



Response of Cisco Systems, Inc. to Questionnaire

*Patents and Standards:
A Modern Framework for Standardisation
Involving Intellectual Property Rights*

Submitted 15 February 2015

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Part I. Introduction

Cisco Systems, the global leader in data networking, is pleased to submit this response to the questionnaire issued by DG-Enterprise concerning the interplay between the development of interoperability standards and patents. Cisco is a global technology company with over 40 billion Euro in revenues in its most recent fiscal year. We are active in a range of technologies, including data networking across local area and wide-area networks, voice and video, and wireless. Cisco products are used by service providers, governments, and businesses and help form the backbone of the internet and many enterprise data networks.

Dozens of Cisco engineers regularly participate in standards development at a range of standards development organizations (“SDOs”). The SDOs in which Cisco engineers participate range from formal SDOs like the International Telecommunications Union Technical Standardisation Branch, ETSI, and the IEEE Standards Association, to informal SDOs such as special interest groups and consortia, including the Broadband Forum, CableLabs, and the Multimedia over Coax Alliance. The SDOs where Cisco participates use a variety of IPR policies, including mandatory royalty-free, default royalty-free (for all patents essential to implement a standard that a participant does not

specifically exclude from the scope of the royalty-free licensing commitment), and RAND.

Cisco spends billions of euro each year in research and development. Our research has created a large and powerful patent portfolio. Cisco shares the fruits of its research and development efforts with other industry participants through regular contributions of patented or patentable inventions for use in standards development.

Cisco also implements standards in the products it develops. Cisco's switching, routing, and telephony products all implement IEEE-SA's Ethernet (802.3) standard. Cisco is a leader in the development and sale of Wi-Fi access points used in enterprises, all of which implement IEEE-SA's 802.11 standard. Cisco routers implement a range of standards developed by the Internet Engineering Task Force ("IETF"), including fundamental routing standards such as BGP and OSPF that describe how data packets are routed across the internet. Cisco's telephony and videoconferencing products implement compression/decompression standards such as G.711 and H.264 that were developed by the International Telecommunications Union Technical Standardisation Branch ("ITU-T"), as well as a series of standards grouped under the term "Session Initiation Protocol" that were developed at the IETF and control the exchange of rich media like voice and video over data networks. Cisco routers and modems used to distribute broadband over cable television networks implement the DOCSIS and PacketCable standards developed by CableLabs (and, in Europe, EuroCableLabs). Many Cisco products ship with Universal Serial Bus ports that use a standard developed at the Universal Serial Bus Implementers' Forum ("USB-IF"). And many Cisco products are configured, provisioned, and managed using browser-based interfaces that implement standards created by the World Wide Web Consortium ("W3C").

As a leading implementer of interoperability standards created in RAND-based SDOs like the IEEE, Cisco has been the target of infringement claims involving patents claimed to be essential to implement standards. Cisco has been involved in very little SEP-related litigation in which patents are asserted by operating companies. Rather, the great majority of Cisco's SEP cases have been initiated by patent assertion entities, companies in the business of buying and asserting patents. Some cases have been

brought by former operating companies that have ceased commercial operations and turn to patent monetization as their only or predominant business model. Beyond the cases that Cisco itself has defended, Cisco has faced threats of supply interruption when our suppliers have been sued for infringement of claimed SEPs, and has paid more for components it purchases because the prices its suppliers charge are inflated by the cost of SEP-related litigation or reserves created to anticipate future claims that reflect the possibility of future SEP-related litigation.

We thank the Commission for its continued interest in issues at the intersection of standardisation, patent law, and competition law. These issues raise important public policy concerns, not least because of the impact SEP assertions and disputes have on the prices consumers pay for devices such as Wi-Fi access points and smartphones that have become central to modern life in Europe and elsewhere. We hope our response is helpful to the Commission in its consideration of those issues, and welcome the opportunity to discuss any questions the Commission has concerning our response.

Part II. Structure of the Response

The response follows the structure of the Questionnaire in the Commission's public consultation document. It is separated into the eight Key Issues identified in the Questionnaire. The discussion of each Key Issue begins with introductory comments, followed, for most Key Issues, by a response to selected questions posed in the Questionnaire.

Part III: Response to Questionnaire

Key Issue 1: Scope of Standardisation Involving Patents

Introductory Comments

Patent-related disputes over interoperability standards are most common in the industries where interoperability standards developed by SDOs that permit royalty-based licensing are most common: information and communications technology ("ICT"), in particularly areas of ICT involving data networking. As ICT, and in

particular data communications across networks, becomes more prevalent, the share of total economic activity that is susceptible to disputes involving the implementation of standards increases. For example, Wi-Fi is implemented in an increasing number of devices, including vending machines, television sets, toy vehicles, and home appliances. Vehicle control systems are being developed that use a variant of Wi-Fi for cars to communicate with smart highways and with each other.¹ Modules that connect to cellular or Wi-Fi networks are being integrated into residential gas and electric meters. In each case, a device that did not previously implement an interoperability standard now does so, meaning that products traditionally thought of as outside the ICT sector now implement ICT interoperability standards, but also meaning that the share of the economy susceptible to standardization-related patent disputes has grown.

Analysts predict rapid growth for Machine to Machine (“M2M”) connectivity in the near future. According to a report published by Infonetics in November 2014, the number of M2M connections (using cellular, Wi-Fi, and short-range personal area networking standards such as Zigbee) will increase from approximately 1.4 billion worldwide in 2014 to approximately 4.5 billion worldwide in 2018, an annual rate of growth exceeding 25 percent.² The rapid increase in adoption is driven in part by regulatory mandates, including the mandate for adoption of Smart Meters in the “Third Energy Package” set of EU legislation and regulation,³ that are directed toward the adoption of intelligent solutions for applications such as reading electricity meters and monitoring highway traffic. The mandate to install smart meters has already resulted in the installation of over 45 million electric smart meters in Finland, Italy, and Sweden,⁴ each of which implements at least one interoperability standard.

¹ For background on the use of Wi-Fi in inter-vehicular communications, see Janis Jansons, Ernests Petersons, and Nikolajs Bogdanovs, *Wi-Fi for Vehicular Communications Systems*, presented to 2013 27th International Conference on Advanced Information Networking and Applications Workshops (available at <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6550433>).

² Infonetics, *M2M Connections and Services by Vertical* (24 November 2014), p. 8.

³ Annex I.2 to the Electricity Directive (2009/72/EC) and the Gas Directive (2009/73/EC).

⁴ Report , Benchmarking Smart Metering Deployment in the EU-27 With a Focus on Electricity (17 June 2014) (available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0356&from=EN>) , p. 3.

The trend of increased use of standards is accompanied by a second trend, the rising number of patents granted to ICT sector companies. Certainly the inclusion of patented inventions in interoperability standards is desirable, as the inclusion of patented inventions leads to the creation of standards that reflect the most recent innovations. But whether or not the inclusion of patented inventions is desirable, in light of the “patent thicket”⁵ nature of ICT industries, the implementation of future interoperability standards will very likely require the practice of patented inventions.⁶ Avoiding patented inventions generally would reduce the pace of innovation in interoperability standards, though the widespread adoption of standards created using royalty-free licensing models suggests that the creation of innovative standards does not necessarily require the availability of FRAND licensing.

Response to Selected Questions

Response to Question 1.1.4

As noted in the introductory comments, at least for interoperability standards in the ICT industry, the inclusion of inventions that are patented or patentable contributes to innovation and the adoption of new technologies. This is distinct from the question of what licensing models participants in standards development should use. It is overly simplistic to reason that because the inclusion of patented inventions contributes to

⁵ Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting* (March 2001), (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=273550).

⁶ This response focuses on interoperability standards, but there have been recent disputes involving patents claimed to be essential to implement other standards, notably environmental standards for car refrigerants. US Federal Trade Commission press release *FTC Order Restores Competition in US Market for Equipment Used to Recharge Vehicle Air Conditioning Systems* (26 November 2012), available at <http://www.ftc.gov/news-events/press-releases/2012/11/ftc-order-restores-competition-us-market-equipment-used-recharge> (describing allegations that SPX, a maker of car refrigerant and recharging products, had “reneg[ed] on a commitment to license key, standard-essential patents ... on fair, reasonable and non-discriminatory (FRAND) terms by seeking injunctions against willing licensees of those patents.”); European Commission press release, *Antitrust: Commission Opens Proceedings Against Two Manufacturers of Refrigerants Used in Car Air Conditioning* (16 December 2011), available at http://europa.eu/rapid/press-release_IP-11-1560_en.htm (describing DG-Competition investigation of whether Honeywell “did not disclose its patents and patent applications while the refrigerant was being assessed and then failed to grant licences on fair and reasonable (so called “FRAND”) terms.”).

innovation, the optimal licensing model for standards development is necessarily one that permits the collection of FRAND royalties. Companies and other patentees participate in standards development and contribute patented technology for inclusion in standards for a variety of reasons. In Cisco's case, participation in standards development and contribution of patented or patentable inventions for use in standards is driven primarily by the benefits that advancing standards has for our business of developing and selling networking and computing products. Thus, participation in standards development efforts governed by royalty-free licensing models can be attractive in some situations.

We believe that this view is shared by many operating companies, as evidenced by their regular participation in standards development efforts that are governed by default or mandatory royalty-free licensing models such as the W3C, CableLabs, the Bluetooth Special Interest Group, and the USB Implementer's Forum. Those groups have been responsible for standards that are just as important and widely implemented as GSM and later generations of standards for cellular communications.

The success of royalty-free standards development efforts in creating innovative, widely adopted standards should give pause to those that argue that it is the availability of FRAND licensing that drives innovation in standards development, and to the policymakers to whom those arguments are made. Because, as noted, companies and other patentees participate in standards development for many reasons, standards development organizations and their members should be free to select what licensing models work best for particular organisations and particular standards. They should do so without government influence, except as necessary to enforce compliance with legal rules, notably in the area of competition law.

