A flexible approach to RAND licensing

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Abstract. This article discusses the meaning of reasonable and non-discriminatory (RAND) licensing terms in standards from competition law perspective. Building on the Microsoft case, the article argues that the competition law assessment of RAND must take into account the licensing environment where the standard is used. The proposed flexible case-by-case approach to RAND would be also economically justified.

1. Introduction

Any complex technology relies on a number of standards, which coordinate the work from a number of technology companies into a joint whole. It is thus in the interest of technology companies to influence standards as much as they can. Licensing essential patents, that are necessary to use in any implementation of the standard, offer perhaps the strongest legal tool to impose control.

A common way to deal with the problem of potential misuse of essential patents has been to commit companies in "reasonable and non-discriminatory" (RAND) or "fair, reasonable, and non-discriminatory" (FRAND) licensing terms in standard setting organizations.[1] However, it is unclear what RAND exactly means and many conflicts have arisen in practice when licensors and licensees have different interpretations of its meaning.[2] European Commission has recently started actions against two companies, Rambus and Qualcomm, in this regard.[3] Comparable actions and cases are ongoing in other jurisdiction as well.[4]

The aim of this article is to shed some light on the issue of RAND. The article starts by looking at how well known standard setting organizations define RAND in practice. It is evident that while the policies echo RAND requirements they remain vague and are of limited help in determining the outcome of specific legal cases. Second, the article reviews studies by

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[1] This article uses RAND unless a specific source refers to FRAND. It is assumed that the adjective "fair" does not change the meaning of RAND substantially. – European case law and official guidelines refer usually to RAND

[2] See in general e.g. Pat Treacy and Sophie Lawrance (2008): FRANDly fire: are industry standards doing more harm than good? Journal of Intellectual Property Law & Practice, Vol. 3, No. 1 pp. 22-29.

[3] See Commission press releases "Commission confirms sending a Statement of Objections to Rambus", 23.8.2007 and "Commission initiates formal proceedings against Qualcomm", 1.10.2007.

[4] See e.g. http://www.qualcomm.com/press/legalnewsroom/ for litigation and complaints where Qualcomm is involved and http://investor.rambus.com/downloadcenter.cfm for litigation and complaints where Rambus is involved.

economists to calculate "reasonable" royalties. Again, while the models suggested by economists may sound rational, it can be difficult to apply them in practice. The models remain rather abstract and simplified for practical situations. They do not usually take into account, for example, negotiations processes and the possibility of differentiated (but non-discriminatory) royalties.

Then, the article moves on to discuss RAND requirements from competition law perspective. Recent court and administrative decision in the United States have clarified that actions against the policies of standard setting organizations can be deemed indeed as anti-competitive. Previous case law and official guidelines on technology transfer suggest that the policies are enforceable under European competition law as well. It remains unclear, however, how a competition law assessment of RAND compliance would be done in practice.

Building on the Court of First Instance decision in Microsoft v. Commission, this article argues that a competition law assessment of RAND must take into account the licensing environment where the standard is used.[5] In specific circumstances this can even mean that the licensor cannot use a given licensing term (restriction) without exceptions. For example, after a lengthy negotiations process with EU Commission, Microsoft finally committed to offer a royalty-free license option for open source users. It is argued that this outcome can be generalized as an economically justified flexible approach to RAND.

2. Standardization organizations

The origin of a RAND policy is often an industry-accepted licensing policy of a well-known standardization organization. Table 1 below lists the requirements on licensing terms in some of these organizations.[6]

Standardization Organization	Policy	Licensing Terms	Definition of (F)RAND?	Other
ETSI	ETSI Intellectual Property Rights Policy, 29 March 2007	FRAND	No further definition	
IEEE Standards Association	IEEE-SA Standards Board Bylaws, January 2008	FRAND	No further definition	IPR holder may provide binding licensing information such as the maximum royalty rate, a sample

[5] Court of First Instance, Case T-201/04 Microsoft v. Commission, 17.9.2007.
[6] For a recent detailed review of licensing policies and other rules in standard setting organizations see Benjamin Chiao, Josh Lerner, and Jean Tirole (2007): "The Rules of Standard Setting Organizations: An Empirical Analysis", RAND Journal of Economics, pp. 905-930.

