Demystifying IEEE 802 Standards (segment 3)

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IEEE—A Global Organization

IEEE is a non-profit organization for scientific and educational advancement

IEEE is made up of international technical professionals living around the world who are fostering technological innovation and excellence for the benefit of humanity
IEEE Today

World’s largest technical professional society

- Over 382,000 members
  - 160+ countries
- Geographic and technical groupings
- 900 international conferences annually
- Publishes 30% of the world’s literature in its fields
  - 1.7 million documents in IEEE/IET Electronic Library
- Fosters technical innovation in many areas
  - 38 societies and 6 technical councils represent wide range of IEEE technical interests
44 IEEE Technical Societies/Councils

- Aerospace & Electronic Systems
- Antennas & Propagation
- Broadcast Technology
- Circuits & Systems
- Communications
- Components, Packaging, & Manufacturing Technology
- Computer
- Computational Intelligence
- Consumer Electronics
- Control Systems
- Council on Electronic Design Automation
- Council on Superconductivity
- Dielectrics & Electrical Insulation
- Education
- Electromagnetic Compatibility
- Electron Devices
- Engineering in Medicine & Biology
- Geoscience & Remote Sensing
- Industrial Electronics
- Industry Applications
- Information Theory
- Intelligent Transportation Systems
- Instrumentation & Measurement
- Lasers & Electro-Optics
- Magnetics
- Microwave Theory & Techniques
- Nanotechnology Council
- Nuclear & Plasma Sciences
- Oceanic Engineering
- Power Electronics
- Power Engineering
- Product Safety Engineering
- Professional Communication
- Reliability
- Robotics & Automation
- Sensors Council
- Signal Processing
- Social Implications of Technology
- Solid-State Circuits
- Systems Council
- Systems, Man, & Cybernetics
- Technology Management Council
- Ultrasonics, Ferroelectrics, & Frequency Control
- Vehicular Technology
How the IEEE-SA Fits Organizationally within IEEE
IEEE Standards Association

- Oversees development of standards within IEEE
- Global Membership
  - Over 7,000 individual members
  - 161 corporate members
  - Approximately 20,000 participants
- Broad Standards Portfolio
  - Approximately 1,000 active standards
  - Approximately 400 standards in development
- Governed by volunteers
- An independent organization
  - Participants come together to develop standards independent of any government organization
IEEE-SA Mission

To enable and promote the collaborative application of technical knowledge to advance economic and social well-being

IEEE-SA Values

- Consensus
- Due process
- Openness
- Right of appeals
- Balance

WTO Core Principles

To ensure:
- Global and timely market relevance
- Technical integrity and excellence
- Collaboration and community building
IEEE-SA Global Strategy

- Maintain a strong global standards perspective in IEEE
- Leverage IEEE expertise, competence, track record, and processes to achieve global standards goals
- Provide a forum to develop market-relevant standards
- Recognize and promote
  - Emerging technologies
  - Standards life cycle requirements
  - Regulatory harmonization
  - Society betterment
IEEE-SA Agreements

Agreements in place or under development in:

- China
- Japan
- Korea
- Europe
- Canada
- Middle East
- Brazil
- South Africa
IEC/IEEE Dual Logo Agreement

- Approved IEEE Standards are eligible for submission
  - IEC adoption takes about six months
- IEC national members have the same rights regarding adoptions as with other IEC standards
- Dual Logo Standards currently exist in:
  - Design Automation
  - Microprocessors
  - Switchgear
  - Transformers
- Joint Development addendum to agreement enables both organizations to work collaboratively
  - Joint copyright and distribution rights
  - Maintenance procedures developed
ISO/IEEE PSDO Agreement

- Addresses adoptions and joint development work
- Covers the following areas:

  - ISO TC 204: Intelligent transportation
  - ISO TC 215: Point-of-care medical device standards
  - ISO/IEC JTC 1
    - SC 6 LAN/MAN
    - SC 7 Software Engineering
    - SC 22 POSIX
    - SC 25 Microprocessors
    - SC 31 Sensor Technology
    - SC 36 Learning Technology
ITU and IEEE

