

STANDARDS DEVELOPMENT ORGANIZATIONS AS TWO-SIDED MARKETS



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Payment cards are the natural first thought when economists mention two-sided platforms. But while American Express and its legal battles grab the headlines, the same fundamental platform economics at issue for credit and debit cards play out in technology standards development as well.² In standards-development organizations (“SDOs”), the two sides are represented by the technology contributors – the innovators that provide the technologies (frequently patented) that define the standards – and the standard implementers, the firms that manufacture and distribute to the marketplace the products and services embodying the standard. SDOs provide a platform for the various interests to collaborate in the creation and commercialization of new technology offerings.

The governance, intellectual property (“IP”), and dispute resolution rules that SDOs enact for guiding members’ actions in developing new technology standards help to balance (or, when the SDO gets it wrong, work to unbalance) the interests of these two groups. As with all two-sided markets, getting the balance right is crucial for the survival of the SDO. SDO membership is generally voluntary; if the rules favor one side too heavily, membership from the other side can wither away, ultimately shrinking or even killing the overall SDO platform.

Consider SDO IP policies first. The majority of SDOs have an IP policy in place that includes two basic components: patent disclosure and patent licensing. Within this general framework, the individual policies vary considerably in their specifics.³ For example, some SDOs request disclosure of any known patent or patent application potentially relevant for a standard under development.⁴ Others take a narrower approach, calling only on the members who propose a new standard to disclose their patents.⁵

The exact disclosure rule chosen by an SDO is a matter of balance. SDOs want members to have sufficient information on the patent landscape to make informed decisions when developing a new standard. SDOs especially want to prevent any “patent ambush” opportunities,⁶ where patent holding members fail to disclose relevant patents until after the standard is codified. But how balance is achieved can differ depending on the industry (or industries) impacted by the SDO, how patent intensive the technology field is, and what expectations are from end consumers of the standard. These factors, among others, drive the differences we see in IP policies across SDOs.

In addition to patent disclosure, the other common feature of an IP policy is rules of some sort guiding disclosed patent licensing. SDOs have a vested interest in ensuring that the standards they publish can be widely commercialized, meaning SDOs have an interest in ensuring access to essential patents on reasonable terms and conditions. Just as with disclosure rules, we see a great deal of diversity in how SDOs approach the access issue as a means of balancing the needs of different members.

A minority of SDOs mandate royalty-free licensing: by joining the SDO, a firm commits to license any relevant patents it might have on a zero-price basis, though restrictions on licensed products or geographic scope are typically allowed. This approach makes business sense when the standards cover products or features that are complementary to member companies’ primary lines of business. For example, Bluetooth and USB are two royalty-free standards. Widespread adoption of these standards increases the utility of the products they are embedded in (laptops, for instance), enabling higher product sales, higher product prices, or both. While mandatory royalty-free licensing limits participation from innovators that depend on royalty revenues to fund R&D and operations, in these two (and a few other applications, namely in the internet space), this limitation has been deemed a worthwhile tradeoff.

The majority of SDOs around the world, however, have opted for some form of FRAND licensing, asking for member commitments to license any patents essential for the practice of the standard on fair, reasonable, and non-discriminatory terms. Within the larger FRAND tent, we

2 As the Federal Trade Commission’s incoming Bureau of Economics Director has explained. See, Kobayashi & Wright, “Intellectual Property And Standard Setting,” in ABA Handbook On The Antitrust Aspects Of Standards Setting, first edition (2010).

3 See, e.g. Layne-Farrar, “Proactive or Reactive? An Empirical Assessment of IPR Policy Revisions in the Wake of Antitrust Actions,” Antitrust Bulletin, Vol. 59, Issue 2, 2014 (hereafter, Layne-Farrar 2014); see also Tsai & Wright, “Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts,” 80 Antitrust L.J. 1 (2015). The variations in specific policies imply that in any litigation, the language in the particular policy at issue needs to be consulted. See, e.g. Layne-Farrar & Wong-Ervin, “An Analysis of the Federal Circuit’s Decision in Ericsson v. D-Link,” CPI Antitrust Chronicle, March 2015 (1).