Response to Question 1.2.1

One consequence of the use of FRAND licensing is to encourage participants, particularly those that use outbound licensing models, to pursue strategies involving simultaneous participation and patenting. There is, to be clear, nothing wrong with patenting in areas where the patentee thinks a technology is evolving. This is distinct

from what Professors Byeongwoo Kang and Rudi Bekkers have described as “just in time inventions”.⁷

Based on empirical research, Professors Kang and Bekkers note both the strong incentives participants have to obtain SEPs and the “just-in-time” patenting behaviour of participants, involving filing patent applications shortly before meetings of standards development organizations. Professors Kang and Bekkers quote a knowledgeable observer questioning whether some contributions of patented inventions are made “‘just for getting patented technology into the standard rather than to improve the standard’”.⁸ Kang and Bekkers’ article supports the view that in standards development efforts governed by FRAND licensing, there is empirical evidence suggesting the inclusion of features that do not advance the standard, but are instead included because a participant believes it owns an SEP that may cover the feature. Kang and Bekkers describe the implications of this observation as including “higher prices (when the rents [from patent licensing] are passed on to end users, [and] higher barriers to entry for implementers that do not own patents themselves”⁹

Key Issue 2: Rules and Practices of Standards Development Organisations

Introductory Comments

Many SDO rules and practices work well, and there have been notable areas of improvement in a few areas that are important to note. These include:

- Cooperation between SDOs and patent offices concerning, for example, questions of whether inventions claimed in patent applications were anticipated by previous technical contributions
- Improved access to information about declared patents, including, for example, the information available on the ETSI website

⁷ Byeongwoo Kang and Rudi Bekkers, *Just-in-Time Inventions and the Development of Standards: How Firms Use Opportunistic Strategies to Obtain Standard-Essential Patents (SEPs)*. ECIS Working Paper 1.3.1 Electronic copy available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2284024

⁸ *Id.* at 3 (quoting ETSI IPR Special Committee Chair and ETSI Board of Directors Chair Dirk Weiler).

⁹ *Id.* at 17.

- Changes to rules of SDOs to encourage or require earlier declaration of potentially essential patents
- Greater legal certainty regarding the design of patent pools to comply with competition law principles
- The inclusion of text in IPR policies of leading SDOs regarding the binding nature of FRAND licensing commitments on successors in interest to the participants in standards development, including acquirors of SEPs
- Recognition in courts and (at the IEEE-SA in particular) in SDO IPR policies that all implementers of a standard are intended beneficiaries of licensing commitments given by participants in standards development
- Recent legal developments in Europe and the US concerning the limited circumstances when injunctive relief remains available to the owner of an SEP that has committed to license on F/RAND terms; and
- Recent legal developments in the US concerning what F/RAND means

Unfortunately, it is notable that a number of these developments, in particular regarding the availability of injunctions and the meaning of F/RAND, have occurred through the intervention of “outsiders” to the standards development process, for example courts and competition enforcement agencies. With the (very recent) exception of the IEEE Standards Association,¹⁰ formal SDOs have not, for the most part, clarified their rules regarding the availability of injunctions and what F/RAND means to reflect the views of competition enforcement agencies and courts.

Informal SDOs have been faster to reevaluate their policies in light of those views, or to include them in the policies of newly formed groups. This can be seen, for example, in the IPR policy of the Multimedia Over Coax Alliance (“MoCA”), a group formed to develop standards for high-speed home networking using the coaxial cables used to transport video and data over cable television networks. That policy contains a limited waiver of the right to obtain injunctive relief as to any patent contributed by a member of the group that is essential to implement a MoCA specification.¹¹ This difference in the

¹⁰ See IEEE Press Release (8 February 2015), available at http://www.ieee.org/about/news/2015/8_february_2015.html?WT.mc_id=std_8feb

¹¹Multimedia Over Coax Alliance, Intellectual Property Rights Policy, Section 5.1, provides in relevant part that each contributor of an essential patent that is a member of the Alliance (referred to as an “Alliance Party”):

willingness of formal and informal SDOs to embrace the policy concerns expressed by courts and competition enforcers with the harm caused by opportunistic behaviour by SEP owners, for example threatening injunctions to pressure implementers into accepting super-competitive licensing terms, leads companies that fear becoming victims of such behaviour to find participation in informal standards development more attractive.

Even within the universe of formal SDOs, it is worth noting that some of the improvements identified above have brought with them unintended and unhelpful consequences. While leading SDOs now provide more information to participants and to the public regarding potentially essential patents, SDOs have not required their members to update that information to reflect events such as the finalization of a standard, which may or may not include the features for which the patentee previously

hereby agrees that it shall not seek an injunction and hereby waives its rights to an injunction with respect to infringement of the Alliance Party 's Essential Patent Claims by Fully Compliant Products against any other Alliance Parties that are entitled to receive a RAND license as described in this Section. Such waiver of injunctive relief shall not prohibit the waiving Alliance Party from seeking or receiving damages in connection with such infringement, nor shall such waiver prohibit the waiving Alliance Party from seeking injunctive relief against another Alliance Party that has (i) filed or joined any action in a court of competent jurisdiction seeking injunctive relief against the waiving Alliance Party alleging patent infringement; or (ii) is in breach of a license granted pursuant to this Section.

Likewise, the recently formed Open Interconnect Consortium, an informal SDO active in the area of Internet of Things, has an IPR policy that prohibits members from seeking injunctions. Section 3.2 of the OIC's IPR policy provides, in relevant part:

For Necessary Claims subject to this Section 3.2, Member agrees that it shall neither seek nor seek to enforce an injunction, exclusion order, or similar remedy against another Member's Compliant Portion if reasonable and non-discriminatory ("RAND") compensation for practice of such Necessary Claims can otherwise be obtained, or if the potential licensee is willing to be bound by an independent third party adjudication of RAND compensation. In determining an appropriate reasonable rate, the Member shall take into account a number of factors including a royalty based on the smallest saleable unit including a Compliant Portion, the technical value of the relevant Necessary Claims, and the overall royalty that could be charged for all Necessary Claims.

The OIC IPR policy is available at http://openinterconnect.org/wp-content/uploads/2014/09/Amended-Open-Interconnect-Consortium-IPR-Policy_October-27-2014.pdf.

As the Commission is aware, the recently approved updates to the By-Laws of the IEEE Standards Association ("IEEE-SA") define a set of limited circumstances in which injunctive relief or other prohibitive orders remain available to the owner of a patent subject to a RAND commitment.

claimed to own an essential patent. Nor have SDOs required patentees to update information concerning declared patents to reflect subsequent judicial or arbitral decisions that may raise questions regarding the validity or essentiality of previously declared patents.¹² The result is that more information about potentially essential patents is available, but that information is of uncertain quality, and therefore uncertain usefulness to prospective implementers.

Response to Selected Questions

Response to Question 2.1.2

It may be true that, viewed in their totality, it is true that the rules of SDOs are “constantly evolving”. However, if we look at formal SDOs like ETSI and ITU-T, the rules addressing, or, more specifically, not addressing the limited circumstances in which an injunction is available to the owner of a SEP that has made a voluntary licensing commitment have remained unchanged for years. This stasis is surprising given the evolution that has occurred outside formal SDOs, both in informal standards development (note the examples of MoCA and the Open Internet Consortium cited in the Introductory Comments for Key Issue 2) and in the views of competition enforcement agencies and courts regarding the harm to consumers that opportunistic behaviour in standards development can cause.

This stasis reflects, at least in part, the grip that companies with established and lucrative SEP-licensing programs maintain on the IPR policies of formal SDOs like ETSI and their efforts to discourage change elsewhere.¹³ Proponents of change have had to

¹² This point is discussed further in the discussion of Key Issue 3, at pp. 12-18 of this Response. The resistance to updating requirements is particularly striking given what observers have noted is the high rate of patent invalidation in SEP-related litigation. This has been noted by experienced practitioners in Europe. Richard Vary and Tim Frain, *Bifurcation: Bad for Business* (12 April 2012) (available at https://www.unitary-patent.eu/sites/www.unitary-patent.eu/files/nokia_vary_bifurcation.pdf) at page 2 (noting that “of 150 carefully selected patents asserted against Nokia, 71 have been pursued through to judgment, and only one may possibly be valid. That gives an illustration of the proportion of patents in our industry that have problems with validity.”)) Patent litigators in the United States have observed the same phenomenon. John Jurata, Jr. and David Smith, *Turning the Page: The Next Chapter of Disputes Involving Standard Essential Patents*, COMPETITION POLICY INTERNATIONAL (October 2013) at 5 (Noting that only 1 in 8 patents asserted in SEP-related litigation has been found to be valid and infringed)).

¹³ For a public example of this resistance, see the website created by Qualcomm to criticize the IEEE Standards Association’s clarifications to the IEEE-SA By-Laws (www.advancingengineering.org).

look to the positions taken by objective proponents of consumer welfare at DG-Competition and the US antitrust enforcement agencies, and to decisions of courts. They have also “exited”¹⁴ the formal SDO sphere by favouring standards development in informal organisations like MoCA and the Universal Serial Bus Implementers Forum¹⁵ that offer participants the ability to create a bespoke IPR policy that addresses hold-up concerns.

The question does point to one important background fact that shapes discussion of the interplay of patents and standards yet is outside the direct control of SDOs. That fact involves concerns with patent quality. To the credit of both the patent office and the SDO, the European Patent Office has engaged with SDOs like ETSI to take advantage of the information contained in technical contribution made to SDOs as a source of potentially relevant prior art. Such collaborations are to be commended, and to be emulated elsewhere.

Response to Question 2.1.3

¹⁴ Albert O. Hirschmann, *Exit, Voice, and Loyalty* (1970).

¹⁵ Indeed, an important impetus for the creation of USB-IF and the USB specification that now dominates short-range wired communications between ICT devices was concerns with patent licensing costs associated with a rival standard, IEEE 1394 (sometimes referred to as “Firewire”). As Ajay Bhatt of Intel, one of the leading technologists that developed USB, said in a July 2013 interview:

Steven Cherry [interviewer]: I’m glad you mentioned cost, because I wanted to ask you: FireWire, IEEE 1394, already existed in 1995, and it was much faster. Did USB win entirely on price, or were there other things as well?

Ajay Bhatt: Well, a few other things as well, but when we started, we reached out to everybody in the computer industry with the view that we had. We even made an attempt at approaching people to revise their specs to meet our requirements. So there was a real effort made in earnest to sort of bring people together. *But one of the big things that we also focused on, besides cost, was an architecture that was open, that was widely available to developers, royalty-free, and at no cost.* So we developed this technology and made it available.

