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Editors
John V H Pierce and Pierre-Yves Gunter

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Arbitration of FRAND Disputes in SEP Licensing

Richard A H Vary[1]

Introduction

High-technology products today usually contain standardised technology. Cellular wireless connectivity is one example: standards include the fourth-generation 'LTE' standard or the third-generation 'UMTS' standard. Developed originally for mobile phones, cellular wireless is found today in cars, smart meters, factories, trains and drones. Wi-Fi is another example of standardised connectivity technology, specified by the Institute of Electrical and Electronic Engineers' 802 series of standards. Video encoding is a third example, with standards including H.264 and H.265.

These standardised technologies are developed not by a single company, but by groups of companies that collaborate through standards developing organisations (SDOs). Engineers from the companies will meet and agree on technological solutions to be adopted in the standard. Often these meetings identify technical problems to be overcome. The solutions identified by the participating engineers to these problems may be novel, and inventive, and therefore eligible for patent protection. The companies involved may file patent applications and end up with a portfolio of patents that cover some of the technology in the standard. An implementer of the standard, wishing to build and sell a device that uses the technology, must take a licence to those patents.

SDOs typically have intellectual property right (IPR) policies. These policies set the terms on which participants in the standards development activities may undertake to offer licences to patents that they hold, which may be or may become essential to the standard (standard-essential patents (SEPs)) to future implementers of the standards. Often the policy specifies that the SEP owner will offer licences on fair, reasonable and non-discriminatory (FRAND) terms.

1 Richard A H Vary is a partner at Bird & Bird LLP.

Disputes arise when the parties are unable to agree on a price. Unless an agreement can be reached, the implementer will be making and selling products that may infringe the patents without a licence. The patent owner may bring patent infringement proceedings against the implementer. Because the patent owner may hold many patents, in many countries, this could lead to multi-jurisdiction litigation where the patent owner sues in several countries on several patents.

Litigating large numbers of patents in many countries is costly and inefficient. For companies that wish to give or receive a patent licence, the real commercial questions are now, 'which patents are being infringed in which countries?' and 'how much is a FRAND licence?'.

The first attempts at asking the court to determine a FRAND rate occurred in 2007–2008 when Nokia and Bosch asked the Mannheim Regional Court to determine whether their respective offers for a licence to the Bosch patent portfolio was FRAND. The Court declined to do so and was supported in its decision by the Karlsruhe appeals court. Nokia and Qualcomm also agreed to a determination of a FRAND rate to Qualcomm's portfolio in the US District Court for the District of Delaware but settled before trial.

Most implementers, however, have shied away from standard-essential portfolio rate determination. With injunctions being granted only occasionally on SEPs, it was a better negotiating tactic for the implementer to wait to be sued, and then force the SEP owner to incur the cost of litigating many patents across many countries. If the worst outcome of litigation is paying a court-determined FRAND rate, then there is no real downside for the implementer in drawing the proceedings out and seeking a more favourable settlement.

A change occurred with the *Huawei v. ZTE*[2] case in Europe, and the Google consent order[3] from the FTC. These established that if a patent owner offered to go through an independent third-party FRAND determination, but the infringer refused, the infringer would be at risk of an injunction. This created an incentive to both sides to agree to have a third party set the FRAND rate. Patent owners started to offer arbitration of rates. Some implementers, concerned that a refusal might lead to an injunction interrupting their business, agreed.

Nokia arbitrated a FRAND royalty rate with Samsung and, separately, LG. Huawei arbitrated FRAND rates with Ericsson and with Interdigital. These arbitrations showed that it was possible to set a rate for a portfolio even where the parties could not agree on the value of the portfolio or the extent to which the patents in the portfolio were valid or infringed.

Courts have also now shown that they are prepared to set rates. In *Microsoft v. Motorola*[4] Judge James Robart set a rate for Motorola's portfolio of 802.11 (Wi-Fi) and video coding (H.264) patents. In *Innovatio IP Ventures*[5] Judge Holderman set a rate for Innovatio's

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2 C170/13 http://curia.europa.eu/juris/document/document.jsf?docid=165911&doclang=en.

3 *In the Matter of Motorola Mobility LLC, and Google Inc.,* FTC Matter/File Number: 1210120, available at: https://www.ftc.gov/sites/default/files/documents/cases/2013/07/130724googlemotorolado.pdf.

4 696 F.3d 872 (9th Cir. 2012).

5 MDL Docket No. 2303, https://essentialpatentblog.lexblogplatform.com/wp-content/uploads/sites/64/2013/10/2013.10.03-975_Public-Version-of-Memorandum-Opinion-and-Order.pdf; Case No. 11 C 9308.

portfolio of 23 Wi-Fi (802.11) patents. The English court in the *Unwired Planet v. Huawei* decision (*Unwired Planet*)[6] set the rate that Huawei could pay should it choose to take a licence to Unwired Planet's patent portfolio,[7] and the US District Court for the Central District of California set the rate that TCL should pay for a licence to Ericsson's portfolio in the *TCL v. Ericsson* case (*TCL*).[8]

The advantage to both SEP holders and implementers of FRAND arbitration when compared to the patent-by-patent, country-by-country patent infringement litigation is that (1) arbitration is cheaper, (2) arbitration is quicker and (3) there are no industry-disrupting injunctions.

This chapter explains how FRAND arbitration works and how portfolios can be valued in FRAND arbitration, and sets out some experiences from recent FRAND arbitrations.

Why arbitrate FRAND disputes instead of asking the court to set a rate?

