standards development process is also attached as Appendix B.

⁶ In some SSOs the technical committee is referred to as a “working group.”

(5) Resolve Ballot Comments

The technical committee typically reviews the feedback, and incorporates comments as appropriate, and in some cases may modify, combine, or revise parts of the Draft Standard.

(6) Develop Consensus and Issue New Ballot

The technical committee attempts to reach consensus on the proposed standard and address each comment. When the technical committee believes that the proposed Draft Standard is mature, it approves it as a Proposed Standard.

(7) Seek Public Comment, Develop Consensus and Issue Final Ballot

The standard development process of many SSOs is open to any interested stakeholder, irrespective of participation in the applicable technical committee or even membership in the SSO. This helps ensure that the standards development process is balanced and that the resulting standard benefits from a broad base of expertise and achieves wider support from the interested user communities. In some SSOs, especially those which are formal, recognized bodies, an additional stage of balloting to a broader audience is required.

(8) Final Approval/Ratification by Oversight Body

Often after the technical committee has approved a proposed standard, it is sent to the SSO's governing body, such as the Board of Directors or General Assembly, for approval and/or ratification as a "Final Standard."

(9) Publication

Depending on the charter of the SSO, the published Final Standard may be made available to the SSO members only or to the public (for free or for a fee).

VII. SSO PATENT POLICIES & TRIGGER POINTS

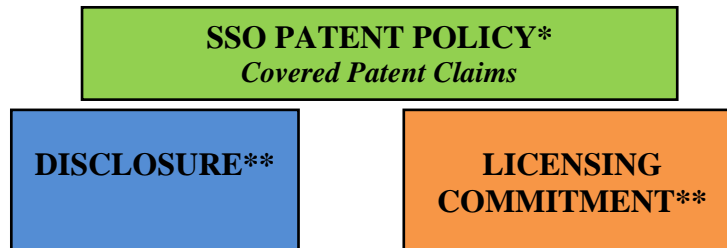
The common milestones in the standards development process serve as a reference in analyzing and understanding the terms of a particular SSO's patent policy regarding various disclosure obligations and/or patent licensing assurances or commitments. These milestones may also serve as trigger points under patent policies for certain disclosure and licensing obligations within an SSO.

The terms of an SSO's patent policy are influenced by a number of variables such as the characteristics of the SSO and the technology for which it is developing standards.⁷ An SSO will typically adopt a patent policy that will achieve its objectives given its structure and development processes, and balances the interest of all relevant stakeholders, *i.e.*, patent holders, product developers, manufacturers, consumers, and interested government entities. Links to a number of SSO patent policies are provided in Appendix C, *Sample Patent IPR/Patent Policy/Procedures Associated with Standards Development*.

There are generally two main components of an SSO patent policy: (1) patent disclosure, and (2) commitment to license patents. Key to both of these components is how the patent policy defines the patent claims that are covered by, and subject to, the patent policy. Figure 5, *Primary Components of an SSO Patent Policy*, illustrates these components.

⁷ See the *ABA Standards Development Patent Policy Manual* (Contreras 2007) for a comprehensive overview of the various provisions that may be found in SSO patent policies.

PRIMARY COMPONENTS OF AN SSO PATENT POLICY



* *The Patent Policy may contain either a disclosure or licensing commitment, or a combination of both.*

** *The specifics of each component, such as timing, what to disclose and/or commit, as well the mechanism and format, will vary for each SSO.*

<Figure 5 >

Defining Necessary (or Essential) Patent Claims

It is important to note that the scope and definition of the patent claims that are subject to a patent policy varies by SSO, and the definition of patent claims subject to either disclosure, or licensing, or both, is usually contained in the patent policy. These claims, sometimes called “Necessary Patent Claims” or “Essential Patent Claims” typically include those patent claims that are necessarily infringed – that cannot be avoided – by a party who implements the applicable standard.⁸ For the sake of simplicity this paper refers to such patent claims as “Necessary Claims.”

Disclosure

Patent disclosure relates to the rules the SSO adopts concerning the disclosure of patents that might contain “Necessary Claims.”