Now, such terms were not available for all the other interfaces that were out there. They had a different business model. Our view was to really promote an open standard that would enable new users of the computers, and attract new users, because computers would become much easier to use.

Steven Cherry, *Ajay Bhatt: Intel’s Rockstar Inventor*, IEEE Spectrum (23 July 2013), available at <http://spectrum.ieee.org/podcast/computing/hardware/ajay-bhatt-intels-rockstar-inventor> (emphasis supplied).

The sub-question regarding the justification for differences between the rules of different SDOs suggests that such differences indeed *need* to be justified. Instead, they should be applauded. A single, universal, “one size fits all” IPR policy would make the task of counseling participants in standards development much easier. Nevertheless, there are important benefits to diversity, including that consumers benefit from competition between SDOs to provide a congenial home to particular standards development efforts. This diversity extends, for example, to the availability of royalty-based licensing and the extent and timing of patent declaration requirements. At a time when some countries appear to favour a government-directed model for SDO IPR policies, suggesting that differences require justification may be understood as encouraging harmonization of IPR policies in ways that favour national or community industrial policy goals or benefit “national champions” that either have SEP licensing programs or implement SEPs.

Key Issue 3: Patent Transparency

Introductory Comments

The quality of information about potentially essential patents is an issue characterized by conflicts between competing values. To identify some of those trade-offs:

- Earlier declaration of potentially essential patents and applications provides participants with more useful information concerning the benefits and costs of including certain features in a draft standard, particularly as fundamental decisions made early in a standards development process may be difficult to reverse later. However, early declarations of essentiality are more likely to turn out to be incorrect as to the final standard as the draft standard evolves in ways that may avoid infringement of the declared patent.
- Detailed declarations, those that map the claims of a patent to specific text in a draft standard, are more helpful to participants and potential implementers in reaching their own view as to whether a declared patent or application is, in fact, essential. But detailed declarations are correct only at a specific point in time: a patent application may change through interactions with patent examiners during the prosecution process; a draft standard is likely to evolve from the draft a patentee uses to make a declaration of essentiality.

- Participants are concerned with potential liability associated with failing to disclose patents they believe to be essential, but may respond to this concern by over-declaring patents that may not be essential.
- Particularly in “patent thicket” industries, those where patenting is pervasive, participants may rationally conclude that declarations are unhelpful in identifying possible technical approaches that will avoid infringement. Instead, participants may rationally assume that all technically feasible choices likely infringe. While patent-specific declarations could still be helpful in providing information about which participant owns patents that could be infringed by the selection of a particular technical option, at a time when patents are freely traded, the value of knowing which participant owns a particular patent is decreased. Today’s SEP owner may not be tomorrow’s SEP owner.
- Patent disclosure obligations that disclaim patent search obligations and qualify the obligation to notify based on the knowledge of the individual participant are the only obligations that larger companies with larger portfolios and dispersed research and development efforts can, as a practical matter, comply with. This makes rules that permit blanket declaration or “negative declaration” (in which only patents that a participant wishes to exclude from a blanket F/RAND or royalty-free licensing obligation need be declared) attractive to many participants in standards development. But blanket declarations and blanket licensing commitments provide little information to participants regarding which participants own patents that may be infringed by the implementation of particular technology contributions.

Faced with the trade-offs described above, participants in standards development necessarily try to find the “least bad” alternative. Policymakers should recognize the trade-offs participants face and approach the area of transparency with a light touch.

Nevertheless, there may be room for improvement that policymakers and SDOs should explore. A corollary of encouraging or requiring early disclosure of potentially essential patents could be an obligation that SDO rules impose on participants to update past declarations promptly upon the emergence of new information. That updated information could be mandated following finalization of a standard, which will permit participants that have previously declared patents to review their earlier declarations to see whether patents previously declared are no longer essential because the portion of

the draft standard as to which they were originally declared did not survive into the final standard.¹⁶

The information patentees are encouraged or required to provide could also include intervening judicial or arbitral decisions, which may invalidate (or suggest the invalidity of) patents previously declared. Declarations should be “living documents”, which participants are required to revisit and modify based on material subsequent events. In that way, future implementers would have better information regarding potential licensing requirements.

Response to Selected Questions

Response to Question 3.1.3

The practice in the industry is for licensees to implement standards, and to wait for those licensees that use royalty-based licensing models to approach them. This practice is more efficient than licensees approaching licensors, because, *inter alia*:

- Many companies that participate in standards development and own numerous SEPs nevertheless do not have licensing programs. Cisco is one of those companies. Instead, with the exception of occasional participation in patent pools, we use our portfolio of SEPs defensively.
- Patents are actively traded, meaning that the declarant that owned potentially essential patents at one time may no longer own them, and may not be aware of who owns them. Patent offices do not systematically track patent ownership, and the US PTO has recently introduced proposals to collect better information about ownership¹⁷.

Cisco therefore agrees with the views expressed by Advocate General Wathelet in a footnote to his opinion in the *Huawei Technologies, Inc. v. ZTE* case, in which he wrote:

¹⁶ Updating of this kind would not require the kind of jurisdiction-specific essentiality analysis that is performed by the administrators of patent pools. It would require a systematic review of previously declared patents and patent applications following finalization of a standard to determine whether there continues to be a basis for a good faith belief that a previously declared patent is essential.

¹⁷ Comments on the US PTO’s 2012 proposal to collect “real party in interest” information regarding patent ownership are collected here: http://www.uspto.gov/patents/law/comments/rpi_information.jsp

Some argue that [an implementer] must have made an offer for a FRAND licence on its own initiative before starting to use the standard. However, this seems unrealistic in the telecommunications industry, given the large number of SEPs and SEP owners and the uncertainty over whether (allegedly) essential patents are valid and whether they have been infringed. Similarly, it is unrealistic to require a standard implementer to enter into negotiations to secure a licence for any patent declared essential before even making use of that patent. Standard implementers in the telecommunications industry cannot be expected (nor is it customary in that sector) to assess every patent that has been declared essential, enter into negotiations to obtain a licence to use that patent and issue a legally binding declaration in respect of each essential patent to every owner of such a patent before starting to use the standard in question. The administrative and financial burden involved would be so onerous and the investment in time so considerable as to make it impossible in practice to use the standard'.¹⁸

Response to Question 3.1.5

Certainly the quality of information concerning the number of patents that may be essential to implement a standard, who owns those patents, and whether those patents are valid are significant issues that implementers of standards face in accurately predicting what licensing expense they can expect to result from the implementation of particular standards. That, in turn, is a material consideration relative to the pricing of products that implement the standard in question. The reforms suggested in the Introductory Comments for Key Issue 3, in particular around requirements to update patent declarations to communicate material information concerning essentiality and validity, would be helpful in providing prospective licensees with better information regarding anticipated licensing expense.

An updating requirement would provide implementers with valuable information regarding the number and ownership of essential patents that today's patent databases do not impart. Interestingly, an updating requirement would also help provide better empirical data regarding the true extent of "stacking" concerns for particular standards, an issue that is now debated between SEP licensors and implementers of standards. Together with continued progress in courts and at SDOs regarding offering better guidance as to what FRAND means¹⁹, progress that other standards bodies will hopefully embrace, an updating requirement could meaningfully improve the

¹⁸ European Court of Justice Case C-170/13, *Huawei Technologies v. ZTE*, opinion of Advocate General Wathelet (delivered 20 November 2014) at fn. 54.

¹⁹ For example, the clarifications contained in the IEEE-SA By-Laws approved by the IEEE Board in February 2015.

predictability of licensing costs associated with the implementation of standards. This will benefit consumers, as prudent companies that now over-estimate anticipated licensing costs – perhaps because they lack good information regarding how many valid and essential SEPs exist for a particular standard – will reflect better information in the prices they charge for the products they sell.

Response to Questions 3.2.4 and 3.2.5

For companies like Cisco with large patent portfolios, and which participate regularly in numerous standards development efforts across a range of SDOs, complying with disclosure obligations that are not limited to the knowledge of participants in a specific standards development effort would be difficult and expensive. Participants in a standards development effort are unlikely to be aware of inventions conceived by geographically and organizationally remote colleagues that may result in potentially essential patents. In a dispute involving an alleged failure to disclose, the inquiry may effectively require the patentee to prove the absence of knowledge of participants.

Moreover, the significant legal sanctions associated with failures to disclose known patents, including waiver of the right to enforce and violations of competition law (and associated penalties) cause companies to look with favour on avoiding patent searches and the use of blanket declarations. Blanket declarations avoid the need to question participants regarding their knowledge of patenting activity happening elsewhere in the company and the potential liability associated with failing to disclose. For that reason, they are attractive to companies with larger portfolios that regularly participate in standards development.

Because declarations that are “ring-fenced” by knowledge qualifiers are of limited use in helping other participants and implementers know what patents may be essential to a proposed technical approach, patent-specific declarations that are limited by knowledge qualifiers may not, in practice, provide other participants with significantly better information than do blanket declarations. Moreover, blanket declarations provide implementers with the assurance that any essential patents will be available for license, even patents that were not known to the participants from a particular company and therefore not declared.

Response to Question 3.3.2

As noted in the Introductory Comments for Key Issue 3, Cisco sees value in exploring the addition of updating requirements to the IPR policies of standards development organizations that require patent-specific declarations. Requiring that declarations be updated based on new and material information known to the declarant would improve to some extent the ability of implementers to predict licensing expenses by giving them a better sense of the number of patents that are in fact valid and essential to implement a standard. SDOs and policymakers will want to consider what level of materiality would be required before a requirement to update attached. For example, an SDO could require only final, non-appealable determinations of validity, invalidity, essentiality or non-essentiality, or infringement or non-infringement. Conversely, they could require the disclosure of any information that a reasonably prudent licensee would want to know. While not conclusive, a trial court's appealable determination that a particular patent is valid or invalid may be instructive to a potential licensee as it may change the probabilistic weighting of patent strength that informs licensing negotiations.²⁰

Cisco also notes that to be effective, the obligation to report material information regarding essentiality, validity, and non-infringement would need to extend beyond information that results from public judicial proceedings (which may be accessible in any event, depending on national rules regarding the confidentiality of litigated disputes) and also include events in arbitration. An updating requirement that excluded arbitration would give patentees a reason to favour resolving licensing disputes out of the public eye. So an SDO that introduced an updating requirement would need to make clear that the updating requirement applied notwithstanding confidentiality provisions in arbitration agreements that would otherwise prohibit disclosure.