The main difference between arbitration and litigation is that litigation can be forced by one side on the other, while arbitration requires both sides to agree to enter the process. Typically, in SEP cases one party desires a resolution but the other does not. However, if parties can agree to arbitrate a FRAND dispute, then the main advantages of arbitration over litigation are as follows.

Confidentiality of comparable licence agreements

Neither party wants its licence agreement terms to become public. A party in a negotiation is at a great disadvantage if its opponent knows the terms of its licence agreements, but it does not know the terms of its opponent's.

Some courts have mechanisms to protect confidentiality. However, courts have a conflicting duty to make public as much of the hearing and decision as possible. As a result, even with confidentiality measures in place, there have been leaks of confidential information from court proceedings. Bloggers have tweeted royalty rates from hearings (*Apple v. Samsung*, Netherlands). Courts have inadvertently released information in judgments. This can be because, although courts may redact parts of their judgments, it is possible by cross-referencing with other information sources to reverse-engineer the redactions (e.g., *Unwired Planet*). Or it may simply result from a mistake by court clerks: the *TCL* decision was initially published in an unprotected form, and only later replaced on the court's website with a properly redacted version. On the other hand, arbitration institutions are under no obligation to allow the public into proceedings or publish awards, so leaks are rare.

6 Neutral Citation Number: [2017] EWHC 711 (Pat).

7 https://www.twobirds.com/en/news/articles/2017/uk/unwired-planet-v-huawei-english-high-court-sets-frand-royalty-rate.

8 *TCL Communications v. Ericsson* (SACV 14-341 JVS(DFMx) and CV 15-2370 JVS (DFMx)); https://www.twobirds.com/~/media/pdfs/supersize-this-unwired-planet-american-style.pdf?la=en; http://images.law.com/contrib/content/uploads/documents/1/TCL-v.-Ericsson.Decision-part-1.pdf; http://images.law.com/contrib/content/uploads/documents/1/TCL-v.-Ericsson.Decision-part-2.pdf; http://images.law.com/contrib/content/uploads/documents/1/TCL-v.-Ericsson.Decision-part-3.pdf.

Perceived neutrality, compared to courts

There is a perception that some US courts (Western District of Washington and the Northern and Central Districts of California) and the Chinese courts will award lower royalty rates and be sympathetic to implementers. Other courts (in Texas, Germany and the United Kingdom) are seen as more pro-patentee. Consequently, parties may rush to the court that they think will favour them. There are not enough data points yet to form any objective view on whether any court is more favourable to one side or the other, but there are enough to create perceptions: for example, in *TCL* Judge Selna awarded rates for the Ericsson portfolio that were less than half the rates calculated by Mr Justice Birss, despite having similar evidence.

Of course, arbitrators can also be affected by bias, but the usual selection process, in which each party appoints one arbitrator and the arbitration institution appoints a chair if the parties cannot agree, gives less opportunity for one side to pick a panel that is perceived as being more favourable to them. This makes it less likely that the parties will expend resources in satellite disputes, seeking to transfer the case to a tribunal perceived to be more favourable.

Speed

In theory, a UK court could perform a FRAND valuation in 18 months or so. A US court may take longer. But both *Unwired Planet* and *TCL* took several years to reach a conclusion. Arbitration, on the other hand, can be significantly quicker. Typical timescales might be 18 months to a hearing and two years to a final decision. In an industry where licences typically last five years, that is a more realistic and attractive timescale overall.

Precedents

Prior arbitrations

There have been four publicly disclosed arbitrations of cellular SEP portfolio royalty amounts: *Nokia v. Samsung*, *Nokia v. LGE*, *InterDigital v. Huawei* and *Ericsson v. Huawei*. Prior to these, InterDigital and Intel took part in an UNCITRAL arbitration relating to the cross-licences granted in connection with a joint venture, which probably also involved FRAND issues.

These cases have demonstrated that arbitration can be an efficient solution to adjudicate FRAND terms between parties, even where the amounts at stake are substantial.

Competition law regulators

There have been three occasions on which competition law regulators have approved of arbitration as a mechanism to resolve FRAND disputes.

In 2013, the Federal Trade Commission (FTC) negotiated a consent order with Google Inc and its subsidiary Motorola Mobility (MMI) resolving charges that the companies engaged in unfair competition by violating the FRAND commitments for some of

MMI's SEPs. A key feature in the FTC's order was a requirement that Google offer potential licensees binding arbitration before seeking an injunction when negotiations over the licensing of the SEPs broke down.[9]

In 2014, the European Commission investigated Samsung for alleged infringement of competition law on the basis that it was seeking injunctions on 3G SEPs against Apple, which had indicated that it was a willing licensee. As a result of the investigation, Samsung committed to not seeking injunctions in Europe for SEPs for a period of five years against any potential licensee that signed up to a specified licensing framework. Under this framework, any dispute over FRAND terms for the SEPs in question would be determined by a court, or if both parties agreed, by an arbitrator. These commitments were intended to provide a safe harbour for all potential licensees of the relevant Samsung SEPs.[10]

In 2014, the Chinese Ministry of Commerce approved Microsoft Corporation's acquisition of the devices and services business of Nokia Corporation subject to Microsoft and Nokia providing certain commitments relating to the licensing of SEPs. Nokia was required to define the good faith or willingness of SEP licensors and licensees as a matter of each party's willingness to resolve disputes relating to FRAND terms through arbitration and to be bound by the arbitration award.[11]

Courts

In 2015, the Court of Justice of the European Union (CJEU) issued a decision in *Huawei v. ZTE*[12] recognising that third-party determination of FRAND rates was a viable alternative to court actions and included it in its outline of steps that a court might consider when deciding whether to grant an injunction. The CJEU observed that where the negotiating parties have not reached an agreement on the details of the FRAND terms once offers have been exchanged, the parties may, by common agreement, request that the FRAND terms (including the amount of the royalty) be determined by an independent third party, by decision without delay.