Some SSOs may offer a review period prior to the adoption of a draft standard to afford members an opportunity to review the draft standard and to disclose patents that contain “Necessary Claims.” Other SSOs may request that members disclose patents that contain Necessary Claims as early as possible, but there may be different levels of diligence regarding such disclosure based on (i) whether the patentee is a member of the technical committee or is submitting a contribution to the technical committee, and/or (ii) the maturity of the draft standard (i.e., where the standard is in the SSO’s approval process).

Some SSOs require parties to identify (or disclose) patents under specified circumstances, e.g. promptly when the member “knows” a patent claim is needed to implement the standard. It is thus important to understand how the patent policy ascribes knowledge to a member (i.e., whether

⁸ Contreras, *Standards Development Patent Policy Manual*, 10-18.

the institutional knowledge of the member organization or the actual knowledge of the individual participant is relevant).

Certain other patent policies require the disclosure of patents having Necessary Claims only if the patent owner is not willing to grant a license consistent with the SSO's patent policy (this is referred to as "negative disclosure").

The details regarding what information should be disclosed; the timing of the disclosure and the mechanism and format for disclosure may vary greatly from SSO to SSO, and may be included in other guiding documents in addition to the patent policy.

Licensing Commitment

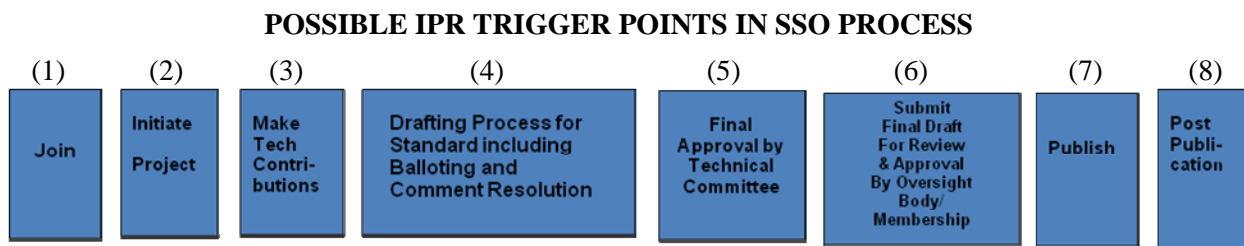
Some SSO patent policies may require members to license Necessary Claims (as defined by its policy) on reasonable and non-discriminatory ("RAND") terms and conditions or on RAND terms and conditions, but with no royalties, which is sometimes referred to as "RANDZ". One should note that the license commitment is not itself a license but rather a commitment to negotiate a license with those members and, in some cases, non-members that request a license.

Some SSO patent policies may require the member to submit a statement to the SSO regarding its willingness to license Necessary Claims. Typically these policies permit a patent holder to indicate that it is willing to license on RAND or RANDz terms and conditions, or specifically indicate that it is unwilling to license. Just as is the case with the disclosure obligations, the specifics regarding the timing, content and format of these licensing statements or assurances may vary significantly from SSO to SSO.

When the Patent Disclosure and Licensing Commitments are Triggered

Disclosure and licensing commitments are usually triggered by certain events that occur during the standards development process. For example, a party may be bound to obligations set forth in the patent policy when it signs the SSO's Membership Agreement. Or a member may only be required to submit a licensing commitment if that member joins a technical committee and that licensing commitment may only become effective upon adoption by the SSO of the standard developed by that particular technical committee. For other SSOs, the patent policy may require a licensing commitment, on RAND terms and conditions for example, for any standard developed by the SSO.

The points in the standards development process at which a member's disclosure and/or licensing rules may possibly be triggered are shown in Figure 6, *Possible IPR Trigger Points in SSO Process*.



<Figure 6 >

To further illustrate how an SSO's patent policy interacts with and supports the SSO's governance structure and standards development process, a visual representation of the different stages of the standards development process and the typical IPR trigger points can be found on Appendix D, *Interaction of SSO Process and IPR Policy*.

Because the disclosure and licensing commitment may impose significant obligations on SSO members, it is important for members to understand when those obligations, if any, are triggered under the terms of the applicable patent policy.

VIII. CONCLUSION

This paper is intended to describe key concepts associated with the standards development process and patent policies, including the relationships between different categories of SSOs and their organizational structures the standards development process, and the development milestones which may trigger patent disclosure or licensing obligations under the applicable patent policy. An understanding of the concepts described herein will provide a greater understanding of the patent-related issues that arise in the context of standards setting.