Ultimately, the best way to address the issue of over-declaration is to reduce incentives to over-declare. Defining FRAND to focus on the value a patented invention adds to a standard would help reduce the incentives to declare numerous patents that may add

²⁰ On this probabilistic weighting, see Mark Lemley and Carl Shapiro, *Probabilistic Patents* (2005) (available at <http://faculty.haas.berkeley.edu/shapiro/patents.pdf>)

little value. And preserving neutrality between portfolio-based adjudication and patent-specific determinations of validity, essentiality, and infringement would preserve the ability of implementers of standards to test patent validity and contest infringement, limiting the tactical benefit that owners of large SEP portfolios believe they get from communicating to licensees, implicitly or explicitly, that in any large set of SEPs, the implementer will infringe at least one. Both steps would focus FRAND disputes on smaller numbers of what may be more inventive and valuable patents, hopefully reducing the transaction costs of dispute resolution.

Key Issue 4: Patent Transfers

Introductory Comments

As noted in the Introductory Comments regarding Key Issue 2, a number of standards development organizations have clarified their IPR policies to address the binding effect of F/RAND commitments on transferees of SEPs that are subject to voluntary licensing commitments. This is a positive development, not least because it represents a rare area of agreement between SEP licensors and implementers of standards.

Nevertheless, it is important to recognize the limits of that agreement. Confirming that transferees of a patent that is subject to a voluntary F/RAND commitment is of limited value to implementers of standards seeking to predict licensing costs if the F/RAND commitment itself is susceptible to a wide range of interpretations. An operating company that itself implements standards and is therefore vulnerable to counter-suit when it asserts claimed SEPs may be motivated not to assert SEPs at all, or, if it does assert them, to moderate its licensing demands because of a concern that positions it takes will be used against it when it is defending future infringement claims. A Patent Assertion Entity (“PAE”)²¹ does not face this constraint and therefore is motivated to

²¹ We define PAEs as the US Federal Trade Commission defines them:

“PAEs are firms with a business model based primarily on purchasing patents and then attempting to generate revenue by litigating against, or licensing to, persons who are already practicing the patented technology.”

US Federal Trade Commission, *Agency Information Collection Activities; Submission for OMB Review; Comment Request* 79 Federal Register 28715 (19 May 2014) (available at

interpret F/RAND as imposing no constraint or a minimal constraint on its effort to maximize licensing returns.

Cisco is a bystander in the “smartphone wars”; though we have defended against numerous SEP-related patent assertions, the SEP-related cases we have faced involve assertions by PAEs. In our direct experience, PAEs are motivated to take positions with respect to what F/RAND means that are impossible to reconcile with the widespread implementation of standards like Wi-Fi. In one dispute, a PAE asserted 19 patents claimed to be essential to implement Wi-Fi against hotels and coffee shops, demanding \$2,500 per location to license patents that the US district court judge found were implemented in Wi-Fi baseband processors that sell for \$5 or less. The PAE nevertheless claimed that its demands were consistent with the obligation to license on F/RAND terms patents that its predecessors in interest had committed to license during their participation in the development of Wi-Fi at the IEEE.²²

As the winds of “creative destruction” buffet SEP owners, there will inevitably be changes in business models from operating company to patent licensor, as we have seen in the mobile infrastructure and handset spaces. In addition to causing some companies to turn to outbound patent licensing, the changes in business model will also lead some companies to sell patents to PAEs, a phenomenon that has likewise been observed in the mobile infrastructure and handset spaces.²³ Economists since the 1830s have recognized that purchasers of complements, including implementers of standards seeking licenses to SEPs, face a problem:

http://www.ftc.gov/system/files/documents/federal_register_notices/2014/05/140519agencyinfocollectionfrn.pdf).

²² The District Court disagreed, ruling that the PAE, Innovatio IP Ventures, was entitled to a royalty of 9.56 cents per wireless baseband processor. *In re Innovatio IP Ventures, LLC Patent Litigation*, No. 11 C 9308, 2013 WL 5593609 (N.D. Ill. Oct. 3, 2013).

²³ For example, PAE Unwired Planet has disclosed that it purchased patents from Ericsson “related to 2G, 3G and LTE technologies.” <http://www.unwiredplanet.com/technology> . Sisvel has disclosed the purchase of patents in 47 families from Nokia, including “more than 350 patents and applications ...declared essential to second, third and fourth-generation communications standards, including GSM (Global Systems for Mobile communications), WCDMA (Wide-Band Code Division Multiple Access) and LTE (Long Term Evolution).” <http://www.sisvel.com/index.php/wireless>

The problem is one economists call "Cournot complements." Cournot complements means that if two parties hold monopolies on products, each of which must be aggregated into a single whole, we cannot rely on market pressure to produce an efficient total price. Rather, unless the sellers can coordinate their pricing, each seller will charge its own supracompetitive price, and the resulting integrated product price will be inefficiently high. If, as commonly occurs in SSOs, there are not two patent owners but ten or twenty or ninety, the problem is correspondingly worse.²⁴

Transactions in which SEP portfolios are divided exacerbate the Cournot complements problem. They may therefore result in implementers of standards paying more for SEPs and charging purchasers of products that implement standards more to recover their increased input costs. Whatever one thinks of the role of F/RAND licensing in spurring innovation, it is difficult to argue plausibly that transactions that do nothing but drive up licensing costs by splitting SEP portfolios contribute to consumer welfare.

One way to address the potential increased costs associated with the dispersion of SEPs by operating companies to multiple PAEs is for standards bodies to follow the lead of the IEEE Standards Association and explicitly focus the F/RAND inquiry on how much a particular patented invention contributes to the standard to which it is essential.²⁵

²⁴ Mark A. Lemley, *Ten Things to do About Patent Holdup of Standards (And One Not To)*, Boston College Law Review, volume 48, page 149 (quote from pages 159-160 (2007), available at <http://lawdigitalcommons.bc.edu/bclr/vol48/iss1/6>

²⁵ IEEE Standards Association By-Laws (approved 8 February 2015), definition of "Reasonable Rate":

"Reasonable Rate" shall mean appropriate compensation to the patent holder for the practice of an Essential Patent Claim excluding the value, if any, resulting from the inclusion of that Essential Patent Claim's technology in the IEEE Standard. In addition, determination of such Reasonable Rates should include, but need not be limited to, the consideration of:

- *The value that the functionality of the claimed invention or inventive feature within the Essential Patent Claim contributes to the value of the relevant functionality of the smallest saleable Compliant Implementation that practices the Essential Patent Claim.*
- The value that the Essential Patent Claim contributes to the smallest saleable Compliant Implementation that practices that claim, in light of the value contributed by all Essential Patent Claims for the same IEEE Standard practiced in that Compliant Implementation.
- Existing licenses covering use of the Essential Patent Claim, where such licenses were not obtained under the explicit or implicit threat of a Prohibitive Order, and where the circumstances and resulting licenses are otherwise sufficiently comparable to the circumstances of the contemplated license.

Emphasis supplied.

That inquiry yields the same answer whether the patent is owned by a participant in standards development or a PAE that subsequently acquires the SEP.²⁶

Response to Selected Questions

Response to Questions 4.1.1, 4.1.2, and 4.1.3

As noted in the introductory comments, Cisco has observed frequent transfers of SEPs to Patent Assertion Entities, or (in economic effect indistinguishable) changes in business models as former operating companies become PAEs in response to declines in the commercial fortunes of their operating businesses. Each such event is a transfer from an owner with a low propensity to assert SEPs and to seek unfair and unreasonable licensing terms to an owner with a higher propensity to assert SEPs and to seek unfair and unreasonable licensing terms.

Some of the operating companies that sell SEPs sell their entire portfolio. Others sell portions of their portfolios, sometimes reserving a participation interest that permits them to profit from the subsequent assertion of the patents they sell. The second set of

See also the opinion of the United States Court of Appeals for the Federal Circuit in *Ericsson Inc., et al. v. D-Link Systems, Inc., et al.* (4 December 2014) at pp. 50-51:

When dealing with SEPs, there are two special apportionment issues that arise. First, the patented feature must be apportioned from all of the unpatented features reflected in the standard. Second, the patentee's royalty must be premised on the value of the patented feature, not any value added by the standard's adoption of the patented technology. *These steps are necessary to ensure that the royalty award is based on the incremental value that the patented invention adds to the product, not any value added by the standardization of that technology.*

Emphasis supplied.

²⁶ While focusing the F/RAND inquiry on the incremental value added to the standard by the patented invention would help address the Cournot complements problem, it would not eliminate it, as implementers would still be faced with the additional transaction costs associated with multiple negotiations (and potentially, litigation) to obtain licenses to patents formerly owned by a single patentee. Thus, the dispersion of patents would still increase the nuisance value of resolving disputes, and therefore the cost that implementers might pay to avoid those disputes. Those costs, are, of course, passed on to consumers in the form of higher prices for Wi-Fi access points, smartphones, and wireless infrastructure products.

transactions predictably drive up licensing costs because of the familiar “Cournot complements” problem and because they multiply transaction costs. The effect is to increase the licensing costs implementers face and, therefore, the prices that consumers pay for products that implement standards. SDOs have the opportunity to mitigate this wealth transfer from consumers to SEP owners through the adoption of IPR policies that focus the F/RAND inquiry on the incremental value that a patented invention adds to the standard to which it is essential, as the IEEE Standards Association has done and as has recently been mandated by the US Court of Appeals for the Federal Circuit in the *Ericsson v. D-Link* decision announced in December 2014.

Key Issue 5: Patent Pools

Introductory Comments

Patent pools consisting of multiple SEPs essential to the same standard or to multiple standards implemented in the same product offer a way for industry participants to mitigate the complements problem noted in the Introductory Comments for Issue 4.²⁷ Pool licensing terms, which are typically available publicly, offer implementers greater transparency and predictability regarding implementation costs.