- The IEEE is a Sector Member of
  - ITU-R (Radiocommunications)
  - ITU-T (Telecommunications)
  - ITU-D (Developing Nations)

- Example technical areas
  - Radio regulatory activities
  - Mobile broadband wireless access

- Joint workshops
  - 2008: ITU-T/IEEE Workshop on Next Generation Optical Access Systems
  - 2007: ITU-T/IEEE Workshop on Carrier-Class Ethernet
ITU and IEEE upcoming events

- **IEEE 802.1 HILI interim meeting series**
- **IEEE 802.3 Ethernet interim meeting series**
  - Monday 24th to Thursday 27th May, 2010
  - ITU headquarters, Geneva, Switzerland

- **The Future of Ethernet Transport**
  - ITU-T/IEEE-SA Joint workshop
  - Friday 28th May
  - ITU headquarters, Geneva, Switzerland

- No meeting fee for either event
Standards Education in Technology Programs
Mission of the Standards Education Committee

1. Promote the importance of standards in meeting technical, economic, environmental, and societal challenges.

2. Secure and disseminate learning materials on the application of standards in the design and development aspects of educational programs.

3. Secure and provide short courses about standards needed in the design and development phases of professional practice.

4. Actively promote the integration of standards into academic programs.

5. Lead other education initiatives planned jointly by EAB and the SA as needed.
IEEE’s Key Interests in Education about Standards

- At the university level
  - Development of curricula
  - Accreditation criteria
  - Providing an “entry point” to the world of standards

- At the post-university level (continuing education)
  - Familiarizing engineers with the standard development process
  - Education about specific standards (e.g., the IEEE 802 family)
University Level Education

Some of IEEE’s Current Activities

- Promoting a policy paper on the role of Standards in academic programs in Engineering, Technology, and Computing
  - States the desired role of technical standards in the academic curriculum
  - Being used in model curriculum development and in discussions with accrediting bodies

- Access to IEEE Standards
  - About 450 schools worldwide have full access to IEEE standards through the IEEE/IET Electronic Library
  - About 10 schools make use of this feature...

- Providing free educational content online through Standards Education Web portal
Standards Education Website

http://standardseducation.org
IEEE Mini-grants

IEEE Mini-Grants
for University Student Design Projects
with Student Application Papers

$500 Grant for students with additional mini-grants for faculty mentors

The IEEE is offering Grants to both students and faculty mentors to help with student design projects with an industry standards component. *IEEE will publish the results as a Student Application Paper.

Requirements:

Student(s) beginning a design or development project will submit an Application and Abstract Summary describing the project, which includes:

1. Summarizing the project goal (i.e., what are you trying to build?)
2. What technical standards are being considered to achieve the project goal?
3. Declaration of intention to submit a final application paper for publication by the IEEE upon completion of the project.
4. Statement of endorsement from a faculty mentor.
IEEE Mini-grants (con’t)

Important Dates:

- Applications may be submitted at any time throughout the year. Final Student Application Papers are due within six months of approval of application.

- The Standards Education Committee will review applications according to the following schedule:
  - 15 June 2010
  - 15 October 2010
  - 30 January 2011

- For more information and to download an application please visit: http://standardseducation.org/applications/ or contact stdseducation@ieee.org


Additional Information

Website
http://www.standardsseducation.org

IEEE Standards Education Committee Chair
- David Law, David_Law@ieee.org

IEEE Standards Education Committee Vice-chair
- Amin Karim, akarim@devry.edu

IEEE Standards Education Program Manager
- Jennifer McClain, j.mcclain@ieee.org
The IEEE-SA Standards Process
What do good standards offer?