Best practices for arbitration offers

In seeking to agree a binding arbitration of a FRAND dispute, the parties are likely to expect that the arbitration should:

- result in a binding, portfolio-level licence;
- provide a fair and independent process;
- promote resolution during a reasonable time frame;
- promote resolution at a reasonable cost; and
- reduce the risk of disruption, but leave a significant enough risk on each side to push the parties towards overcoming their differences by agreement.

9 https://www.ftc.gov/enforcement/cases-proceedings/1210120/motorola-mobility-llc-google-inc-matter.
10 https://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39939.
11 http://english.mofcom.gov.cn/article/counselorsreport/asiareport/201404/20140400543771.shtml.
12 *Huawei Technologies Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH* (Case C-170/13).

In addition, the SEP owner will want to provide an offer that, if rejected by the party to whom it is offered, will improve the SEP owner's chances of demonstrating, in any subsequent litigation, that the counterparty is an unwilling licensor. This will be relevant to the question of what remedy is granted following the litigation. The SEP owner will want to increase the chances of obtaining an injunction.

Results in a binding portfolio-level licence

As an alternative to arbitration, the SEP owner may seek injunctive relief in national patent cases, and the implementer may seek damages or regulatory intervention through national or EU competition law or antitrust complaints.

If each party is to ask the other party to refrain from seeking such relief, each party will want the assurance that the arbitration will result in a final resolution of the dispute and in a binding and enforceable licence agreement. If the result of the arbitration is not binding on the parties, it may become merely another mechanism for unwilling licensees to delay paying royalties and for unwilling or unrealistic licensors to delay the determination of a FRAND rate while they seek to use other levers to persuade the counterparty to pay a higher rate.

If the process does not produce a final and binding result, then whichever party is dissatisfied with the outcome may reject it and resort to litigation. Arbitration will have merely added a step to the process, increasing the cost to the parties.

Therefore, it is likely to be important to both parties, before choosing arbitration, that the arbitration will result in a binding portfolio-level licence, rather than being merely advisory in effect.

Fair and independent process

Validity, essentiality and infringement

For implementers faced with a patent assertion, it is important to be able to contest validity, essentiality and infringement of the portfolio. For many implementers, particularly less sophisticated implementers, a very strong point of objection to the FRAND nature of any offered licence is that the SEP owner holds some patents that are not in fact essential. They want the opportunity to argue this, and believe that any attempt to curtail this is an attempt to hide weaknesses in the licensed portfolio.

Many regulators, who have not yet understood the nature of the SEP declaration process have strong sympathy with this view and consistently talk about the 'problems' of over-declaration. Even though they acknowledge that over-declaration can arise out of an abundance of caution and a good faith attempt to comply with SDO rules just as much as it may arise through a cynical attempt to game the system, regulators tend instinctively to see over-declaration as a bad thing, and any attempt to limit the implementer's ability to argue the point is seen as an unfair fetter on the process.

Unfortunately, an arbitration process that allows a patent-by-patent assessment of the portfolio will not achieve the desired benefits of costs and efficiency over patent litigation. Therefore, while an arbitration offer may allow for the consideration of the validity, essentiality and infringement of the patents at issue, this should, as far as possible, be on a per-portfolio basis and not a patent-by-patent basis.

In practice, this means that the implementer must be allowed to put forward evidence of the strength of the portfolio. If the implementer is well advised, it will realise that it is not enough to put forward evidence of the validity and essentiality rate of the SEP owner's portfolio alone; it must also put forward evidence about the validity and essentiality of other relevant SEP portfolios. This is because, to a greater or lesser extent, all the primary methods used by courts or tribunals to date for determining royalties compare the SEP portfolio being licensed to other portfolios. It is not enough to argue that the SEP owner's portfolio contains some invalid or non-essential patents: to achieve a reduction in royalty rate the implementer must demonstrate that the SEP owner's portfolio is worse than other portfolios in that regard.

The need for comparison is obvious when a top-down approach is used (see 'Approaches to determining a FRAND royalty rate' for an explanation). To reduce the SEP owner's share in a top-down analysis, the implementer must demonstrate that the SEP owner's portfolio has a greater rate of invalidity or non-essentiality than the other portfolios in the analysis.

Where a comparable licence methodology is used, the implementer will seek to argue that other comparable licences are too high because those other licensees were unaware of the extent of the non-essentiality or invalidity of this portfolio. In seeking to put forward such an argument, it is not enough for the implementer to show that the SEP owner's portfolio contains some invalid or non-essential patents. The implementer must show that the SEP owner's portfolio is worse in that regard than the other licensees believed when they entered their licence agreements with the SEP owner.

An implementer seeking to delay a determination, or to make the determination process prohibitively expensive, may seek to put in evidence about very large numbers of patents from the SEP owner and others in the industry. A more efficient approach may be to adopt a sampling methodology (such as the Ding report in *TCL*). Most efficiently, parties may adduce evidence of existing third-party essentiality surveys, such as the PA Consulting reports.[13]

We believe that the best practice for the SEP owner is to allow the implementer freedom to choose how it puts forward these technical arguments, but agree on a limit to the duration of the hearing and the amount of time until the hearing. This will force the implementer to adopt a reasonable and proportionate approach to the issue. Some parties may take the view that whatever survey or evidence they put forward is unlikely to produce a significantly better result for their case than existing third-party studies of essentiality, and instead opt to use their limited time for other arguments.