Not every patentee owning a SEP will want to participate in pools. Some SEP owners with a primarily defensive orientation will avoid joining pools because they are concerned with giving up SEPs that they could otherwise use to deter strategic patent litigation initiated against them. SEP owners with outbound licensing models may avoid joining pools because they believe that they will earn more from monetizing patents themselves than they will if they outsource the licensing and assertion function to a pool administrator. Given the different incentives and business models, patentees should never be coerced into joining a pool, though this principle should not exclude the possibility that participants in a particular standards development effort would encourage all participants to offer licenses through a pool for a particular standards development effort.

²⁷ Discussed at pp. 19-20 of this Response.

Patent pools that enjoy widespread participation by owners of SEPs essential to a standard offer a potentially attractive way to mitigate the royalty stacking faced by implementers of a standard. Because royalty stacking results in higher prices for products that implement standards, there is an important public interest in facilitating the formation of patent pools, in particular by balancing the competition law concerns that pools that include substitute technologies raise against the pro-competitive benefit that pools that combine complementary technologies provide. Unfortunately, because the scope of a particular patent or patent application can change through the patent prosecution process and even after issuance through judicial interpretations of patent claims, it may not be clear *ex ante* whether particular patents are complements or substitutes. The Commission has recognized this concern in paragraph 254 of its Technology Transfer Block Exemption Guidelines²⁸, and helpfully provided pool participants with guidance that will facilitate pool formation.

Another step that would facilitate participation in pools by companies like Cisco that view their patent portfolio primarily as a deterrent to strategic patent litigation initiated by competitors is for competition enforcement agencies to address with greater specificity the interplay between pool participation and defensive suspension provisions. For example, does a licensor that joins a pool retain the ability to cause a pool licensee to stop selling products that implement a standard to a third party that has sued the licensor? Greater clarity regarding the extent to which pool agreements

²⁸ Guidelines on the application of Article 101 of the Treaty on the Functioning of the European Union to Technology Transfer Agreements (2014/C 89/03), para 54:

The distinction between complementary and substitute technologies is not clear-cut in all cases, since technologies may be substitutes in part and complements in part. When due to efficiencies stemming from the integration of two technologies licensees are likely to demand both technologies, the technologies are treated as complements, even if they are partly substitutable. In such cases it is likely that in the absence of the pool licensees would want to licence both technologies due to the additional economic benefit of using both technologies as opposed to using only one of them. Absent such demand based evidence on the complementarity of the pooled technologies, it is an indication that these technologies are complements if (i) the parties contributing technology to a pool remain free to license their technology individually and (ii) the pool is willing, besides licensing the package of technologies of all parties, to license the technology of each party also separately and (iii) the total royalties charged when taking separate licences to all pooled technologies do not exceed the royalties charged by the pool for the whole package of technologies.

can be structured to permit pool licensors to retain defensive rights would encourage companies that primarily patent defensively to participate in patent pools.

An additional factor that would encourage pool participation is greater clarity around what F/RAND means. Two US judicial decisions that have determined F/RAND licensing terms have both looked to pool licensing terms as a reference point regarding what licensing terms are compliant with a F/RAND licensing commitment.²⁹ The opinions show the advantages and disadvantages of looking to pools as a reference point in F/RAND determinations. One advantage, as Judge Robart noted in his opinion in *Microsoft v. Motorola*, is that participants in the formation of a patent pool:

“tr[y] to strike a balance between setting a royalty high enough to motivate a significant number of patent holders to contribute their patents to the pool and low enough to ensure that licensees would implement the [standard] rather than use alternatives.”³⁰

Judge Robart went on to note that

“[t]his practice nicely aligns with the two cornerstones of the RAND obligation: (1) [Standards Development Organizations] seek to include advanced technology to create valuable standards, while at the same time, (2) ensuring widespread adoption.”³¹

However, as both Judge Robart and Judge Holderman, the author of the *Innovatio* opinion, noted, because the pools at issue in the F/RAND decisions they each wrote awarded royalties based on proportionality, without consideration of patent strength or weakness, they might under-compensate patentees that contributed particularly valuable patents to a pool and over-reward patents that are invalid or, even if valid, add little or nothing to the standard to which they are essential.

²⁹ *Microsoft Corp. v. Motorola, Inc.*, US District Court for the Western District of Washington (25 April, 2013) at pp. 148—189; *In re Innovatio IP Ventures, LLC Patent Litigation*, US District Court for the Northern District of Illinois (3 October 2013) at pp. 69--71 .

³⁰ *Microsoft Corp. v. Motorola, Inc.*, at p. 165. The balance that participants in pool formation attempt to find between rewarding patentees and ensuring widespread adoption correlates with the finding of scholars that the companies that join pools are vertically integrated companies that are both patentees and implementers. See Anne Layne-Farrar and Joshua Lerner, *To Join or Not to Join: Examining Patent Pool Participation and Rent Sharing Rules*, *International Journal of Industrial Organization* (2011), pp. 294—303.

³¹ *Microsoft Corp. v. Motorola, Inc.*, at p. 165.

What emerges from these considerations is that pool royalties are informative regarding a presumptive F/RAND rate, but that patentees and prospective licensees should remain free to persuade courts to adjust awarded royalties upward or downward based on proof of patent strength or weakness. This use of pool royalties as a benchmark might encourage licensors that own SEP portfolios of average strength to join pools, because they are less likely to obtain higher returns by staying outside a pool, but will need to pay the costs associated with staffing bilateral licensing negotiations and potentially patent assertions.

Key Issue 6: F/RAND

Introductory Comments

Cisco agrees with a knowledgeable observer that “clarifying some FRAND rules could decrease the amount of costly litigation and produce a more efficient system of standard formation and standard licensing by providing legal certainty.”³² The prevalence of disputes regarding FRAND licensing terms for widely implemented standards is a consequence of the different views industry participants have regarding what licensing terms are consistent with the obligation to license on FRAND terms. This divergence of views makes it difficult for implementers of standards to predict licensing costs. As with any uncertainty regarding costs, the inability to predict licensing costs can result in inefficient pricing decisions. For example, prudent companies may over-estimate future licensing costs, leading them to charge more for the products they sell. They will therefore sell fewer products to price-sensitive consumers. In this way, the uncertainty over what licensing terms are consistent with F/RAND reduces consumer welfare in Europe and globally.

Recent judicial decisions in the United States suggest convergence around the principle that the right way to value an SEP is to ask what value the patented invention adds to the standard to which it is essential. As the US Court of Appeals for the Federal Circuit wrote in *Ericsson v. D-Link* in December 2014, in valuing SEPs, “[f]irst the patented features must be apportioned from all of the unpatented features reflected in the

³² Eliana Garces Tolon, *Licensing of Standards Essential Patents: Antitrust Intervention is Not Big Enough a Fix*, COMPETITION POLICY INTERNATIONAL (October 2013) at p. 96.

standard” and “[s]econd, the patentee’s royalty must be premised on the value of the patented feature, not any value added by the standard’s adoption of the patented technology.”³³ The European Commission suggested the same approach in its 2011 Horizontal Cooperation Guidelines, where it wrote that the touchstone for the evaluation of FRAND is “the economic value of the IPR.”³⁴

This principle focuses the valuation inquiry where it belongs: on the inventive contribution of the individual patent. This should address concerns that clarifying the meaning of FRAND will discourage innovation. To the contrary: owners of patents that meaningfully advance the state of the art will, as they should, be rewarded. But owners of “just in time” patents³⁵ that do little or nothing to improve a standard will enjoy little or no reward.

The focus on the inventive contribution that individual patents make to a standard presupposes that patentees and licensees retain the ability to value individual patents, in other words, that neither patentees nor licensees are required by misguided policies of governments or SDOs to mandate or encourage the resolution of licensing disputes only at the level of patent portfolios. While both patentees and licensees may find portfolio-based adjudication to be attractive as a way to reduce dispute resolution costs, the choice of how to resolve disputes must be left to the agreement of the parties.

Mandating portfolio-based resolution will inevitably discourage prospective licensees, because if a portfolio-based adjudication, there may be little marginal benefit to the licensee of a successful challenge. As Advocate General Wathelet recognized:

if undertakings supplying standard-compliant products and services cannot call into question the validity of a patent declared to be essential to that standard, it could prove effectively impossible to verify the validity of that patent because other undertakings would have no interest in bringing proceedings in that regard.³⁶

³³ *Ericsson Inc., et al. v. D-Link Systems, Inc., et al.* (4 December 2014) at pp. 50-51.

³⁴ Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements, O.J. 2011/C 11/01 at ¶ 289.

³⁵ Discussed at pp. 6-7 of this Response.

³⁶ European Court of Justice Case C-170/13, *Huawei Technologies v. ZTE*, opinion of Advocate General Wathelet (delivered 20 November 2014) at ¶ 95.

Mandating portfolio-based adjudication will also discourage use of national patent litigation, because the portfolio may contain patents issued in different jurisdictions. It will thus have the effect of discouraging access to national courts. Finally, one public good that judicial decisions in national courts create is that public decisions regarding issues like patent valuation inform parties to negotiations. Those parties, in turn, “bargain in the shadow of the law” by shaping their offers to correspond to their expectations of what courts would decide. Portfolio-based adjudication implies the use of “secret courts” such as party-appointed arbitrators whose decisions on valuation and patent validity would be hidden from public view.

One function of the F/RAND licensing commitment is to prevent strategic behaviour by SEP owners, who may seek to avoid licensing to direct competitors in order to hinder them. This explains the principle in the patent policies in both the IEEE and ITU-T IPR policies requiring that licenses be granted “to an unrestricted number of applicants.”³⁷ Nevertheless, some SEP licensors take the position that they are not obligated to grant licenses to all implementers, and can instead refuse to license at particular levels of the supply chain.³⁸ SEP licensors claim that this reflects historical practice, despite having been parties to numerous previous licenses granted to companies at levels of the supply chain at which they now refuse to license. A more plausible explanation for their preference is the desire to maximize returns by seeking to license makers of higher value devices rather than lower value components, a position that is inconsistent with the view that the value of a SEP is the increase in value the invention claimed in the SEP brings to the standard to which it is essential, no matter where that invention is implemented.