The second paper in this series will address patent-related issues that may arise when implementing a standard, commercializing standardized technology, or purchasing standardized technology for one's own use.

APPENDIX A: OVERVIEW OF SELECT INTERNATIONAL, REGIONAL AND NATIONAL STANDARDS SETTING ORGANIZATIONS

EXAMPLES OF INTERNATIONAL STANDARDS BODIES

IEC

The **International Electrotechnical Commission (IEC)** (www.iec.ch) is a not-for-profit, non-governmental international standards organization that prepares and publishes International Standards for all electrical, electronic and related technologies – collectively known as "electrotechnology". IEC was established in 1904 and is based in Geneva. IEC standards cover a vast range of technologies from power generation, transmission and distribution to home appliances and office equipment, semiconductors, fiber optics, batteries, solar energy, nanotechnology and marine energy as well as many others. The IEC also manages conformity assessment schemes that certify whether equipment, systems or components conform to its International Standards. The IEC publishes standards with the IEEE and develops standards jointly with the ISO as well as the ITU.

ISO

The **International Organization for Standardization** (*Organisation internationale de normalisation*), (www.iso.org) known as **ISO**, is an international standards-setting body composed of representatives from various national standards organizations. Founded on February 23, 1947 and based in Geneva, ISO promulgates worldwide industrial and commercial standards.

The scope of ISO work program ranges from standards for traditional activities, such as agriculture and construction, through mechanical engineering, manufacturing and distribution, to transport, medical devices, information and communication technologies. In addition, ISO creates standards for good management practice and for services such as ISO 9000 which is family of standards for quality management of business processes.

Joint Technical Committee 1 (JTC1)

ISO/IEC JTC 1 is the Joint Technical Committee of the International Organization for Standardization (ISO) (www.iso.org/iso/iso_technical_committee?commid=45020) and the International Electrotechnical Commission (IEC). To deal with the consequences of substantial overlap in areas of standardization and work related to information technology, ISO and IEC formed a Joint Technical Committee in 1987 known as the ISO/IEC JTC1. It was the first such committee, and to date remains the only one. There are currently 17 sub-committees:

JTC1's official mandate is to develop, maintain, promote and facilitate IT standards required by global markets meeting business and user requirements concerning

- the design and development of IT systems and tools
- the performance and quality of IT products and systems
- the security of IT systems and information
- the portability of application programs
- the interoperability of IT products and systems
- the unified tools and environments

- the harmonized IT vocabulary, and
- the user-friendly and ergonomically-designed user interfaces.

ITU

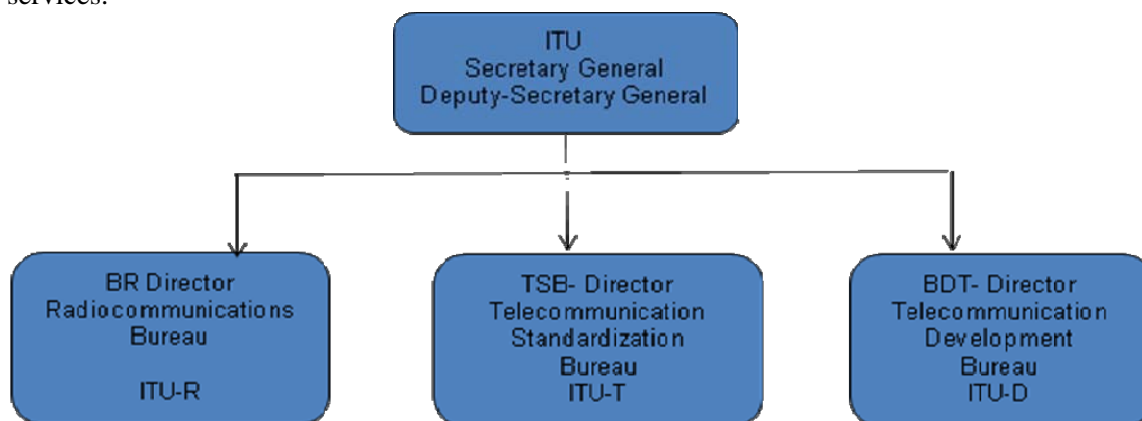
The **International Telecommunication Union (ITU)** (www.itu.int) is an international organization established to standardize and regulate international radio and telecommunications. It was founded as the *International Telegraph Union* in Paris in 1865. It became a United Nations (UN) specialized agency in 1947, and the International Telegraph and Telephone Consultative Committee (CCITT) in 1956. It was renamed in ITU in 1993.