A balanced blend of

- Technical alternatives
- Economic needs
- Global requirements
IEEE-SA Individual and Corporate Standards Development

*Open, consensus process*

- Individual standards development
  - Each individual has one vote
- Corporate standards development
  - One company/one vote

- Results frequently adopted by national, regional, and international standards bodies
Five principles guide standards development

Ensuring integrity and wide acceptance for IEEE standards

IEEE standards follow the standardization principles as stated by the WTO
Due Process

- Develop operating procedures
- Publish and make procedures available
- Follow procedures
Openness

- Everyone has access to the process
- Make information and actions publicly available for examination
- Include all materially interested and affected parties
- Avoid antitrust situations/appearance of collusion
- Opportunity to participate does not necessarily mean membership or a vote
Consensus

- Agreement among the majority
  - Not 100% agreement

- Defined in the IEEE Sponsor balloting rules as 75% of 75%
Consensus

- Obligation to the majority
  - Approve and make available expeditiously

- Obligation to the minority
  - Attempt to resolve comments
Balance

- Representation from all materially interested and affected parties
  - Goal for development
    - Encourage participation during standard’s draft development stages
  - Mandatory for balloting
    - Lack of dominance by any one interest group
    - Common categories for interest groups: Producer, user, and general interest
Right of Appeal

- The right to initiate a challenge of the process
- Bases of appeal can be
  - Technical (within Sponsor)
  - Procedural
Three Choices for Standardization

- **Standards**
  - Documents with mandatory requirements

- **Recommended Practices**
  - Documents with preferred procedures and positions

- **Guides**
  - Documents with suggested approaches to achieve good practice but with no clear-cut recommendations
Standards Development Process Flow

1. Idea!
2. Project Approval Process
3. Develop Draft Standard (in Working Group)
4. Sponsor Ballot
5. IEEE-SA Standards Board Approval Process
6. Publish Standard
7. Reaffirm, revise, or withdraw standards

Maximum of 4 years

Maximum of 5 years
IEEE 802 Standards Development Overview

- Approved Project Authorisation Request (PAR), 5 Criteria
- Task Force review
  - Completed Draft
- Working Group Ballot
  - Pass Working Group Ballot
- Sponsor Ballot
  - Pass Sponsor Ballot
- Standards Board Approval

Votes on technical issues requires a minimum of 75% approval to pass
Balloting Response and Results

- Requires at least 75% response from balloters
- Requires at least 75% approval from those who respond
- Working group attempts to resolve negative comments from balloters
- Revised draft and comments are then recirculated to ballot group
  - Comments on new or changed portions of recirculated draft must be addressed
- Recirculations continue until 75% approval is achieved without new negative votes
Balloting process

Initial Ballot

Recirculation ballot
Including revised text and unresolved negative ballots

Task Force meets to consider all comments

New Unresolved Negatives

Technical changes

Yes

No

Yes

No

Ballot complete
Approval and Publication

- Approval of standard is granted by IEEE-SA Standards Board
- Standard published after approval
- Standard is valid for 5 years after approval
  - After 5 years, must be revised, reaffirmed, or withdrawn
Summary

- The IEEE Standards Association
  - Fosters an environment of mutual respect amongst all participants
  - Recognizes the value of partnership and collaboration

- IEEE standards
  - Strive to achieve a balanced blend of technical alternatives, economic/market needs, and political views
  - Adhere to five imperative principles of standards development
IEEE & IEEE-SA Resources

- **IEEE-SA Today**
  - [http://www.youtube.com/watch?v=07AGCXRYxE0](http://www.youtube.com/watch?v=07AGCXRYxE0)

- **IEEE Xplore = Standards!**
  - [http://ieeexplore.ieee.org/xpl/standards.jsp](http://ieeexplore.ieee.org/xpl/standards.jsp)

- **IEEE Standards Information Network: Guides, Handbooks, and Tutorials**

- **Press Releases**

- **IEEE-SA News**

- **IEEE Conferences**
2007 IEEE-SA Patent Policy

Introduction to IEEE-SA patent policy
Inclusion of Potential Essential Patent Claims
Inclusion of Essential Patent Claims in standard