Burden of proof

Where the burden of proof lies will have a significant impact on the predictability and quality of the arbitration. The proposed structure needs to strike a balance between the interests of the licensee and the patentee. Neither party should bear the entire burden of proof. One process that could be adopted is outlined below.

13 https://www.paconsulting.com/our-experience/lte-essential-ipr-report-and-database/.

The first decision to be issued by the arbitration panel should concern whether the SEP holder[14] has complied with its FRAND commitment (in other words, whether the offer of the SEP holder is within the range of the FRAND promise). The licensee would set out to prove that the claim for royalties is not consistent with the patentee's FRAND promise. The licensee would be assisted by the discovery of comparable licences and other evidence from both patentee and licensee.

If the panel concludes that the SEP holder has not complied with its FRAND commitment (i.e., its claim exceeds FRAND), the panel must then undertake the more difficult task of setting a value for the patentee's portfolio of SEPs. It must do this by considering evidence submitted by both parties.

Implementers may object to the two-stage nature of this approach. It is the approach adopted by the respective judges in *Unwired Planet*[15] and *TCL*.[16]

The decision of whether to include such a term in the arbitration agreement is a judgment call for a SEP owner. It may be harder to persuade the implementer to agree up front to an arbitration adopting this approach than it would be to persuade a tribunal of the benefits of this approach once arbitration is agreed. Further, an implementer that rejects the arbitration offer may be able to use this term to persuade a court (or regulator) that the rejection was justified. Consequently, it may be better not to seek this term in the arbitration agreement, and only to consider raising it in the first arbitration hearing (the case management conference).

Discovery obligation

For the FRAND adjudication to be meaningful, there must be rules that ensure proper discovery of any evidence necessary, including potentially comparable licence agreements on each side. This should be undertaken as early as possible in the proceedings. Indeed, parties sometimes agree an exchange of comparable licences at an early stage before other discovery categories are debated or ruled upon.

Licence agreements usually have confidentiality provisions preventing the disclosure of the licence agreement to third parties without consent. Consequently, for a party to show its licences to the tribunal, the following must take place.

- The party will need to put the relevant licensees on notice and deal with objections. If the SEP owner's standard licence provisions do not provide that disclosure is permitted following an arbitral order (in the same way as a court order) this should be considered for future agreements. Where consent from the licensee is not forthcoming and the licence does not permit disclosure without a court order, the SEP owner may need to commence court proceedings to avoid being in breach of the licence.
- The discovery should be limited to the parties' outside representatives, as is the norm with US litigation, because this helps with obtaining consent from licensees.

14 Or, where both parties are SEP holders, the net recipient of royalties.
15 ibid.
16 ibid.

It is also important to carefully consider the scope of any non-disclosure agreement signed with a counterparty that covers the FRAND negotiations. Although less important than in patent litigation (where compliance with FRAND obligations during negotiations will likely need to be established to secure or avoid an injunction), it will often be useful to be able to rely on the details of the negotiations to establish a holdout or to demonstrate inconsistencies in the positions taken by a party in negotiations versus in the arbitration.

It may make sense for parties to establish two tracks of negotiation: one that is confidential, but can be relied upon in court or arbitration proceedings; and one that is confidential and cannot be put before the tribunal (i.e., is without prejudice).

Choice of arbitration institution

Parties should have the freedom to agree on an appropriate adjudication process for their dispute. Where they cannot agree, a default must be provided. For this default to be perceived as fair and independent, it would need to be an internationally recognised arbitration body using arbitrators competent to handle commercial disputes and applying internationally recognised procedures.

Some parties in FRAND arbitration discussions have objected to US arbitral institutions (e.g., the American Arbitration Association) on cost grounds, because (rightly or wrongly) they perceive tribunals established under the rules of those institutions as being more likely to order extensive discovery or depositions, and because they are perceived to give a home court advantage to US-based parties. Others have objected to the China International Economic and Trade Arbitration Commission or other national arbitral institutions because they (rightly or wrongly) perceive bias. The World Intellectual Property Organization has been criticised as an institution of IP holders, with a closed panel of IP practitioners. The criticism is presumably that it is likely to favour IP owners.

None of these objections have merit, but they are views that have sometimes been deployed by counterparties as grounds for objection. As one purpose of an arbitration offer to the SEP owner is to establish the licensee's unwillingness if it is refused, it is preferable for the SEP owner to offer an institution that cannot be (justifiably or unjustifiably) criticised. The key is to offer a well-known international institution – such as the ICC, the ICDR or the LCIA – that objectively meets the expectations of all participants in the process.

Criteria for selecting arbitrators

The parties should have the freedom to designate party-appointed arbitrators based on the criteria that they deem appropriate. Normal practice is for each of the parties to the dispute to appoint one member of the arbitral tribunal. These party-appointed arbitrators would then attempt to jointly appoint the third member (the chair). In the absence of agreement on the chair, the arbitration institution will appoint the chair.

Some parties argue that arbitrators for FRAND disputes must have IP or antitrust and competition law experience, but this is not necessarily so. Commercial arbitrators are experienced in the valuation of a wide range of assets, from complex financial instruments to specialised commercial products. Patents are not as unique as an asset class in having very specialised characteristics or a deep body of knowledge behind them. Where technical or patent law questions may arise, the necessary technical expertise may be brought in through expert witnesses, as the parties deem appropriate.