ITU's main tasks include standardization, allocation of the radio spectrum, and organizing interconnection arrangements between different countries to allow international phone calls. It is one of the specialized agencies of the United Nations, and has its headquarters in Geneva, Switzerland. It is divided into three bureaus: Telecommunication (ITU-T), Radiocommunication (ITU-R), and Development (ITU-D).

The ITU-R coordinates matters to do with radio communication services, radio-frequency spectrum management and wireless services.

The ITU-T mission is to ensure the efficient and on-time production of high quality standards covering all fields of telecommunications on a worldwide basis, as well as defining tariff and accounting principles for international telecommunication services.

The ITU-D is focused on technical assistance to developing countries and countries with economies in transition in order to allow the development of telecommunication networks and services.



EXAMPLES OF “INTERNATIONAL STANDARDS BODIES” (LITTLE “I”)

ASTM International

ASTM International (ASTM) (www.astm.org), established in 1898 and originally known as the American Society for Testing and Materials, is an international organization that develops and publishes voluntary consensus standards used around the world for a wide variety of

materials, products, systems and services. Technical fields range from chemical products, energy and building construction—to medical devices, consumer products and nanotechnology. Headquartered in West Conshohocken, Pa., ASTM International also has offices in Beijing and Mexico City.

ASTM's 12,000 specifications, test methods, guides and practices are developed and maintained in an open and balanced consensus process involving 30,000 members, from 142 countries, working within 140 different ASTM technical committees. The organization meets the World Trade Organization (WTO) principles for the development of international standards: coherence, consensus, development dimension, effectiveness, impartiality, openness, relevance and transparency. ASTM's use of advanced Internet-based standards development tools further ensures worldwide access for all interested individuals.

ASTM International standards are accepted and used globally in research & development, product testing, quality systems and commercial transactions. Over 3,000 ASTM standards have been adopted as the basis of national standards or are referenced in the national portfolios of countries outside the United States. ASTM International standards facilitate trade, lower production costs and position companies to produce products that meet users' needs for quality, reliability and safety.

IEEE

Institute for Electrical and Electronic Engineers (IEEE) (www.ieee.org) is an ANSI-accredited organization which covers a wide array of technologies.

The scope of IEEE Standardization activities falls within the technological field stated in the IEEE Constitution (see [9]): the advancement of the theory and practice of electrical engineering, electronics, radio and the allied branches of engineering, and the related arts and sciences. This scope includes the defined scopes of the Societies and the Technical Committees. As a transnational organization IEEE strives to generate standards publications that will have the broadest potential international acceptance.

The IEEE Standards Board has overall responsibility for IEEE Standards development and approval, and sole responsibility for appointment to and participation in, cooperation with, other organizations on all standards matters. IEEE develops and publishes standards in such categories as definitions and terminology; methods of measurement and tests; ratings structures, temperature limits, application guides; recommended practices; and safety. Rating and dimensional information included in an IEEE Standard should result from technical considerations. Arbitrary rating information developed by other competent organizations may be included provided it is consistent with good engineering practice. The approval and publication of an IEEE Standard implies that the document represents a consensus of all parties who have participated in its development and review. Since every attempt is made to involve all interests in the activity, it can be presumed that the document represents a consensus of all interests concerned with the scope of the standard. When appropriate, IEEE will cooperate with standardizing groups throughout the world in the preparation of standards involving an area of interest within its scope. Approval by the IEEE signifies that the IEEE believes the document to be consistent with good engineering practice.

EXAMPLE OF A REGIONAL BODY (EUROPE)

ETSI

The **European Telecommunications Standards Institute (ETSI)** (www.etsi.org) is an independent, non-for-profit, standardization organization of the telecommunications industry (equipment makers and network operators) in Europe, with worldwide projection. ETSI has been successful in standardizing the GSM cell phone system.