Beyond adherence to the requirement that licenses be granted to an unrestricted number of applicants, refusals to license can also be addressed by applying the

³⁷ IEEE Letter of Assurance Form, available at <https://development.standards.ieee.org/myproject/Public//mytools/mob/loa.pdf> ; ITU-T Patent Statement and Licensing Declaration Form, available at http://www.itu.int/dms_pub/itu-t/oth/04/04/T04040000010003PDFE.pdf

³⁸ There is a helpful discussion of this issue in the brief filed by friends of the court Intel Corporation, Aruba Networks, Dell, Hewlett Packard, NewEgg, SAS Institute, Sierra Wireless, Vizio, and Xilinx in the US Court of Appeals for the Ninth Circuit in the pending appeal in *Microsoft Corporation v. Motorola Inc.* (case number 14-35393) (brief filed 21 November 2014). The relevant discussion is on pp. 8-10 of the brief.

principle that the value of a SEP is measured at the level of the smallest salable patent-practicing unit that implementers the claimed invention, with the possibility of further apportionment if the smallest salable unit performs additional functions. This principle is accepted in US patent litigation.³⁹

The question of what licensing terms are consistent with a FRAND commitment must be resolved taking into account the very real concerns that implementers of standards have with the cumulative licensing expense associated with the implementation of a standard. As Judge Robart explained, in the real world, “a RAND negotiation would not be conducted in a vacuum.” Rather, the parties to that negotiation “would instead consider other SEP holders and the royalty rate that each of these patent holders might seek from the implementer based on the importance of these other patents to the standard and to the implementer’s products.”⁴⁰ And no prudent implementer of a standard can attach much value to the fact that at one point in time the owners of SEPs are primarily operating companies that patent defensively: as discussed in the introductory comments to Key Issue 4,⁴¹ in a world where patents are freely traded, the fact that at one point in time patents are owned by companies with a low propensity to assert them is cold comfort to implementers, because today’s operating company may sell patents to, or may itself become, tomorrow’s PAE.

³⁹ *VirnetX et al. v. Cisco Systems*, US Court of Appeals for the Federal Circuit (16 September 2014) at p. 29 (“the smallest salable unit approach is intended to produce a royalty base much more closely tied to the claimed invention than the entire market value of the accused products....In other words, the requirement that a patentee identify damages associated with the smallest salable patent-practicing unit is simply a step toward meeting the requirement of apportionment. Where the smallest salable unit is, in fact, a multi-component product containing several non-infringing features with no relation to the patented feature ... the patentee must do more to estimate what portion of the value of that product is attributable to the patented technology.”).

⁴⁰ *Microsoft Corp. v. Motorola, Inc.*, at p. 40. SEP licensors have attempted to read into the recent decision of the US Court of Appeals in *Ericsson v. D-Link* a rejection of stacking concerns. But the opinion itself contains no such rejection. Rather, it upholds the decision of the trial court not to instruct the jury in that case on the potential for royalty stacking where the accused infringer “failed to come forward with any evidence of other licenses it has taken on Wi-Fi essential patents or royalty demands on its Wi-Fi enabled products. Because D-Link failed to provide any evidence of actual royalty stacking, the district court properly refused to instruct the jury on royalty stacking.” *Ericsson Inc., et al. v. D-Link Systems, Inc., et al.* (4 December 2014) at pp. 55. The opinion anticipates that a fact-finder should consider stacking concerns whenever the accused infringer introduces evidence concerning other licensing demands it has faced or may face in future from owners of SEPs claimed to be essential to implement the same standard.

⁴¹ See pp. 17-21 of this Response.

As US law recognizes, the licensing terms negotiated for past licenses for the same or similar patents may be probative regarding what terms are consistent with FRAND. However, terms coerced because of the availability of injunctions or exclusion orders reflect a negotiation skewed in favour of the patentee, and are therefore flawed comparators. Policymakers should understand the advocacy of SEP licensors for the use of past negotiated licenses as comparators for what it is: an effort to project forward in time the hold-up power that injunctions provided them before the unconstrained availability of injunctive relief for SEPs was condemned by competition enforcement agencies and courts.⁴²

Response to Selected Questions

Response to Question 6.1.4

The commitment to license on FRAND terms in a commitment to make FRAND offers. At the time it makes a good faith offer to license, the patentee is presumably unsure as to whether the putative licensee will accept its offer. So the offer must be one that, if accepted, would comply with the voluntarily-assumed commitment to grant licenses on FRAND terms. This is true of the first offer and all subsequent offers that are made through the course of negotiation.

We note that the persistence of this issue is troubling. In discussions in formal SDOs like ETSI of the question of the availability of injunctive relief, SEP licensors have expressed a concern with the time that negotiation and resolution of disputes may take. It is odd then, that some SEP licensors seem to insist on the right to make non-FRAND offers, at least initially. If they are motivated to resolve negotiations quickly, then why would they *not* want to initiate negotiations with offers that are consistent with the obligation to license on FRAND terms that they voluntarily accepted.

Response to Question 6.1.5

We refer the Commission to our introductory comments in response to Key Topic 5. We note in addition that the question of “bias” regarding the valuation of patents contributed to pools versus patents offered bilaterally should not be assumed, as the

⁴² See footnote 58, below (collecting selected materials).

question seems to do. As noted in our response to Key Topic 5, the companies that tend to join pools are companies with vertically integrated business models. The Commission should not assume that the patents those companies own are more or less valuable than patents owned by companies that license bilaterally. The different approaches that companies take to patent licensing is likely to relate more to different business models than to greater or lesser patent quality.

Response to Question 6.2.1

We have set out in our Introductory Comments for this Key Topic the areas where additional guidance regarding what FRAND means is needed. In that discussion, we have also pointed to existing US case law in the context of SEPs. There are also recent decisions in China setting FRAND royalties, including both decisions reached by judges in patent litigation and competition law enforcers at the close of investigations.

The diversity of approaches taken by courts and others reinforces the importance of SDOs “control[ing] their own destiny” by setting guidelines regarding the meaning of FRAND. The alternative is to leave the question of what SEPs are worth to the vagaries of litigation in different national legal systems, some of which may fill in the empty spaces in the “incomplete contracts”⁴³ that SDO IPR policies have been called in ways that are unwelcome to SEP licensors.

Response to Question 6.2.2

Voluntary *ex ante* unilateral disclosure of licensing terms is one way to achieve the goal of providing implementers of standards with better information about the licensing terms for patents essential to implement a standard. SDO adoption of terms that provide additional guidance as to what FRAND means is another way, and the two are not mutually exclusive. Efforts to provide greater transparency regarding which patents are actually essential to implement a standard, for example through a requirement to update previously-made declarations, are a third, also non-exclusive, approach.

⁴³ Joshua Wright, SSOs, FRAND, and Antitrust (12 September 2013), available at http://www.ftc.gov/sites/default/files/documents/public_statements/ssos-frand-and-antitrust-lessons-economics-incomplete-contracts/130912cpip.pdf

Critics of voluntary ex ante disclosure have made a number of arguments, none of which withstand close scrutiny. They have argued that even voluntary ex ante disclosure will be coercive, in that participants in standards development will require SEP licensors to state not-to-exceed licensing terms. This has not been the experience at the IEEE Standards Association, which has had voluntary ex ante unilateral disclosure since 2007. They have also argued that voluntary ex ante unilateral disclosure would lead to price fixing between licensors, an argument that would seem equally applicable to any public disclosure of pricing information (for example, petrol stations on adjacent street corners using signs with prices to attract customers). Not surprisingly, this argument has been rejected by US and European competition enforcement agencies. Competition enforcers recognize the pro-competitive benefits of better access by participants in standards development to information about anticipated licensing costs, even through joint discussion among participants of proposed licensing terms.⁴⁴

⁴⁴ In a 2009 speech, then Commissioner for Competition Neelie Kroes encouraged SDOs to explore voluntary ex ante disclosure of not-to-exceed licensing terms, observing:

I see no inherent reason why such a mechanism would fall foul of the competition rules, unless it is some kind of smokescreen for a cartel. Indeed, the benefits can be significant since competition on price can happen before the standard is set, and the choice of technology in the standard can be based on a full understanding of the price and quality trade-offs that businesses and individuals make every day. I think it is a shame that some have tried to invoke the competition rules as an argument for slowing down progress in this direction. *I would encourage standard-setting organisations to investigate whether this could be a way forward.*

Neelie Kroes, *Setting the Standards High* (15 October 2009), available at http://europa.eu/rapid/press-release_SPEECH-09-475_en.htm?locale=en (emphasis supplied).

Similarly, in a 2005 speech, Deborah Platt Majoras, then the Chairman of the US Federal Trade Commission, said:

[T]ransparency on price can increase competition among rival technologies striving for incorporation into the standard at issue. They may allow the “buyers” (the potential licensees in the standard-setting group) to get a competitive price from the “sellers” (the rival patentees vying to be incorporated into the standard that the group is adopting) before lock in ends the competition for the standard and potentially confers market power on the holder of the chosen technology If joint ex ante royalty discussions succeed in staving off hold up, we can generally expect lower royalty rates to lead to lower marginal costs for the standardized product and lower consumer prices. By mitigating hold up, joint ex ante royalty discussions might also make possible the more timely and efficient development of standards. A reduction in ex ante uncertainty on royalty rates may “reduce the extent to which litigation is needed to resolve issues relating to patent and standards. Joint ex ante royalty discussions also could prevent delays in the

Finally, opponents of voluntary unilateral ex ante disclosure of licensing terms, many of the same SEP licensors who have opposed efforts to provide additional guidance regarding the meaning of FRAND, have argued that the availability of more information about licensing terms would discourage innovation. The argument seems to be that if prospective licensees know of proposed licensing terms, they will be empowered to negotiate licensing terms before “hold-up” occurs, and, so empowered, will negotiate terms more effectively than they would be able to do subsequently, driving down returns to licensors. Of course, as the experience of the numerous royalty-free standards development efforts that have resulted in ubiquitous standards shows, there is no intrinsic relationship between the returns to SEP licensors and the quantum of innovation in standards development.