The potential difficulty with arbitrators with IP experience is that they may have preconceived views in relation to industry issues or have expressed views about them. The danger is that such persons may not be seen to constitute an independent tribunal.

Commercial arbitrators come to the matter with no preconceptions and can take an unbiased view of the arguments put before them. The result is then dictated by the merits of the arguments, rather than the arbitrators' preconceptions.

Consequently, it is advisable for parties to choose party-appointed arbitrators freely. Nothing prevents a party, if it so desires, from appointing a person with an IP, anti-trust or technical background as its party-appointed arbitrator. However, if the parties cannot agree a chair, it would be reasonable to have an institution pick a chair from an experienced stock of commercial arbitrators without any constraints mandating IP or antitrust experience.

Specifying that no arbitrator may be the same nationality as a party helps to eliminate biased arbitrators and avoids the perception of bias, and is relatively standard.

Choice of arbitral seat and venue

In addition to choosing the institution and arbitrators, it is necessary to choose an arbitral seat and venue. Seat is not the same as venue. The seat controls the mandatory arbitration law, and often the procedural law, applicable to the arbitration, and the procedure for affirming or challenging the result. The venue is where the arbitration hearings happen. Often, they are the same, but not always.

In FRAND arbitrations, seat and venue are usually controversial. Ideally, both would be neutral: for example, the agreement may specify that if the SEP owner is in an Asian country and the implementer is in the United States then the seat and venue for the arbitration hearings will be a European state.

Things to consider when choosing a seat for a FRAND arbitration include:

- the extent to which the national law of that seat provides the local courts with powers to supervise and support the arbitral process – for example, some jurisdictions provide the local courts with powers to remove conflicted arbitrators, rule on jurisdiction of the tribunal, enforce interim orders, secure the attendance of witnesses and make certain orders relating to the taking and preservation of evidence;
- the level of procedural autonomy permitted by local laws;
- local rules on privilege;
- whether the jurisdiction is a party to the New York Convention (and whether arbitral awards are afforded the same effect as court judgments in that jurisdiction); and
- the disclosure process in that jurisdiction (from full-blown US discovery to virtually non-existent discovery in civil law jurisdictions). The disclosure rules are not determined by the seat: they are a matter for the arbitral tribunal, and arbitrators from a civil law country may be less inclined to order discovery than arbitrators from a common law country. Although parties appoint two of the three arbitrators directly, in FRAND arbitrations some parties have been unable to agree on a chair. In these cases, the arbitration institute may need to appoint a chair and the seat of the arbitration may influence that choice.

The key consideration for a venue is how it will impact the practical administration and cost of the arbitration. To date, parties have successfully used London, Stockholm, New York, San Francisco and Paris as the seats and venues for SEP arbitrations.

Some Chinese companies have expressed the view that neither a European state nor the United States will be neutral for them. In that case, Singapore or Hong Kong may be a compromise that is acceptable to all sides.

To minimise the chances that an implementer that rejects the offer could later argue that the offered venue was unsuitable, one option is to include in the arbitration offer a series of tick boxes that the implementer can select when accepting the offer, for example:

The seat of the arbitration will be (tick to accept one of the following):

☐ *London*

☐ *New York*

☐ *Hong Kong*

Valuation methods

The decision of what will be regarded as the most appropriate method for a SEP portfolio arbitration should be left to the arbitrators on a case-by-case basis, as it will very much depend on circumstances. Parties will have strong views on this and should be allowed the freedom to argue their positions.

Reasonable time frame

One advantage of arbitration is that parties can set the time frame and invite the arbitrators to follow it. Parties cannot do that with a judge.

Eighteen months has proved to be just about long enough for even the most complex disputes: for smaller cases parties could reduce this to a year. This is important for SEP owners because it gives a timescale according to which they will get paid, which reduces the ability of large implementers to starve them out. Eighteen months is the proposed time period in the draft arbitration agreement in 'Approaches to determining a FRAND royalty rate'.

Reasonable cost

A secondary advantage of a short time frame is that it helps to contain legal costs. A tight timetable necessarily limits attorney charges and disbursements and forces them to take a pragmatic and efficient approach to evidence and procedure.

Parties should also encourage the arbitral tribunal to adopt a procedure that allows costs to be constrained. It is generally possible even at the outset of a dispute for parties to identify the range of the amount in dispute. Obviously, there may be cases where what is at stake exceeds the actual amount in dispute: for example, where a small licensee challenges the licensing rates of a large SEP owner and an adverse result could have broader implications for the SEP owner's licensing programme. But outside such exceptional cases, parties should aim to keep costs proportionate with the amounts in dispute, and, where the parties have not agreed to bear their own costs, arbitrators should be encouraged not to award costs that exceed a proportionate amount.

Reduces disruption but with enough risk to incentivise settlement

Binding portfolio valuation is, of itself, a significant risk for both parties, because there is always the risk that the tribunal may award a licence fee that is worse than the current offer on the table. That risk applies equally to both parties. It therefore provides an incentive to each side to reach an amicable solution.

In many portfolio disputes, there are opportunities for parallel litigation. SEP owners may assert other, non-SEPs against the implementer. Implementers may bring antitrust damages claims or complaints to regulators directly themselves or through proxies to put pressure on the SEP owner to make concessions in negotiations. It is desirable for both parties to enter a separate litigation standstill on all non-essential patent infringement actions, competition law complaints and regulatory complaints, whether direct or indirect. The offer of a standstill on other litigation can also be the quid pro quo of seeking a short timetable for the arbitration.