IEEE standards may be drafted in terms that include the use of Essential Patent Claims. If the IEEE receives notice that a [Proposed] IEEE Standard may require the use of a potential Essential Patent Claim, the IEEE shall request licensing assurance, on the IEEE Standards Board approved Letter of Assurance form, from the patent holder or patent applicant. The IEEE shall request this assurance without coercion.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 1

“Essential Patent Claim” shall mean any Patent Claim the use of which was necessary to create a compliant implementation of either mandatory or optional portions of the normative clauses of the [Proposed] IEEE Standard when, at the time of the [Proposed] IEEE Standard’s approval, there was no commercially and technically feasible non-infringing alternative. An Essential Patent Claim does not include any Patent Claim that was essential only for Enabling Technology or any claim other than that set forth above even if contained in the same patent as the Essential Patent Claim.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 6

“Patent Claim(s)” shall mean one or more claims in issued patent(s) or pending patent application(s).

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 8
Inclusion of Essential Patent Claims in standard

- **Essential Patent Claim**
  - In issued or pending patent applications
  - Either mandatory or optional portions of standard
  - Determined as of time of the standards approval
    - Necessary to create compliant implementation
    - No commercially and technically feasible non-infringing alternative
  - Doesn’t include Enabling Technology
    - Unless functionally necessary or a normative requirement of the standard
    - Patent claims related to C language compiler are an example

- **Assurance only applies to Essential Patent Claims**
  - Some claims in a patent may be essential, some not
  - Potential Essential Patent Claims can be included
    - But **DO NOT** discuss
      - Interpretation, validity or essentiality of patents/patent claims
    - For these purposes essentiality is based on assertion of holder

- **Letter of Assurance form is now only acceptable template**
  - Modified Letter of Assurance form will not be accepted.
    - Filling in the form is not considered a modification.
  - ‘Free form’ letters will no longer be accepted
Call for patents

The chair or the chair’s delegate of an IEEE standards-developing working group or the chair of an IEEE standards Sponsor shall be responsible for informing the members of the working group that if any individual believes that Patent Claims might be Essential Patent Claims, that fact should be made known to the entire working group and duly recorded in the minutes of the working group meeting. This request shall occur at every standards-developing meeting.

The chair or the chair's delegate shall ask any patent holder or patent applicant of a Patent Claim that might be or become an Essential Patent Claim to complete and submit a Letter of Assurance in accordance with Clause 6 of the IEEE-SA Standards Board Bylaws. Information about the draft standard will be made available upon request.

IEEE-SA Standards Board operations Manual Subclause 6.3.2

- Call shall be made at every standards-development meeting
  - Working Group, Task Force, Task Group, Study Group, Ad Hocs, conference calls
  - Working Group chair or designee makes the call
    - State that if an individual believes a patent claim might be an Essential Patent Claims, such individual should make the Working Group aware of this.
    - Record in minutes that call for patents was made
    - Record in minutes any response
- When informed, Working Group chair shall contact holder requesting a LOA
  - Sample letter provided in standards companion
    - [http://standards.ieee.org/guides/companion ].
Duty on participants

In order for IEEE’s patent policy to function efficiently, individuals participating in the standards development process: (a) shall inform the IEEE (or cause the IEEE to be informed) of the holder of any potential Essential Patent Claims of which they are personally aware and that are not already the subject of an existing Letter of Assurance, owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents;

... IEEE-SA Standards Board Bylaws Subclause 6.2, Para 14

If you personally know of a potential Essential Patent Claim that is not covered by an existing LOA

- Then if the potential Essential Patent Claim is owned by you or the entity you are affiliated with, you have a duty to ensure that the IEEE is informed of the holder
  - See IEEE-SA Standards Board Operation Manual subclause 5.3.3.1 ‘Disclosure of affiliation’ from more definition of affiliation
    - This includes corporate affiliates
Third party claims

In order for IEEE’s patent policy to function efficiently, individuals participating in the standards development process: ... (b) should inform the IEEE (or cause the IEEE to be informed) of any other holders of such potential Essential Patent Claims that are not already the subject of an existing Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 14

- If you personally know of a potential Essential Patent Claim that is not covered by an existing LOA:
  - Participants are not required to notify the IEEE that they are aware of any potential Essential Patent Claims held by a third party. Participants may make such disclosure at their own discretion.
  - Although there is no obligation to notify the IEEE of third party patent holders, the IEEE encourages participants to do so.
  - This encouragement is particularly strong as the third party may not be a participant in the standards process.