				license, or individual licensing terms
IETF	Intellectual Property Rights in IETF Technology, March 2005	RAND	If "significant implementation and successful operational experience" achieved, presumption of RAND fulfilled	IPR holder may provide licensing information
ISO / IEC / ITU	ISO/IEC/ITU common patent policy, February 2007	RAND or RF	No further definition	
OASIS	OASIS Intellectual Property Rights (IPR) Policy, 15 April 2005	FRAND or RF	No further definition	
W3C	W3C Patent Policy, 5 February 2004	RF		

Table 1. Licensing policies of well-known standardization organizations.

It seems clear that the licensing policy documents are of very limited help in the effort to define what RAND exactly means. Most organizations that require RAND or FRAND licensing terms do not define them in any detail. Instead they may explicitly say that the definition is up to the right holder. An exception here is IETF which states that when "significant implementation and successful operational experience" of the standard in question has been achieved, IETF considers the licensing terms of intellectual property in the standard to be RAND. Still, that suggestion is made by only one organization and the suggestion is in itself subject to interpretation.

Perhaps one reason why the organizations have been reluctant to define RAND with more details is that any proposal for a more precise definition could mean unfruitful and exhausting policy battle with unpredictable outcome. Often the particular issue has been royalties. Advocates of open source and comparable liberal technology licensing terms have opposed any kind of royalty requirements.[7] Instead, the open source advocates have supported royalty-free (RF) licensing terms.

Recent disputes in W3C (2002), IETF (2003) and Oasis (2005) are good examples of policy battles. W3C proposed in 2001 a patent policy that could

[7] So-called copyleft-licenses are incompatible with patent royalties. See e.g. Mikko Välimäki (2004): "A Practical Approach to the Problem of Open Source and Software Patents", European Intellectual Property Review 12/2004 (Volume 26, Issue 12), pp. 523-527.

have allowed RAND in some cases.[8] After a heated debate between mainly open source advocates and industry representatives the proposal was eventually rejected in favor of a royalty-free policy in 2002.[9] Similarly when IETF proposed a revision of its licensing policy it had to take a stand on the issue between RF and RAND. This time, after heavy lobbying, the latter won consensus in 2003.[10] Finally, OASIS settled with a more diverse approach in 2005 explicitly supporting both FRAND and RF depending on an individual standards working group decision.[11]

At the moment, there is ongoing debate regarding the revision of European Interoperability Framework. While not a traditional standardization organization or even formally binding in Member States, the Commission-backed initiative is important from policy perspective. The first version of European Interoperability Framework (2004) required RF terms.[12] An update process started with a consultation report supporting RAND instead, and this has once again lead to polarized argumentation on licensing terms between open source advocates and industry representatives.[13]

One attempt to mitigate the risks of accepting RAND terms without precise meaning has been a voluntary mechanism for right holders to disclose the licensing terms – whatever they are – in advance. IEEE and IETF both suggest the right holder to provide such information unilaterally and in the case of IEEE that information can be held binding as well. Antitrust Division of US Department of Justice has commented the IEEE policy in a positive light noting that with voluntary disclosure of licensing terms companies can make "better informed decisions", which could further "lead to faster development, implementation, and adoption of a standard as well as fewer litigated disputes."[14]

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[8] See W3C Patent Policy Framework, W3C Working Draft 16 August 2001. It was stated there was consensus in the working group (consisting mainly of industry representatives) that "So it is especially important that the Recommendations covering lower-layer infrastructure be implementable on an RF basis. Recommendations addressing higher-level services toward the application layer may have a higher tolerance for RAND terms."

[9] See "Addendum - Text of RAND Exception Process Considered and Rejected by the Patent Policy Working Group" in Patent Policy Working Group, Royalty-Free Patent Policy, W3C Working Draft 14 November 2002.

[10] See e.g. Paul Festa: "Standards group beats back patent foes", CNET News, April 10, 2003.

[11] See e.g. Paul Festa: "Warming up to open source", CNET News, February 9, 2005.

[12] See European Interoperability Framework for Pan-European eGovernment services, version 1.0, November 2004.