Parties should also consider entering into a tolling agreement so that damages or royalties continue to be accrued and past royalties or damages are not extinguished by limitation periods. This means that neither has an incentive to delay the arbitration.

SEP owner's chances of demonstrating that the party is an unwilling licensor are improved if arbitration rejected

Both SEP owners and implementers will consider the effect that a rejected arbitration offer will have in subsequent litigation. The SEP owner will want to use a rejected offer as evidence that the implementer is unwilling to take a licence on FRAND terms, and that if a court later finds a patent to be valid and infringed it should issue an injunction excluding the implementer's products from the market.

To achieve this aim, the offered arbitration agreement must be seen by the court as fair and unbiased. The recommendations in this section have been made with this in mind. Some practices that are best avoided include:

- restricting the ability of a party to run certain arguments that it may wish to advance;
- restricting the powers of the tribunal to decide issues that could be viewed as necessary to resolve the licensing dispute (e.g., issues of validity and infringement of the patents, exhaustion (if relevant) or licensing terms other than the royalty rate that may be disputed);
- making the arbitration offer conditional on the payment of substantial non-refundable interim payments;
- inflexibility in relation to procedural aspects of the arbitration (seat, venue, etc.); and
- introducing an appeal process that would significantly prolong final resolution of the dispute.

Timing of arbitration offers

If engaged in negotiations with a new licensee, it is typical for the discussions to open with an exchange of technical information (including claim charts) to give the licensee the opportunity to consider the extent of its exposure. Arbitration should generally be offered once the licensee has been provided with sufficient details and time to understand the licensed portfolio, around the same time that it becomes appropriate to move the discussions on to commercial issues (including the question of the appropriate FRAND rate) and can be the response to an argument that the offered rate is too high or to a low counter-offer. This protects the licensor from being accused of expediting the process to prevent the potential licensee from properly getting to grips with the technical considerations.

To avoid the arbitration offer from being seen as an afterthought, it should not be offered near the commencement of any patent infringement action.

Similarly, if the negotiations are for the renewal of an existing licence, then the offer of arbitration can be made as soon as it is clear that the parties have different views as to the appropriate renewal rate or terms.

Approaches to determining a FRAND royalty rate

Each party is likely to use expert economists or accountants to give evidence about the valuation of the portfolio. The tribunal will determine between these experts. Because valuation is a multi-step process, it may be that a tribunal disagrees with one step taken by one or more of the experts, but not the other steps. That may leave the tribunal in uncharted territory: trying to carry out the expert's subsequent calculations with different data. It is easy to make mistakes at this point and it often helps if the tribunal can 'hot tub' the experts. This involves both experts being before the tribunal, who can then ask questions to both at the same time: for example, 'Assume I rule against you on step x, how would that affect your respective calculations?'.

Comparable licences

Most commonly, the tribunal will look to other comparable licences. These may be licences granted by the SEP owner itself or licences granted by other SEP owners. Typically, in discovery, each party will obtain access to the others' comparable agreements: the SEP owner and the prospective licensee's out-licences and in-licences.

The most easily comparable licences can be one-way licences. But more commonly, the parties have entered cross-licences. Licences may specify rates in *ad valorem* or per unit rate terms and they may be paid via running royalties or lump sums. The patent portfolio in the comparable licence will be different in size and value to the licensor's portfolio in the arbitration because portfolios change over time. Each of these factors needs to be controlled for in the analysis.

To control for the relative patent portfolio strength of the portfolios being licensed it is necessary to calculate each portfolio's strength at the relevant date. If the comparable agreements are other out-licences, then the party will need to chart the strength of the SEP owner's portfolio over time. Or, if the parties have examples where the implementer has agreed or been ordered to pay for a licence to another cellular SEP holder's patents, then the tribunal will need to measure the strength of that cellular SEP holder's portfolio on the date at which the implementer took a licence or was ordered to pay damages.

Top-down approaches

As an alternative to using comparable licences, a party may seek to show that a rate is FRAND by demonstrating that the SEP owner holds a certain share of all the SEPs in the industry, and that it is entitled to a share of the total aggregate royalty rate in the industry.

As an alternative, a party may seek to show that it developed a certain share of the technology in the standard, and that it is entitled to a share of the value created by the standard. The value could be determined, for example, by comparing what customers pay for otherwise similar products with and without the standardised technology.

Determining portfolio strength at relevant dates

In each of the different methodologies described above, a necessary input to the calculation is the strength of each relevant patent portfolio. As there is no direct measure of portfolio value, economists model value by looking at proxies. The simplest of the commonly used proxies is a count of unique SEP families in the portfolio in question.

However, even this requires a number of technically challenging steps, such as: determining the body of declared SEPs; removing dead patents; assigning patents to the correct owner; and assigning patents to each standard generation. It is not possible to tell from the ETSI database alone what size portfolio each person holds (or held at the relevant point of time). This is because the ETSI database does not include all the patents in each declared family, and does not contain the necessary bibliographic patent information to perform calculations on expiry dates or ownership.

Recognising that not all SEP families are of equal value, economists often use more sophisticated proxies for value. One of these is forward citations, which requires a measure of the number of citations received by each patent family in the portfolio. To be accurate, this kind of measure requires sophisticated 'normalisation' techniques, adjusting for the age of a patent or the country that it was filed in.

Age normalisation is necessary because a patent will attract forward citations over its life. Without normalising for age, an older patent might appear to be more valuable because it has had a longer time period to attract citations. Jurisdiction normalisation is necessary because a patent filed in some countries (most notably the United States) will attract more citations than the same patent filed in another country.