Response to Questions 6.3.1 and 6.3.2

Broad portfolio licensing can be attractive to licensees who seek broad “patent peace” and freedom to operate. For both licensors and licensees, portfolio licensing can offer efficient resolution of licensing disputes. However, the choice regarding the scope of

implementation of the standard resulting from ex post litigation (or threats of it), which may involve inefficient allocation of resources intended for innovation.

Deborah Platt Majoras, *Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting* (23 September 2005), available at

http://www.ftc.gov/sites/default/files/documents/public_statements/recognizing-procompetitive-potential-royalty-discussions-standard-setting/050923stanford.pdf (internal quotations and footnotes omitted).

See also, Letter, Thomas Barnett to Michael Lindsay (30 April 2007) at p. 10 (available at <http://www.justice.gov/atr/public/busreview/222978.pdf>) (voluntary unilateral ex ante disclosure of licensing terms “could generate ... benefits as patent holders may compete to offer the most attractive combination of technology and licensing terms.”); Letter, Angel Tradecete Gocera to Karl Heinz Rosenbrock (21 June 2006) (“a ‘pure’ *ex ante* regime for a particular standard, where competition on the basis of both technology and price while the standard is being developed, has the potential of bringing the price down to the competitive level, and avoiding the possibility of *ex post* monopoly pricing once one technology from among many has been chosen for the standard (and once lock-in to the standard has occurred.”).

licenses in a negotiation or in a dispute resolution process must be left to the parties, with the default being national patent litigation (subject to limitations on the availability of injunctive relief regarding patents that the patentee or its predecessor-in-interest has voluntarily committed to license on FRAND terms). If parties choose portfolio-based adjudication, whether on a national level or globally, then unbiased sampling techniques may be a helpful way of providing the adjudicator with information it can consider in determining a portfolio-based royalty rate and other terms that comply with the patentee's obligation to grant licenses on FRAND terms.

It follows that policymakers should avoid mandating licensing on either a portfolio-basis or at the level of individual patents. A licensee that believes that it has a good faith basis for challenging the validity of one or more patents offered for license, or believes that such patents are not essential to implement a standard, must remain free to assert its position in any dispute resolution process.⁴⁵ The licensee will, of course, need to weigh the time and expense of asserting its position against the potential benefits of limiting the set of patents for which it is required to pay FRAND compensation to license.

Response to Question 6.4.3

The best way to allocate value among the various owners of patents that are essential to the same standard is to focus on what the specific invention claimed in the patent that is essential to implement a standard contributes to the value of the standard. This approach encourages innovation by rewarding patentees that own inventions that significantly improve standards, in particular relative to alternatives available at the time of standardisation, while providing little or no reward to patentees whose inventions do little or nothing to improve the standard. By aligning rewards with the degree of innovation, this approach will continue to provide incentives to innovate for those companies whose participation in standards development is driven by outbound licensing.

⁴⁵ As Advocate General Wathelet noted in his opinion in the Huawei / ZTE dispute, if accused infringers are discouraged from challenging validity, no such challenges will be asserted. See quotation on page 26, referenced in fn. 36.

As the question implies, while proportionality can be a starting point in deriving a reasonable royalty, the application of pure proportionality assumes that all patents are equal in technical merit and therefore *ex ante* value, which is unlikely to be true. Pure proportionality also encourages the filing of patents that do little to improve the standard in order to increase the patentee's "count", which may explain the phenomenon of "just in time patenting" that has been observed among some participants in standards development.⁴⁶ Use of proportionality also encourages the over-disclosure of claimed SEPs we discuss earlier in this Response.⁴⁷

Response to Question 6.5.2

Complex interoperability standards require the implementation of hundreds or thousands of patented inventions. In that situation, identifying the contribution that a particular patented invention makes to the smallest, simplest product that implements the claimed invention may not be easy. Performing the same task with respect to a larger, more complex product that may contain numerous other components performing numerous other functions makes valuation even more difficult. As the US Federal Trade Commission recognized in its 2011 IP Marketplace Report, "the practical difficulty of identifying a royalty rate that accurately reflects the invention's contribution to a much larger, complex product counsels toward choosing the smallest priceable component that incorporates the invention."⁴⁸ Where the smallest priceable component itself performs a number of functions beyond the claimed invention, then further allocation may be required to isolate the contribution made by the patented invention to the value of the component.⁴⁹

⁴⁶ Byeongwoo Kang and Rudi Bekkers, *Just-in-Time Inventions and the Development of Standards: How Firms Use Opportunistic Strategies to Obtain Standard-Essential Patents (SEPs)*. ECIS Working Paper 1.3.1 Electronic copy available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2284024

⁴⁷ See discussion at pp. 14 to 18 of Response.

⁴⁸ US Federal Trade Commission, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies With Competition* (March 2011) at page 25, available at <http://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf>

⁴⁹ *VirnetX, Inc. v. Cisco Systems*, US Court of Appeals for the Federal Circuit (16 September 2014) at page 29:

Beyond ease of administration, the use of the smallest saleable unit as the royalty base serves the critical function of preventing SEP owners from claiming royalties based on the innovations that implementers of standards and others create. As a company that implements standards along with a valuable proprietary technology to create successful products in areas like Ethernet switching, wireless access points, and videoconferencing equipment, Cisco understands that standards are platforms on top of which companies do significant proprietary innovation. Some of that innovation is incorporated in the products themselves, for example user interface design and software that provides enterprise customers with the ability to manage and configure products. Some is external to the products, for example the creation of service and support resources that gives enterprise customers the assurance that any interruption to the availability of their networks will be addressed quickly and successfully.

SEP owners that seek to collect royalties on the prices of devices rather than (at most) the smallest salable unit that implements the portion of the claimed invention that is essential to implement a standard (minus “technically basic additional elements”)⁵⁰ seek to enrich themselves based on the innovations contributed by implementers of standards. The use of the smallest salable patent-practicing component is therefore compelled by the need to reward implementers of standards for the value that they add to the products they develop.

Key Issue 7: Patent Dispute Resolution

Introductory Comments

In part because of the lack of progress at leading SDOs regarding developing additional guidance as to the meaning of FRAND, SEP-related licensing disputes are becoming more common. Alternative dispute resolution (“ADR”) can play a constructive role in

Where the smallest salable unit is, in fact, a multi-component product containing several non-infringing features with no relation to the patented feature infringing features with no relation to the patented feature ... the patentee must do more to estimate what portion of the value of that product is attributable to the patented technology.

⁵⁰ *In re Innovatio IP Ventures, LLC Patent Litigation*, United States District Court for the Northern District of Illinois (26 July 2013) at p. 35 (refusing to permit patentee to escape from RAND licensing obligation because claims of patents included references to enabling technology like “on a computer” or “using a microprocessor”).

the resolution of SEP-related licensing disputes, but only where the parties agree on the scope of the dispute to be submitted to arbitration. The decision to resolve disputes through ADR can have important strategic implications for both SEP owner and potential licensee, including relative to portfolio-based adjudication versus patent-specific dispute resolution. In light of the importance of the decision, policy prescriptions that tilt the balance in favour of or against ADR will also tilt the outcome of particular disputes.

Tilting the balance in favour of ADR also raises several significant public policy concerns. The first is the potential for foreclosing the right of access to the courts that is fundamental to Commission law.⁵¹ The second is the transparency associated with judicial proceedings versus the more opaque nature of arbitration, which is typically protected by non-disclosure obligations. Judicial decisions in the United States have already, in the words of a senior official of the Antitrust Division of the US Justice Department, “provide[d] important *public* guidance about how ... RAND rates should be calculated, which should make it easier for parties (and other courts) to resolve these kinds of disputes.”⁵² SEP owners may prefer arbitration because decisions about royalty rates, or whether or not particular asserted patents are valid or infringed through the implementation of a standard will be protected from public disclosure, and will therefore not inform the negotiating positions of future licensors. Policy positions favouring arbitration will also favour SEP owners who seek to avoid publicity in order, perhaps, to assert patents whose validity has previously been questioned by arbitrators.

Key Issue 8: Injunctions for Patents Subject to Voluntary FRAND Licensing Commitments

Like other participants, SEP owners choose to participate in standards development. In groups that require participants to license SEPs on royalty-free or FRAND terms,

⁵¹ As explained in *ITT Promedia v. Commission*, [1998] ECR-II-2397, at ¶ 60 (“The ability to assert one’s rights through the courts and the judicial control which that entails constitute the expression of a general principle of law which underlies the constitutional traditions common to the Member States”).

⁵² Renata Hesse, *The Art of Persuasion: Competition Advocacy at the Intersection of Antitrust and Intellectual Property* (8 November 2013) at page 12 (available at <http://www.justice.gov/atr/public/speeches/301596.pdf>) (emphasis supplied).

patentholders that participate understand that by participating they are committing to license. A commitment to license is a commitment not to enjoin.⁵³

Companies that license SEPs have nevertheless tried to use injunctions to coerce implementers into paying super-competitive licensing terms. Cisco has itself been the victim of this tactic. Particularly when injunctions are sought against a number of companies that compete in the sale of products that implement a standard, the inexorable effect of the availability of injunctive relief is that costs to make products increase, the prices of those products also increase, and demand decreases. Fewer consumers buy products that implement standards, and those that do pay more. The availability of injunctive relief to SEP owners thus has the effect of decreasing consumer welfare while transferring wealth from consumers to SEP owners.

Fortunately, there is growing awareness among courts and competition enforcement agencies in the US, Europe, and elsewhere that the use of injunctions by SEP owners that voluntarily agree to license SEPs on FRAND terms can represent an abuse of a dominant position⁵⁴ and can diminish incentives to participate in standardization.⁵⁵ Despite this awareness, and despite encouragement by enforcement officials to address

⁵³ European Court of Justice Case C-170/13, *Huawei Technologies v. ZTE*, opinion of Advocate General Wathelet (delivered 20 November 2014) at ¶ 65 (comparing FRAND commitment to “license of right” under Article 23(1) of the German Patent Act, and noting that “where a patentee has a license of right, an injunction may not, in principle, be issued against him.”).