- To inform the IEEE of the holder you could for example
  - Inform the Working Group Chair
  - Ensure that IEEE receives a LOA
Timing

If the patent holder or patent applicant provides an assurance, it should do so as soon as reasonably feasible in the standards development process. This assurance shall be provided prior to the Standards Board’s approval of the standard. This assurance shall be provided prior to a reaffirmation if the IEEE receives notice of a potential Essential Patent Claim after the standard’s approval or a prior reaffirmation.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 2

- Early assurance is encouraged and expected
  - The more information the better when selecting between proposals
- Identification can be made at any time
  - Just inform the Working Group Chair
  - Whether in the meeting or otherwise
- Delivery of assurance
  - Prior to Standards Board approval of standard
  - Prior to Standards Board approval of reaffirmation
What if an LOA cannot be obtained

An asserted potential Essential Patent Claim for which an assurance cannot be obtained (e.g., a Letter of Assurance is not provided or the Letter of Assurance indicates that assurance is not being provided) shall be referred to the Patent Committee.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 2

- If there is no LOA for an asserted potential Essential Patent Claim:
  - Inform IEEE-SA Standards Board Patent Committee (PatCom)
    - PatCom will consider
    - May make recommendation to IEEE-SA Standards Board
  - Ultimately IEEE-SA Standards Board will decide
Distribution of LOAs

Copies of an Accepted LOA may be provided to the working group, but shall not be discussed, at any standards working group meeting.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 6

Upon written request, the IEEE will make available copies of any Accepted Letter of Assurance and its attachments. Letters received after 31 December 2006 shall be posted on the IEEE-SA website.


- Accepted LOA can be distributed in meetings
- But remember:
  - Don’t discuss interpretation, validity or essentiality of patents/patent claims
  - Don’t discuss specific license rates, terms or conditions
- LOAs received after 31-Dec-2006 will be made available on web
- Existing LOAs available by contacting PatCom administrator
  - Activity underway to add these to web as well
Legal compliance and other issues

5.3.10 Legal compliance and other issues

5.3.10.1 Compliance with laws
All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws. In the course of IEEE standards development, participants shall not engage in fixing product prices, allocating customers, dividing sales markets, or other conduct that violates antitrust or competition laws.

5.3.10.2 Discussion of litigation, patents and licensing
No discussions or other communications regarding the following topics shall occur during IEEE-SA working group standards-development meetings or other duly authorized IEEE-SA standards-development technical activities:
   - The status or substance of ongoing litigation
   - The essentiality, interpretation, or validity of patent claims
   - Specific patent license terms or other intellectual property rights, other than the distribution of accepted letters of assurance as permitted under the IEEE-SA patent policy (see section 6.2 of IEEE-SA Standards Board Bylaws)

5.3.10.3 Discussion of relative cost/benefit analyses
When comparing different technical approaches in IEEE-SA standards development technical activities, participants may discuss the relative costs (in terms, for example, of percentage increases or decreases) of different proposed technical approaches in comparison with the relative technical performance increases or decreases of those proposals. The relative costs may include any potentially Essential Patent Claims, but not the price at which compliant products may or will be sold. Technical considerations should be the main focus of discussions in IEEE-SA standards development technical activities.

IEEE-SA Standards Board operations Manual Subclause 5.3.10
Legal compliance and other issues

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
- Don’t discuss fixing product prices, allocation of customers, or dividing sales markets.
- Don’t discuss the status or substance of ongoing or threatened litigation.
- Don’t discuss specific license rates, terms or conditions.
- Don’t be silent if inappropriate topics are discussed… do formally object.