ETSI was created by European Conference of Postal and Telecommunications Administrations (CEPT) in 1988 and is officially recognized by the European Commission and the EFTA secretariat. Based in Sophia Antipolis (France), ETSI is officially responsible for standardization of Information and Communication Technologies (ICT) within Europe. These technologies include telecommunications, broadcasting and related areas such as intelligent transportation and medical electronics. ETSI has 696 members from 62 countries/provinces inside and outside Europe, including manufacturers, network operators, administrations, service providers, research bodies and users — in fact, all the key players in the ICT arena.

EXAMPLE OF A NATIONAL BODY (USA)

ANSI

The **American National Standards Institute (ANSI)** (www.ansi.org) is a US-based organization that is not a standards developer but rather an accreditor of standards bodies in the USA. ANSI is not a government organization but rather a non-profit neutral body which accredits standards developers. There are over 200 ANSI-accredited SDOs, and of those, the 20 largest SDOs produce 90% of the standards developed in the USA. Although ANSI itself does not develop American National Standards (ANSs), it provides all interested U.S. parties with a neutral venue to come together and work towards common agreements. The process to create these voluntary standards is guided by the Institute's cardinal principles of consensus, due process and openness and depends heavily upon data gathering and compromises among a diverse range of stakeholders. The Institute ensures that access to the standards process, including an appeals mechanism, is made available to anyone directly or materially affected by a standard that is under development. The organization's thousands of individuals, companies, government agencies and other organizations such as labor, industrial and consumer groups voluntarily contribute their knowledge, talents and efforts to standards development.

In order to maintain ANSI accreditation, standards developers are required to consistently adhere to a set of requirements or procedures known as the “[*ANSI Essential Requirements: Due process requirements for American National Standards*](#),” that govern the consensus development process. The hallmarks of the American National Standards process include:

- process **open** to any direct and materially interested party
- **consensus** must be reached on a proposed standard by a group or “consensus body” that includes representatives from materially affected and interested parties;
- draft standards are required to undergo one or more **open public reviews** during which time any member of the public may submit comments;

- all comments submitted by voting members of the relevant consensus body and by public **review commentors must be evaluated, responded** to and if appropriate, incorporated into the draft standard; and
- anyone believing that due process principles were not sufficiently respected during the standards development process has the **right to appeal** in accordance with the ANSI-accredited procedures of the standards developer.

EXAMPLE OF NATIONAL BODY (CHINA)

CESI

China Electronics Standardization Institute (CESI) (www.en.cesi.cn) is a nonprofit institution authorized by the Chinese government to engage in standardization and conformity assessment activities in the field of electronic information technologies.

CESI is responsible for developing national and industrial standards for electronic information technologies based on the principle of consensus and transparency. CESI participates in international standardization activities in the field of electronic information technologies through JTC1 to safeguard its national interests.

CESI carries out standardization activities in the field of electronic information technology corresponding to the following ISO and IEC technical committees and subcommittees. Its activities include those of JTC1 and IEC Technical Committee 3 (TC3) "Information Structures, Documentation and Graphical Symbols" Subcommittee 3D (SC3D), Data Set for Libraries.








CESI serves as the Secretariat for several National Standardization Technical Committees including the Technical Committee for Audio, Video and Multimedia System and Equipment, Integrated Circuits, RF Connectors, Safety of Electronic Products, Communication Equipment, Radio-Interference measurements and Statistical methods, Interference relating to Information Technology Equipment, Information Technology, Electronic Measuring Equipment, Printed Circuits, Capacitors and Resistors for Electronic Equipment, Electromechanical parts for Electronic Equipment, Electron Vacuum Devices, Data Sets for Libraries of Electronic Components Data and Piezoelectrical Ceramics.



Authorized by the Ministry of Information Industry, CESI is responsible for the publishing and distributing of electronic industrial standards (SJ), professional periodical publications "Information Technology & Standardization" and "Safety & EMC". SJ standards in CD-ROM and GB, GJB in electronic text are available from the center.

In accordance with the rules and regulations developed by the National Committee for supervising Certification and Accreditation CESI operates product certification, quality system certification, safety and EMC tests, measurements and calibration to provide both trading sides with evidences for impartial assessment and assist the government in regulating marketing practice so as to promote trade and protect consumers' legitimate rights and interests.