[13] See European Interoperability Framework, "Preparation for Update European Interoperability Framework 2.0 – FINAL REPORT" by the Gartner Group, Summary of Comments received.

[14] Letter from Thomas O. Barnett: "Response to Institute of Electrical and Electronics Engineering, Inc.'s Requests for Business Review Letter", US Department of Justice, Antitrust Division, April 30, 2007. Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements (2004/C 101/02). 27.4.2004, para 225, largely echo the DOJ policy further stating that companies in the standard setting organization are "normally free to negotiate and fix royalties for the technology package and each technology's share of the royalties either before or after the standard is set."

Indeed, disclosure mechanisms may help in avoiding some clearly abusive uses of standardization. But disclosures will never be the final solution to the RAND issue. First, as already noted, licensing term discussions may turn technical standardization processes into complicated legal and business battles, which many companies wish to avoid.[15] Some standardization organizations expressly argue against them.[16] Second, disclosures will be only relevant for those who are actively participating in the standardization process. Those who adopt the standard later have no choice but to accept the terms negotiated (and disclosed) earlier. Third, a binding disclosure may be problematic for the right holder as well. It is difficult to argue why an innovator should be bound by a licensing scheme without first fully knowing what are the possible uses (and users) of the technology in question. Such a standard setting policy could actually have anti-competitive effects.

3. Economic arguments

In addition to lawyers, many economists, consultants and industry representatives have proposed interpretations on RAND licensing terms.[17] Undoubtedly, there is a connection to the ongoing litigation processes. Most of the "non-legal" propositions are built on more or less rigorous economic analysis. These propositions must be reviewed with due care, however, since the assumptions and methodologies may differ, and many theories and arguments seem to be contradictory with each other.[18]

With these caveats in mind, how do economists define RAND? For example, Lévêque and Ménière summarize an incremental approach to the reasonable royalty definition in the simple equation $R=c+(V_1-V_2)p$, where c is the incremental costs of licensing, V_1-V_2 is the gain for selecting the best technology over the second-best, and p is the probability that the patent in question is valid.[19] A reasonable royalty would thus be the total of transaction costs and the added value of the validly patented technology. Transaction costs can be often estimated. Valid patents are undoubtedly more valuable than invalid ones. Fair enough. But what if you have a bunch of patents of which some are definitely valid? How do you calculate the gain over the second best?

One debated issue has been whether the quality or volume of patents, or perhaps both, should be relevant. Many argue for quality: patents without

[15] See also U.S Department of Justice and Federal Trade Commission (2007): Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition, p. 50.
[16] See e.g. ETSI Guide on IPRs, 25 January 2007, section 4.1: "Specific licensing terms and negotiations are commercial issues between the companies and shall not be addressed within ETSI. Technical Bodies are not the appropriate place to discuss IPR Issues."
[17] For a summary of suggestions see e.g. Treacy and Lawrance (2008), p. 24.
[18] Moreover many of the papers that discuss RAND, also cited here, are still drafts and not yet published in journals.
[19] François Lévêque and Yann Ménière: "Technology standards, patents and antitrust", working paper, November 11, 2007.

close substitutes should have higher royalties than more generic ones.[20] They offer more "gain" and added value. Some say that when technologies are complementary, early innovators should be rewarded more than late innovators.[21] This can be justified if the early technologies are truly path breaking, but can be cumbersome criteria if the latter patents are objectively more relevant. Should the method of paying matter? Cumulative royalties may benefit patent holder more than the patent was really worth of. It can be argued that a fixed one-time fee is usually preferable for licensees and thus more "reasonable" compared to royalties.[22] But this does not hold always, for example, when the one-time fee is used as an entry-barrier.

Overall, the practical importance of economic discussion on RAND remains somewhat limited. The abstract and simplified models leave many issues open in the real markets with numerous participants and alternative technologies. There may be patents whose validity, quality, and relevance are difficult to assess. It may be impossible to even guess the implications of one technology or licensing choice over another. A one-size-fits-all laboratory solution to RAND is simply not there.

This is not to say that economic arguments could not be applied for example in royalty negotiations. In a bilateral licensing negotiation process, however, there is usually much more at stake than a plain definition of royalty. In the end, it may be reasonable for a patent holder for example to offer a bunch of license options tailored for different users.[23] Licenses can be differentiated effectively for example by bundling additional rights (e.g. patents not directly related o the standard) or safeguards (e.g. indemnification) in higher priced license options.