- Relative costs of different technical approaches may be discussed in standards development meetings.
  - May include licensing costs of essential patent claims, but only on a relative basis
    - This shall not be used to coerce those Patent holders who have chosen not to disclose maximum licensing fees into disclosing such information.
    - A comparison however may state that costs of a particular technology approach are not known
  - Technical considerations remain primary focus
  - For more information see "What You Need to Know About The IEEE Standards Association's Antitrust and Competition Policy".
Assurance
Letters of assurance

‘A Letter of Assurance shall be either:

a) A general disclaimer to the effect that the Submitter without conditions will not enforce any present or future Essential Patent Claims against any person or entity making, using, selling, offering to sell, importing, distributing, or implementing a compliant implementation of the standard; or

b) A statement that a license for a compliant implementation of the standard will be made available to an unrestricted number of applicants on a worldwide basis without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination. At its sole option, the Submitter may provide with its assurance any of the following: (i) a not-to-exceed license fee or rate commitment, (ii) a sample license agreement, or (iii) one or more material licensing terms.’

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 3, 4 & 5

Shall be one of the following:

- Assurance that Essential Patent Claims will not be enforced
- Assurance that Essential Patent Claims will be licensed
  - Reasonable and nondiscriminatory
  - With or without monetary compensation
  - At its sole option, Submitter may include
    - Not-to-exceed rates
    - Sample license agreement
    - Material licensing terms
- A statement that submitter is unable or unwilling to grant license
Assurance of non-awareness

‘The Submitter of the Letter of Assurance may, after Reasonable and Good Faith Inquiry, indicate it is not aware of any Patent Claims that the Submitter may own, control, or have the ability to license that might be or become Essential Patent Claims.’

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 2

"Reasonable and Good Faith Inquiry” includes, but is not limited to, a Submitter using reasonable efforts to identify and contact those individuals who are from, employed by or otherwise represent the Submitter and who are known to the Submitter to be current or past participants in the development process of the [Proposed] IEEE Standard identified in a Letter of Assurance, including, but not limited to, participation in a Sponsor Ballot or Working Group. If the Submitter did not or does not have any participants, then a Reasonable and Good Faith Inquiry may include, but is not limited to, the Submitter using reasonable efforts to contact individuals who are from, employed by, or represent the Submitter and who the Submitter believes are most likely to have knowledge about the technology covered by the [Proposed] IEEE Standard.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 9
Assurance of non-awareness

- Submitter may state in LOA that it is not aware of any Patent Claims that might be or become Essential Patent Claims.
- After ‘Reasonable and Good Faith inquiry’
  - For example reasonable efforts to Identify and contact
    - If Submitter has participants in project identified in the LOA
      - Current and past participants
        - This includes, but not limited to, WG and sponsor ballots
    - If the Submitter doesn’t have participants in project identified in the LoA
      - Those of its employees that the submitter believes likely to have knowledge of the technology
Affiliates

The Submitter and all Affiliates (other than those Affiliates excluded in a Letter of Assurance) shall not assign or otherwise transfer any rights in any Essential Patent Claims that are the subject of such Letter of Assurance that they hold, control or have the ability to license with the intent of circumventing or negating any of the representations and commitments made in such Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 7

This assurance shall apply to the Submitter and its Affiliates except those Affiliates the Submitter specifically excludes on the relevant Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 9

- Assurance shall not intentionally be circumvented through sale or transfer
- Assurance shall apply to affiliates unless explicitly excluded
  - Those excluded may be contacted by the IEEE with a request for LOA
Durability of assurance

The Submitter of a Letter of Assurance shall agree (a) to provide notice of a Letter of Assurance either through a Statement of Encumbrance or by binding any assignee or transferee to the terms of such Letter of Assurance; and (b) to require its assignee or transferee to (i) agree to similarly provide such notice and (ii) to bind its assignees or transferees to agree to provide such notice as described in (a) and (b).