See also Antitrust Division Deputy Assistant Attorney General Renata Hesse’s speech, *Six “Small” Proposals to SDOs Before Lunch* (10 October 2012), available at <http://www.justice.gov/atr/public/speeches/287855.pdf> at p. 10:

To my mind, a patent holder who participates in the standard-setting activities and makes a F/RAND licensing commitment is implicitly saying that she will license the patent claims that must be used to implement the standard to any licensee that is willing and able to comply with the licensing terms embodied in the commitment. Thus, it would seem appropriate to limit a patent holder’s right to seek an injunction to situations where the standards implementer is unwilling to have a neutral third-party determine the appropriate F/RAND terms or is unwilling to accept the F/RAND terms approved by such a third-party.”

⁵⁴ Case AT.39985, *Motorola — Enforcement of GPRS Standard Essential Patents* (29 April 2014), ¶ 280.

⁵⁵ *Id.*, ¶ 284 (noting that “the benefits of the standard-setting process in terms of increased compatibility, interoperability and competition, lower production and lower sales costs may be endangered by the seeking and enforcement of an injunction on the basis of a SEP by a dominant undertaking.”).

the injunctions issue,⁵⁶ ETSI has been slow to reform its IPR policy to limit the ability of SEP owners that have voluntarily committed to license to threaten or seek injunctions. By contrast, as noted previously, informal SDOs like MoCA and Open Internet Consortium have prohibited participants from seeking injunctions,⁵⁷ and the recently approved updates to the IEEE Standards Association By-Laws limit the right of patentees to seek injunctive relief in ways consistent with the views of competition enforcement agencies and legal developments in the US and Europe.⁵⁸ The slow pace of reform at formal SDOs is leading participants in standards development that do not monetize SEPs through FRAND licensing to “vote with their feet” by creating standards in informal SDOs where they can realize the benefits of “of increased compatibility, interoperability and competition, lower production and lower sales costs” without fear that their ability to implement a standard will be threatened by a SEP owner seeking an injunction or exclusion order.

Opponents of reform point to the risk of licensee “hold out” to defend their opposition to policy changes that would discourage the seeking of injunctive relief. They appear to describe any prospective licensee that responds to an invitation to license with anything but immediate payment of the full amount demanded as holding out. But negotiating over offered licensing terms, and initiating good-faith challenges to the validity of

⁵⁶ For example, Renata Hesse’s *Six “Small” Proposals* speech, cited in fn. 53.

⁵⁷ Discussed at pp. 8-9 of this Response.

⁵⁸ For example:

- the decision of the European Commission in the Apple/Motorola dispute, *Case AT.39985 – Motorola – Enforcement of GPRS Standard Essential Patents* (29 April 2014), available at http://ec.europa.eu/competition/antitrust/cases/dec_docs/39985/39985_928_16.pdf ;
- the decision of the US Federal Trade Commission in *Matter of Motorola Mobility LLC* (statement of the Commission dated 3 January 2013) (available at <http://www.ftc.gov/sites/default/files/documents/cases/2013/01/130103googlemotorolastmtofcomm.pdf>);
- the decision of the United States Court of Appeals for the Federal Circuit in *Apple v. Motorola* (25 April 2014), relevant discussion at pp. 70-73) (available at <http://www.ca9.uscourts.gov/images/stories/opinions-orders/12-1548.Opinion.4-23-2014.1.PDF>); and
- opinion of Advocate General Wathelet in European Court of Justice Case C-170/13, *Huawei Technologies v. ZTE* (delivered 20 November 2014), in particular paragraphs 74 and 75.

asserted patents either in negotiations or in litigation is to be expected. As the Commission correctly determined in the *Apple / Motorola* decision, neither entitles the patentee to seek an injunction.⁵⁹

To the extent that SEP owners have legitimate concerns with licensee delay, those concerns can be addressed by means other than permitting the patentee to seek an injunction. One tool is the ability of either party to initiate a FRAND adjudication following an unsuccessful period of negotiation, and to do so in a forum where the other party is present for jurisdictional purposes. Judges overseeing such adjudication processes have the power under national rules of procedure to sanction dilatory conduct by either party, and should be able to use case management techniques like sampling that, when conducted fairly, can expedite the determination of FRAND licensing terms in disputes in which the patentee chooses to assert a large number of patents.

To the extent that there is uncertainty regarding the availability of such measures, standards development organisations are free to include them in the text of rules that prohibit threatening or seeking injunctions against implementers that are willing to participate in an adjudication process and to be bound by the outcome of such a process. SEP licensees have included language to this effect in proposals they have made for changes to the IPR policies at ETSI and the ITU-T, but the proposals have not found favour with SEP licensors. It appears that SEP licensors prefer IPR policy text that does not specifically address when injunctions are available to text that provides procedural mechanisms that would address their concerns with hold-out.

Response to Selected Questions

Response to Question 8.3

Before competition enforcers and US and European courts began to question the availability of injunctions for patents that were subject to voluntary FRAND licensing commitments, Cisco was regularly involved in disputes in which SEP licensors attempted to gain negotiating leverage by threatening injunctions or exclusion orders. A public example is a 2011 International Trade Commission investigation initiated against Cisco and some of its networking competitors by ChriMar, which claims to own

⁵⁹ Case AT.39985, *Motorola*, at ¶ 455.

patents essential to the IEEE's 802.3af and 802.3at standards for the transmission of electrical power over Ethernet networks.⁶⁰ As is true of other implementers of interoperability standards, Cisco has been involved in a number of non-public disputes in which it settled patent assertions under threat of injunctions or exclusion orders that would have implicated significant portions of Cisco's product line.

As noted previously⁶¹, Cisco's portfolio of SEP-related disputes consists entirely of cases initiated by Patent Assertion Entities, who have found it difficult to obtain injunctive relief in the United States since the Supreme Court's 2006 decision in *EBay*.⁶² In response to that decision, PAEs have turned to other, more exclusion-friendly fora, such as the International Trade Commission and litigation in jurisdictions outside the United States.

Response to Question 8.4

Judicial decisions in the United States since the *eBay* case in 2006 have cut back on the availability of injunctions, limiting them to suits brought by practicing entities that accuse a competitor of infringing a patent implemented in a differentiating feature of the patentee's competing product.⁶³ The evolution of US decisions has narrowed the set

⁶⁰ The ITC investigation initiated by ChriMar is titled *Certain Communications Equipment, Components Thereof, and Products Containing the Same, Including Power over Ethernet Telephones, Switches, Wireless Access Points, Routers and Other Devices Used in WLANs and Cameras*.

⁶¹ At p. 19 of the Response.

⁶² *EBay, Inc. v. MercExchange, LLC* (US Supreme Court, 15 May 2006), available at <http://www.supremecourt.gov/opinions/05pdf/05-130.pdf>. After *eBay*, an entity that could arguably be described as a PAE was permitted an injunction in a SEP case involving a patent claimed to be essential to the IEEE 802.11a standard and subject to a RAND licensing commitment in *CSIRO v. Buffalo Technologies* (US District Court for Eastern District of Texas, 15 June 2007), but the decision was subsequently reversed for other reasons.

⁶³ A helpful summary of the state of US law is provided in footnote 35 of the Business Review Letter issued by the Antitrust Division of the US Department of Justice to the IEEE on 2 February 2015:

In *eBay, Inc. v. MercExchange, LLC*, 547 U.S. 338 (2006), the Supreme Court clarified that traditional principles of equity govern the issuance of injunctive relief in patent infringement suits, rejecting a rule that an injunction generally will issue on a finding of infringement. In *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014), the Federal Circuit similarly declined to create special rules for injunctions in infringement cases involving FRAND-encumbered patents, concluding that the *eBay* decision "provides ample strength and flexibility for addressing the

of patent disputes in which injunctive relief is available, no doubt to the detriment of some patentees, particularly PAEs. There is anecdotal evidence that these changes, along with recent US decisions narrowing the range of patentable subject matter,⁶⁴ have reduced the value of patents in the secondary market in which PAEs acquire patents.

Even assuming that such an effect has occurred, Question 8.4 does not pose what is ultimately the most important question for policymakers to ask. That question is not whether limitations on the availability of injunctive relief have been detrimental to *licensor* interests. That question is whether such limitations have been detrimental to *society's* interests. While SEP licensors try to portray themselves as innovators, the success of default royalty-free standardization efforts in creating widely adopted standards like HTML, USB, and DOCSIS suggests that the causal relationship between RAND licensing and innovation is unproven. It follows that judicial decisions and actions by competition enforcement agencies that restrict the availability of injunctions, and the adoption of SDOs of rules that broadly track those decisions and enforcement actions by barring injunctive relief against any prospective licensee willing to participate in a FRAND determination by a national court or a mutually-agreed arbitrator may well deprive SEP owners of negotiating leverage they formerly enjoyed, but will do nothing to slow the progress of technology. Certainly the boom in the US ICT industry in the nearly eight years since *eBay*, including in areas like wireless that

unique aspects of FRAND committed patents." *Id.* at 1332. Applying this framework, the court affirmed the denial of injunctive relief, stating, *inter alia*, that the patentee's FRAND commitments "strongly suggest that money damages are adequate to fully compensate for any infringement." *Id.* However, the court observed that "an injunction may be justified where an infringer unilaterally refuses a FRAND royalty or unreasonably delays negotiations to the same effect." *Id.* But there also must be a sufficiently strong causal nexus between the alleged harm and the alleged infringement, a standard that has been difficult to meet where a patented technology is only one component of a complex product. *Apple Inc. v. Samsung Electronics Co.*, 678 F.3d 1314, 1324 (Fed. Cir. 2012) ("Sales lost to an infringing product cannot irreparably harm a patentee if consumers buy that product for reasons other than the patented feature. If the patented feature does not drive the demand for the product, sales would be lost even if the offending feature were absent from the accused product. Thus, a likelihood of irreparable harm cannot be shown if sales would be lost regardless of the infringing conduct."); *Apple Inc. v. Samsung Electronics Co.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012).

Letter, Renata Hesse to Michael Lindsay, 2 February 2005 at pp. 10-11 and fn. 35, available at <http://www.justice.gov/atr/public/busreview/311470.pdf>

⁶⁴ Notably, *Alice Corporation Pty Ltd. v. CLS Bank International* (US Supreme Court, 19 June 2014).

involve interoperability standards, provides no support for the hypothesis that the availability of injunctions drives innovation or that limits on the availability of injunctive relief will stunt innovation.