APPENDIX B: GENERAL MILESTONES IN THE STANDARDS DEVELOPMENT PROCESS

While Standards Setting Organizations (SSOs) have some latitude in defining their standards development process, there are usually similarities in the general milestones of the standards development process irrespective of the SSO. These milestones may also serve as trigger points for certain obligations as defined in the applicable patent policy. The key milestones in the standards development process that are common to many SSOs are described below.

General Milestones in the Standards Development Process			Brief Description
1	INITIATE PROJECT		This step will vary from SSO to SSO but will likely include the development of proposals and charters, defining the scope of projects, and the formation of a technical committee. Once approval has been given, a technical committee will usually begin to draft the standard.
2	DEVELOP COMMITTEE DRAFT		The drafting process typically involves technical contributions being submitted by the SSO members participating in the technical committee, the technical committee drafting a preliminary proposal, and then combining and refining proposals to form the proposed draft standard.
3	REACH AGREEMENT ON COMMITTEE DRAFT		Once a somewhat stable document for the proposed draft standard is produced by the technical committee, agreement is sought to send the committee draft for ballot.
4	ISSUE COMMITTEE DRAFT BALLOT		The technical committee will issue a ballot among its members for the proposed Draft Standard and will receive comments and feedback during the comment period.
5	RESOLVE BALLOT COMMENTS		The technical committee typically reviews the feedback, and incorporates comments as appropriate, and in some cases may modify, combine, or revise parts of the Draft Standard.
6	DEVELOP CONSENSUS AND ISSUE NEW BALLOT		The technical committee attempts to reach consensus on the proposed standard and address each comment. When the technical committee believes that the proposed Draft Standard is mature, it approves it as a Proposed Standard.
7	SEEK PUBLIC COMMENT, DEVELOP CONSENSUS AND ISSUE FINAL BALLOT		The standard development process of many SSOs is open to any interested stakeholder, irrespective of participation in the applicable technical committee or even membership in the SSO. This helps ensure that the standards development process is balanced and that the resulting standard benefits from a broad base of expertise and achieves wider support from the interested user communities. In some SSOs, especially those which are formal, recognized bodies, an additional stage of balloting to a broader audience is required.

8	FINAL APPROVAL AND RATIFICATION BY OVERSIGHT BODY		Often after the technical committee has approved a proposed standard, it is sent to the SSO's governing body, such as the Board of Directors or General Assembly, for approval and/or ratification as a "Final Standard."
9	PUBLICATION		Depending on the charter of the SSO, the published Final Standard may be made available to the SSO members only or to the public (for free or for a fee).

APPENDIX C: SAMPLE IPR/PATENT POLICY/PROCEDURES ASSOCIATED WITH STANDARDS DEVELOPMENT

Below is a list of links to sample SDO patent policies that are publicly available. The policies referenced in this list are not exhaustive & listing of the policies does not constitute an endorsement by the IPO.