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 9

“Statement of Encumbrance” shall mean a specific reference to an Accepted LOA or a general statement in the transfer or assignment agreement that the Patent Claim(s) being transferred or assigned are subject to any encumbrances that may exist as of the effective date of such agreement. An Accepted LOA is an encumbrance.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 10

Submitter agrees to:

- Notified assignees/transferees of the existence of assurance
  - Either through stating in the agreement to Assign/Transfer
    - The existence of a specific LOA
    - Or by a general statement
  - Or binding Assignees/Transferees to LOA
- Require the Assignee/Transferee to agree to similarly provide notice to subsequent Assignee/Transferee
  - Sets up a cascading notice requirement
Duty to update assurance

If, after providing a Letter of Assurance to the IEEE, the Submitter becomes aware of additional Patent Claim(s) not already covered by an existing Letter of Assurance that are owned, controlled, or licensable by the Submitter that may be or become Essential Patent Claim(s) for the same IEEE Standard but are not the subject of an existing Letter of Assurance, then such Submitter shall submit a Letter of Assurance stating its position regarding enforcement or licensing of such Patent Claims. For the purposes of this commitment, the Submitter is deemed to be aware if any of the following individuals who are from, employed by, or otherwise represent the Submitter have personal knowledge of additional potential Essential Patent Claims, owned or controlled by the Submitter, related to a [Proposed] IEEE Standard and not already the subject of a previously submitted Letter of Assurance: (a) past or present participants in the development of the [Proposed] IEEE Standard, or (b) the individual executing the previously submitted Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 10

- If after submitting a LOA the submitter becomes aware of other patent claims the first LOA commits the submitter to submit a new LOA
  - Aware is either (a) past or present participants or (b) the individual executing the previously submitted Letter of Assurance.
Acceptance and validity of LOA

The assurance is irrevocable once submitted and accepted and shall apply, at a minimum, from the date of the standard's approval to the date of the standard's withdrawal.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 11

“Accepted Letter of Assurance” and “Accepted LOA” shall mean a Letter of Assurance that the IEEE-SA has determined is complete in all material respects and has been posted to the IEEE-SA web site.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 2

Completed Letters of Assurance are accepted by the PatCom Administrator or by PatCom upon referral from the PatCom Administrator. Unless the Letter of Assurance is received from an individual within the issuing organization who has clear authority for intellectual property and legal matters, the IEEE Standards Association (PatCom Administrator) shall send a certified letter, return receipt requested, to the General Counsel or other appropriate representatives of the issuing organization to confirm receipt of the Letter of Assurance and to ensure that the Letter of Assurance is factually correct and was submitted by an appropriate individual within the issuing organization. No response to this letter, other than the return receipt, is required.

Acceptance and validity of LOA

- LOA irrevocable once submitted and accepted
  - Accepted by
    - Either PatCom administrator
    - Or PatCom if referred by PatCom administrator
  - Accepted when
    - IEEE-SA determines LOA form is complete in all material respects
    - And LOA has been posted to web site
      http://standards.ieee.org/db/patents/index.html
- LOA must be signed by person with clear authority
  - If not submitter will be contacted for confirmation
- LOA applies at a minimum from Standards approval to withdrawal
IEEE Public Notice Disclaimer

The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of those Patent Claims, or for determining whether any licensing terms or conditions are reasonable or non-discriminatory.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 12

- IEEE-SASB Operations manual subclause 6.3.1 ‘Public notice’

- Two different versions of front matter text
  - One for when no LOA on file, one where there are one or more
  - Added by IEEE-SA publications editor during publication

- And remember:
  - The working group is not responsible for the above
Patent searches and no Licenses by LOA

Nothing in this policy shall be interpreted as giving rise to a duty to conduct a patent search. No license is implied by the submission of a Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 13

- No duty
  - But nothing prevents somebody from doing a search if they want to
- No license is granted by submitting an LOA