4 The European Telecommunications Standards Institute (ETSI) fits this description. See: <http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf>.

5 U.S. Pharmacopeia (“USP”), an organization that defines prescription drug standards, is an example here. See: <http://www.usp.org/about/leadership/policies-rules>.

6 See, e.g. In re Rambus Docket No. 9302 (FTC June 19, 2002); *Rambus, Inc. v. F.T.C.*, 522 F.3d 456, 469 (D.C. Cir. 2008), cert. denied, 129 S. Ct. 1318 (2009). For a history of all filings, see: <http://www.ftc.gov/os/adjpro/d9302/index.shtm>.

see a number of options. Some SDOs opt for relatively simple FRAND promises. The European Telecommunications Standards Institute (“ETSI” the SDO that oversees the most widely adopted smartphone standards), is an example here: it asks for “the owner to give within three months an undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory terms and conditions,” specifying only general licensing guidelines, such as that the license must cover manufacture, sale, lease, and repair of covered equipment.⁷

Other SDOs call for FRAND commitments with detailed restrictions. For example, among other restrictions, IEEE specifies that parties must consider the smallest salable patent practicing unit (“SSPPU”) as the royalty base in private bilateral negotiations and prohibits standard essential patent (“SEP”) holders signing onto the policy from seeking injunctions until all other adjudications have been pursued and concluded.⁸ These FRAND limitations were adopted at IEEE in 2015 and to date IEEE remains the only SDO to call for SSPPU licensing and to impose an explicit prohibition on seeking injunctions.

One SDO, the VITA Standards Organization, goes even further than IEEE: it mandates FRAND licensing with maximum rate disclosure made at the time the patents are disclosed.⁹ That VITA calls for *ex-ante* royalty rate disclosures, while no other SDO does, is the result of unique factors at VITA. In particular, the small number of SDO members facilitates trust and compromise, the low-patent environment due to mainly government contract applications for the standards lowers tensions over licensing policies, and the small size of the industry served further lowers the money at stake for patent licensing.

Note that the differences between ETSI’s and IEEE’s IP policies stem not from differences in membership, but rather from differences in other SDO policies – namely, the governance rules. While both SDOs have large, heterogeneous memberships, with innovator and implementer members of all sizes, geographic locations, and industry niches, their rules for adopting and changing internal policies differ significantly. ETSI sets its governance rules through SDO-wide consensus voting. In contrast, IEEE has a small task force structure for determining its governance rules. This structural difference means that any changes to IP policies require broad membership-wide support at ETSI, while at IEEE such changes can be enacted through a series of small subgroup votes.¹⁰ For this reason, while ETSI considered a prohibition on injunctions as part of its FRAND policy debate in 1993, ETSI members rejected that policy and it has not successfully resurfaced since then.¹¹

Many in the wireless telecom community expressed concerns that IEEE’s imposition of FRAND licensing restrictions in 2015 tipped the balance in favor of implementers, to the detriment of innovators.¹² In response, some IEEE members have refused to adopt the new FRAND commitment and have instead submitted “negative LOAs” – letters of assurance stating that the SEP holder will not follow the new FRAND policy.¹³ The lack of positive LOAs increases the uncertainty regarding access to essential patents for firms implementing IEEE standards.

7 <http://www.etsi.org/about/how-we-work/intellectual-property-rights-iprs>.

8 <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>.

9 <https://www.vita.com/Disclosure>. For a discussion of this policy, see Layne-Farrar, “Ex Ante Rate Disclosure In Tech Standards, A Decade Later,” Law360, December 11, 2017.

10 <https://www.ieee.org/content/dam/ieee-org/ieee/web/org/about/whatis/ieee-policies.pdf>. See also the U.S. Department of Justice Business Review Letter on the IEEE IP policy change, which discusses the votes that led to the passage of the change, <https://www.justice.gov/atr/response-institute-electrical-and-electronics-engineers-incorporated>.