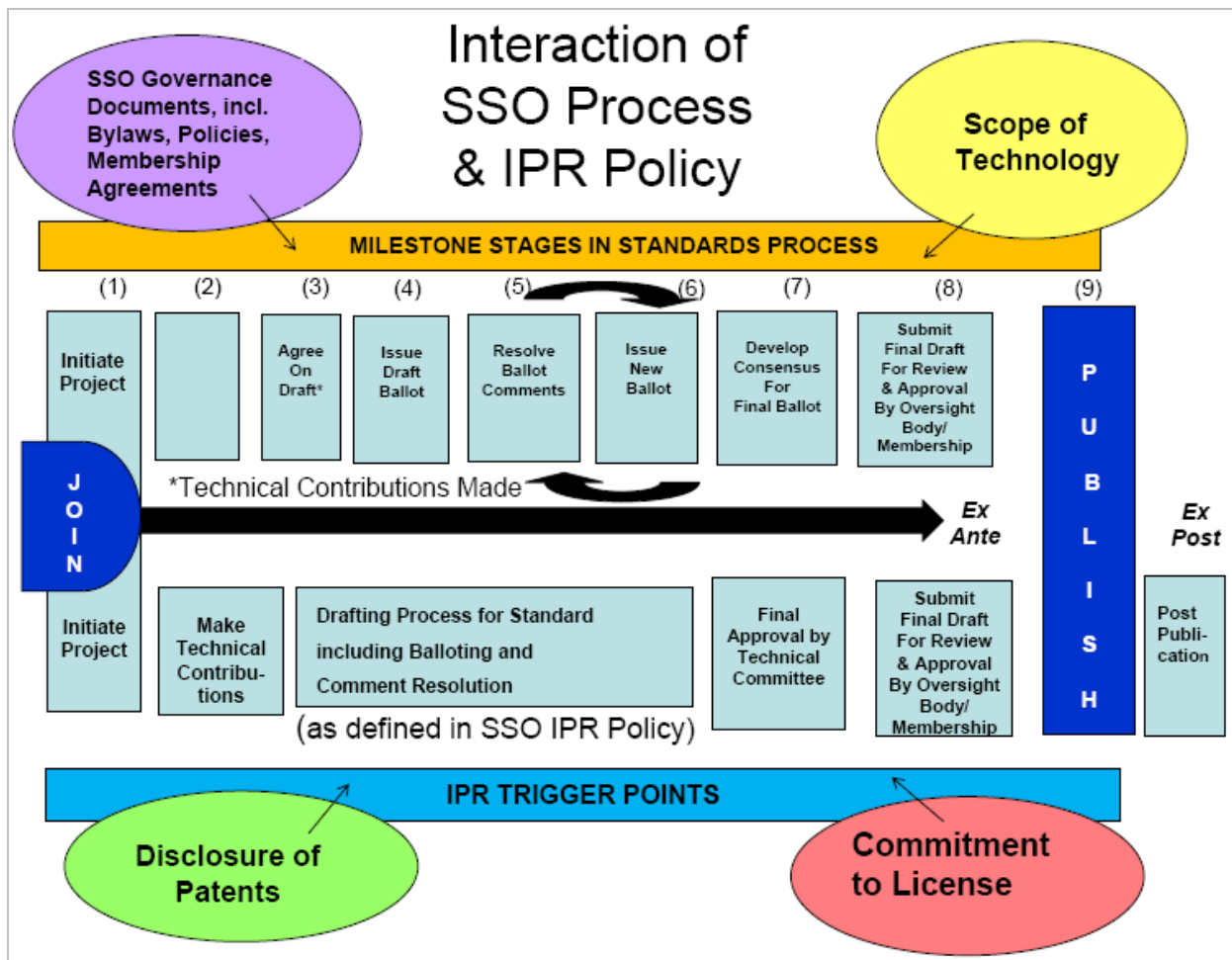
ORGANIZATION	WEB LINK (as of 1/1/2009)
ANSI	http://www.ansi.org/standards_activities/domestic_programs/overview.aspx?menuid=3
ASTM	http://www.astm.org/COMMIT/Regs.pdf
ATIS	http://www.atis.org/atisop.pdf
ATSC	http://www.atsc.org/policy_documents/
BIAN	http://www.bian.org/membership/how_to_join/index_en.html
CEA	http://www.ce.org/Standards/StandardsDevelopment.aspx
ETSI	http://www.etsi.org/legal/
IEEE	http://standards.ieee.org/board/
IETF	http://www.ietf.org/overview.html
INCITS	http://www.incits.org/membership/membership.html
ISO/IEC/ITU	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/3770791/customview.html?func=ll&objId=3770791&objAction=browse
JEDEC	http://www.jedec.org/Home/manuals/default.cfm
OASIS	http://www.oasis-open.org/who/ipr/ipr_faq.php
OMA	http://www.openmobilealliance.org/about_OMA/ipr.html
SDA	http://www.sdcard.org/membership/index.html
TIA	http://www.tiaonline.org/standards/procedures/manuals/
VESA	http://www.vesa.org/Policies/ipp.htm
VITA	http://www.vita.com/disclosure/
W3C	http://www.w3.org/Consortium/Patent-Policy-20040205/
WiFi Alliance	http://www.wi-fi.org/governing_documents.php

REFERENCES

American Bar Association (ABA) Standards Development Patent Policy Manual

<http://www.abanet.org/abastore/index.cfm?section=main&fm=Product.AddToCart&pid=5450050>

APPENDIX D: INTERACTION OF SSO PROCESSES AND IPR POLICY



Visual representation of the different stages of the standards development process and the typical IPR trigger points to help illustrate how an SSO's patent policy interacts with and supports the SSO's governance structure and standards development process.