It is also necessary to eliminate 'self-citations', which occur when a company cites one of its own patents. Some companies have a policy of doing this, and, unless corrected, the self-citation may inflate the apparent value of their portfolio. Not all citations to another patent belonging to the same company are self-citations, however. A party needs to be able to differentiate citations in a patent that arise from the examiner (which would be a genuine third-party citation) from those that arise at the instigation of the patentee.

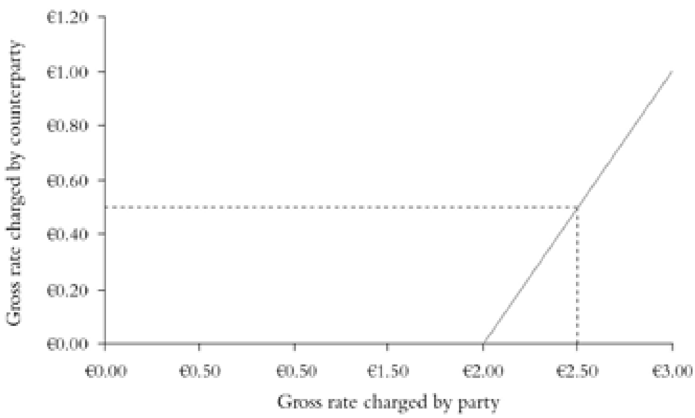
Another proxy is counting a party's technical contributions in the SDO, which may be a measure of their level of participation in the development of the standard. A further option is to use jurisdiction weighting: recognising that SEP owners may patent their more valuable inventions in a larger number of countries and their less valuable inventions in fewer countries may allow weighting to be applied to individual patent families, and distinguish the move valuable from the less valuable.

Unpacking a cross-licence

Once the patent portfolio strength has been established for the SEP owner's portfolio at the date of the dispute and for the portfolio that features in the comparable licence, it is possible to scale up or down the rate in the comparable licence to find out what a FRAND royalty rate would be. This is relatively simple when the comparable licence is a one-way licence but more complicated when it is a cross-licence. To unpack a cross-licence into two one-way licences, and derive the one-way rate, it is necessary to know the expected sales for both parties at the date that the cross-licence was entered.

Historic sales figures are available from suppliers such as Strategy Analytics and the Industrial Design Consultancy. However, it is necessary to estimate the parties' expectations as to sales at the date the comparable licence was entered, rather than actual sales with the benefit of hindsight. These expectations can be inferred from contemporaneous industry forecasts and internal communications.

Once the sales figures are known, it is possible to generate a rate chart that shows an infinite number of possible gross rate pairs that make up the net rate. These are illustrated below:



The diagonal line shows possible one-way rate pairs that make up the net rate. It could be, for example, that one party is paying €2.50 per device and the other is paying €0.50. Or one could be paying €3 and the other €1.

To solve this, it is necessary to know each party's patent portfolio strength at the relevant date. This allows one to calculate the value that was attributed to the portfolio being licensed at the time. On the assumption that the bargaining power of the parties was equal at the time the licence was entered into,[17] the following equations can be used:

$$\text{Balancing payment} = R^{\text{Party 1}} \times S^{\text{Party 2}} - R^{\text{Party 2}} \times S^{\text{Party 1}}$$
$$R^{\text{Party 2}} = R^{\text{Party 1}} \times P^{\text{Party 2}} / P^{\text{Party 1}}$$

R is the gross rate, S is sales and P is portfolio strength. As the sales expectations and the balancing payment will be known, this leaves a single unknown, the royalty rate of the first party, which can be solved for.

17 Often it is not equal, even in a FRAND context. One often hears parties talk about 'hold up' and 'hold out'. These are manifestations of bargaining power. There is little doubt that large licensees can negotiate more favourable rates for patent licensing, just as they can negotiate reduced prices for any other component supply. Whether that is fair is another question.

Taking account of 'true essentiality'

Not all patent families declared as essential to an SDO such as ETSI are truly essential.

One of the fears of implementers in entering a portfolio rate arbitration is that they will not have an opportunity to challenge the patent owner's portfolio. This is not correct. In all portfolio determination cases, and the arbitrations listed in this chapter, the implementer has made technical arguments about the portfolio. The difficulty is that, if the tribunal is seeking to determine the share of truly essential and valid patents held by the patent owner, then the same level of scrutiny must be applied to the patents of the patent owner as to the industry as a whole.

Recent court decisions, such as *Unwired Planet* and *TCL*, have attempted to take account of 'true essentiality' rates. In each of those cases, an expert commissioned a study through a sampling approach of patents in the industry. The study was criticised as over-estimating the overall number of essential patents in the industry. That had the effect of artificially reducing Ericsson's share.

The source of data used in the two arbitrations was a database created by PA Consulting, which provides a neutral assessment of the essentiality of every patent family declared to the CDMA2000, UMTS and LTE standards. In using this data, there are two approaches that can be applied.

- The high-level approach: the percentage of truly essential patents declared by a corporate entity is applied as a multiple to the patent value score, before inputting the patent value score into the equations outlined in 'Unpacking a cross-licence', or using patent value scores in a top-down analysis.
- The patent-by-patent approach: the underlying data in the essentiality study is matched to the bibliographic data from the European Patent Office. This allows patents that have been determined to be non-essential to be filtered out of the source data before comparing the portfolios.

The PA Consulting survey is undoubtedly less rigorous than the scrutiny that a patent would face in court. But the important point here is that the same level of scrutiny is applied to all patents in the exercise. More rigorous study might be better, but to scrutinise all patents in the industry would be disproportionate in all but the largest-value cases.