11 See, e.g. Layne-Farrar, “Proactive or Reactive? An Empirical Assessment of IPR Policy Revisions in the Wake of Antitrust Actions,” Antitrust Bulletin, Vol. 59, Issue 2, 2014.

12 See, e.g. <https://www.essentialpatentblog.com/2015/02/ieee> and Petit, “The IEEE-SA Revised Patent Policy and Its Definition of ‘Reasonable’ Rates: A Transatlantic Antitrust Divide?,” (2016) Fordham Intellectual Property, Media & Entertainment Law Journal, Vol. XXVII. European SDOs CEN and CENELEC also criticized the IEEE policy change, noting that “CEN and CENELEC do not support initiatives taken by some SDOs to provide guidance on, or impose compliance with, FRAND pricing, valuation and rate-setting methodologies. Such initiatives create high risks of antitrust liability under the rules on anticompetitive agreements. They should therefore be avoided.” CEN and CENELEC position on: Standard Essential Patents and Fair, Reasonable and Non-Discriminatory (“FRAND”) Commitments, September 2016, available at: https://www.cencenelec.eu/news/press_releases/Pages/PR-2016-006.aspx.

13 See, e.g. Mallinson, “Development of Innovative New Standards Jeopardised by IEEE Patent Policy,” Wise Harbor, September 2017, p. 1, available at: https://www.4ipcouncil.com/application/files/6015/0479/2147/Mallinson_IEEE_LOA_report.pdf. See also, Corden, Miller, Wongsaraj & Wood, “Commercial and economic impacts from IPR policy changes: A report for Qualcomm,” Plum Research, March 2017, available at: <http://plumconsulting.co.uk/commercial-economic-impacts-ipr-policy-changes/>.

OASIS provides another example of how participation can be impacted when an SDO shifts the balance in IP policy rules. This consortium, which develops standards for internet security among other technology areas, moved from a FRAND licensing policy to a *de facto* royalty-free policy in 2005. In the wake of the change, OASIS membership fell by one third.¹⁴ The composition of members changed as well, away from software developers (which rely on licensing fees for revenues) and toward not-for-profit entities.¹⁵ Compositional changes of this sort can affect both the level and quality of innovations contributed to SDOs for the development of new standards.

Most SDOs recognize the importance of reaching the right balance in setting the specific terms of their IP policies. For example, the European Committee for Standardization (“CEN”) and the European Committee for Electrotechnical Standardization (“CENELEC”) observed in a 2015 position paper that “the patent policies of CEN, IEC [International Electrotechnical Commission] and ISO [International Standards Organization] have proven an efficient mechanism to address SEP matters if and as they arise. Any changes to our policies, therefore, would not only be unnecessary, but likely be of harm [to] well-functioning standards setting processes.”¹⁶

The bottom line for SDOs is therefore the same as it is for any other two (or more) sided platform: balancing “prices” across the sides of the platform – in the case of SDOs, these prices are the rules that determine the costs of participating – is a crucial task for maintaining active participation in the SDO, the survival of the platform, and the value of the products and services that it provides.

14 Baron & Spulber, “Technology Standards and Standard Setting Organizations: Introduction to the Searle Center Database,” February 2, 2018, p. 27 and Figure 6, available at: <https://ssrn.com/abstract=3073165>.

15 Stoll, “Are You Still In? The Impact of Licensing Requirements on the Composition of Standards Setting Organizations,” Max Planck Institute for Innovation and Competition, Research Paper No. 14-18, 2014.

16 CEN and CENELEC response to the European Commission’s Public Consultation on Patents and Standards Supported by ISO and IEC, “A modern framework for standardization involving intellectual property rights,” February 2015, available at: https://www.cencenelec.eu/news/press_releases/Pages/PR-2016-006.aspx.