4. Competition policy

4.1 Enforceability of RAND

The assumption in the current European competition policy is that the holding of an intellectual property right is not anti-competitive as such. Only in some exceptional circumstances the use of the intellectual property right can be held anti-competitive. The European Court of Justice has held that an intellectual property holder in a dominant position may not refuse to license its exclusive right for arbitrary reasons or fix prices at "unfair level" if the use of the right is consider necessary in order to follow a standard.[24] Assuming the general requirements for the application of competition law are present, one can ask whether RAND licensing terms are enforceable in the first place?

[20] E.g. Anne Layne-Farrar, Jorge A. Padilla, and Richard Schmalensee: "Pricing Patents for Licensing in Standard Setting Organisations: Making Sense of FRAND Commitments", CEPR Discussion Paper No. 6025, January 2007.
[21] Vincenzo Denicolò (2007): "Complementary patents, sequential R&D, and FRAND licensing", working paper.
[22] E.g. Sarah Parlane and Yann Ménière (2006): "Licensing a Standard: Fixed Fee Versus Royalty", working paper.
[23] A RAND commitment does not prohibit this kind of practice. Licensing terms remain "non-discriminatory" as long as the same terms are offered for all.
[24] European Court of Justice, Case 238/87 Volvo [1988] ECR 6211 and Joined Cases C-241/91 P and C-242/91 P RTE and ITP v Commission [1995] ECR I-743 ('Magill').

It seems evident that failure to follow RAND may cause competition law concerns for those who participate in standard setting. In the United States, appeals court decision in Broadcom v. Quallcomm clarified that a breach of a RAND commitment can be enforceable anticompetitive behavior under US antitrust laws.[25] The court noted that "This holding follows directly from established principles of antitrust law and represents the emerging view of enforcement authorities and commentators, alike."[26] RAND licensing terms have been also recognized in the Commission's guidelines on technology transfer block exemption.[27] The message is that RAND licensing should be followed in cooperative standard setting.

Would the outcome be different if the patent holder is not tied to the standard setting organization's policy or the question is about a market (de facto) standard? Existing case law suggests this is not the case. In European Court of Justice cases Volvo (1988) and Magill (1995) competition law intervention was possible for non-technological de facto standards. In Volvo, it was a widely used car model as a standard for spare parts, and in Magill it was TV program listing as a standard for TV program guides.[28] The Court of First Instance Microsoft decision confirmed the principle for a clearly technological market standard: interoperability information for widely used computer software. The court also explicitly held the Commission was correct in requiring Microsoft to license its standard with "reasonable and non-discriminatory" terms.[29]

4.2 A flexible approach based on Microsoft settlement

Assuming RAND is enforceable under relevant competition laws, the next logical question is, how would one define RAND from competition law perspective? Obviously, the starting point is that there are no authoritative legal sources dictating the precise meaning of RAND. As noted, standardization organization policies and competition authority guidelines are of limited help. The suggestions by economists can be helpful in considering an optimal licensing policy in individual cases. To define general legal criteria to assess RAND is, however, another thing.

It is often claimed that in practice RAND means what the counsels in each case decide.[30] If one takes this realistic view on RAND as the result of a more or less rational negotiation process as the starting point, it is evident that any one-size-fit-all doctrine or model of RAND would change the current practice.

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[25] Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297 (3d Cir 2007).
[26] Id, at p. 24. Among other cases and authorities, the court referred extensively to FTC decision In the Matter of Rambus, Inc., No. 9302, August 2, 2006.
[27] Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements (2004/C 101/02). 27.4.2004. Para 167 and 226.
[28] See footnote 24 above.
[29] See footnote 5 above, para 808-811.
[30] See e.g. Quallcomm counsels Damien Geradin and Miguel Rato (2006): "Can Standard-Setting lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND" p. 12 and Nokia IPR manager Ilkka Rahnasto (2003): Intellectual Property Rights, External Effects, and Anti-trust law. Oxford University Press, p. 148.

A doctrinal approach would also mean inflexibility and limitations in the choice of a licensing model.

Also courts have been reluctant to develop a doctrine on RAND. Those who hoped that the Court of First Instance decision in Commission v. Microsoft would have intervened in the RAND issue must have been disappointed. The Court of First Instance did not comment on the legal criteria to assess acceptable licensing terms. Instead, the court left it explicitly to the parties to decide how they define RAND.[31] The following important guidance was given:[32]

> "The mere fact that the contested decision requires that the conditions to which any licences are subject be reasonable and non-discriminatory does not mean that Microsoft must impose the same conditions on every undertaking seeking such licences. It is not precluded that the conditions may be adapted to the specific situation of each of those undertakings and vary, for example, according to the extent of the information to which they seek access or the type of products in which they intend to implement the information." (para 811)

The settlement that followed then took context into account: Microsoft tailored tens of different licensing options aimed at different users.[33] For example the royalty scheme generally depends on how much rights the licensee receives. One license type, which does not include any patent licenses, is royalty-free satisfying the concerns of open source developers.[34]

For those hoping to see a final solution to the issue of RAND licensing the settlement is an obvious disappointment. However, from the perspective of licensees the result seems to be a happy one: the principle of non-discrimination guarantees anyone should be free to choose between the different licensing options. Without any do ctrinal limitations on e.g. royalties the outcome seems to have cleared the competition law problem with a flexible, market-based approach.

5. Concluding remarks

It is widely recognized that a major problem in the market of patents is that the market barely exists. It is not just that the validity of patents is often unclear and many patent holders remain unknown. The rare transactions

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[31] It must be also noted that the RAND discussion in the Microsoft-judgment was about remedies – the basis of competition law enforcement was the refusal to disclose technical information in the first place.

[32] See also Guidelines, footnote 26, para 226: "It is in general not considered restrictive of competition to apply different royalty rates to different product markets, whereas there should be no discrimination within product markets."

[33] Microsoft Statement Regarding Licensing Flexibility: "With respect to development licenses, undertakings may choose from over 40 licensing scenarios", Draft, June 7, 2005.

[34] Microsoft Work Group Server Protocol Program License Agreement (No Patents) for Development and Product Distribution, December 19, 2007. This license has a one-time fee of 10 000 euros (section 4.1). See also comments on the negotiation process by a leading source developer Andre Tridgell: "The PFIF Agreement", December 20, 2007.

themselves remain usually highly confidential. One simply does not know what have been "reasonable and non-discriminatory" licensing terms in individual cases.[35] It is thus no wonder that there is major disagreement in defining what reasonable and non-discriminatory licensing terms would mean.

It was noted that standardization organizations have started to develop their patent policies to encourage patent holders to disclose their licensing terms, including royalty requirements, well in advance. While this may help in overcoming uncertainties, it was also noted that ex-ante negotiations cannot be a final solution to the problem of reasonable royalties. Also economists have tried to solve licensing problems by developing different theoretical pricing schemes. These may be of help in negotiating individual licensing agreements. However, the models are often too single-minded and cannot be generalized.

The article then essentially proposed that maybe the difficulties in defining RAND are not a major problem after all. Microsoft decision confirmed that at least European competition law has at the moment a flexible, case-by-case approach to RAND. Without dictating any of the licensing terms, the Court of First Instance decision bent Microsoft to develop and disclose tens of different licensing options for the technology in question. The result was a market for that particular technology and the competition law issue seems to be now history.

This kind of flexible approach to RAND licensing sounds also justifiable from an economic perspective: it guarantees licensors and licensees are not locked-in to a certain licensing and business model. Who would take the risk of dictating licensing policies if licensing practices and requirements vary substantially even within industries? Take the information technology industry as an example. In the telecommunications sector licensees may call for RAND requirements to bargain with the price. In the software sector licensees may require completely royalty-free terms. With the foreseeable convergence of information technology industries, any attempt at a categorical interpretation of RAND looks like an unreasonably risky step in the dark.

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[35] See e.g. Mark A. Lemley and Nathan Myhrvold: "How to Make a Patent Market" Stanford Law and Economics Olin Working Paper No. 347, August 2007. They call patent markets "blind" when the licensing terms are unknown.