Modified Georgia-Pacific factors

A *Georgia-Pacific* analysis involves simulating a hypothetical bilateral negotiation between the licensor and licensee, which takes place at the time of the first infringement. The factors were set out in the US case of *Georgia-Pacific Corp v. US Plywood Corp*.[18]

In *Microsoft v. Motorola*,[19] Judge James Robart modified these to be more appropriate for SEPs. Judge Robart's approach was also used by Judge Holderman in *Innovatio v. IP Ventures* (*Innovatio*).[20] The modified *Georgia-Pacific* factors are as follows:

18 318F. Supp. 1116 (S.D.N.Y. 1970).

19 696 F. 3d 872 (9th Cir. 2012).

20 Case: 1:11-cv-09308. See https://essentialpatentblog.lexblogplatform.com/wp-content/uploads/sites/64/2013/10/2013.10.03-975_Public-Version-of-Memorandum-Opinion-and-Order.pdf.

1. The royalties received for licensing the patent, proving or tending to prove an established royalty, in other circumstances comparable to RAND-licensing circumstances.
2. The rates paid by the licensee for the use of other similar patents.
3. The nature and scope of the license, such as whether it is exclusive or nonexclusive, restricted or non-restricted in terms of territory or customers.
~~*4. The licensor's policy of maintaining its patent monopoly by licensing the use of the invention only under special conditions designed to preserve the monopoly.*~~
~~*5. The commercial relationship between the licensor and licensees, such as whether they are competitors in the same territory in the same line of business or whether they are inventor and promotor.*~~
6. The effect of selling the patented specialty in promoting sales of the licensor's other products, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.
~~*7. The duration of the patent and the term of the license.*~~
8. The established profitability of the patented product, its commercial success and its current popularity, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.
9. The utility and advantages of the patent property over alternatives that could have been written into the standard instead of the patented technology in the period before the standard was adopted.
10. The nature of the patented invention, its character in the commercial embodiment owned and produced by the licensor, and the benefits to those who used it, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.
11. The extent to which the infringer used the invention and any evidence probative of the value of that use, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.
12. The portion of the profit or the selling price that is customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions that are also covered by RAND committed patents.
13. The portion of the realizable profit that should be credited to the invention as distinguished from any non-patented elements, manufacturing process, business risks or significant features or improvements added by the infringer or the value of the patent's incorporation into the standard.
14. The opinion testimony of qualified experts.
15. The amount that a licensor and a licensee would have agreed upon at the time the infringement began if both were considering the RAND commitment and its purposes, and had reasonably and voluntarily tried to reach an agreement.

These have not been used in later cases; Judge Selna did not find them helpful in *TCL*. They have not featured in arbitrations to date.

Bottom-up analysis

A 'bottom-up' analysis involves calculating damages by determining the cost of implementing an alternative technology that could have been adopted into the standard. This cost is an indication of the amount an implementer would have paid to license the patents in suit.

This is clearly difficult and expensive to do in a large patent portfolio. The consideration of alternatives for each patent would require extensive expert evidence, and it may start to make the exercise more expensive than the amounts in dispute.

In the case of many technologies in the standard, there is no alternative, or to come up with one would take as much time and ingenuity as developing the original technology. (This may be disproportionately expensive for arbitration, even if it does have the side benefit of advancing the state of the art.)

For a small portfolio of patents this approach may be viable, and it is commonly used as a valuation method in single patent disputes in other technology areas. It has not been used in the large portfolio arbitrations in which this author has been involved. It was rejected as an approach by Judge Holderman in *Innovatio*.

Conclusion

Arbitration has proven to be more efficient in resolving SEP disputes than patent litigation because it combines the significant advantages of global reach, perceived neutrality and speed with maintaining confidentiality of business secrets of the parties and third parties.

Despite the complexities of law, technology and economics behind these disputes, tribunals do not need to be made up of patent experts or economics experts, and commercial arbitrators have proven to be entirely up to the task.

Appendix 1

The Contributing Authors

Richard A H Vary
Bird & Bird LLP

Richard A H Vary is a partner in Bird & Bird's intellectual property practice, based in London. Richard is an acknowledged expert on global mobile telecommunications patent litigation and arbitration, and has acted on disputes for many of the major players in the sector.

Before joining Bird & Bird in 2016, Richard was the vice president and head of litigation at Nokia, where he managed Nokia's global litigation. During his time at Nokia he managed cross-border patent litigations between Nokia and KPN, IPCom, Apple, HTC, Blackberry and Viewsonic. He was heavily involved in the dispute with Qualcomm, having overall responsibility for the actions in China. He also managed Nokia's groundbreaking arbitration on Standards Essential Patent valuations with Samsung and LG.

Richard has been named twice in Managing IP's annual list of the 50 most influential people in intellectual property and is regularly viewed as a corporate IP star by MIP. At Nokia, he was awarded 'In-House Counsel of the Year' by *The Lawyer*.

He sits part-time as a district judge in London and the South East, and in the Intellectual Property Enterprise Court.

Bird & Bird LLP

12 New Fetter Lane
London EC4A 1JP
United Kingdom
Tel: +44 207 415 6000
richard.vary@twobirds.com
www.twobirds.com

Until recently, large IP owners were hesitant about international arbitration – it was too scary (no prospect of appeal, etc.). Now, many are changing their minds.

This timely book sets out how arbitration can be tailored to meet the needs of IP owners and dispels some of the myths surrounding its use. It is in five parts that mirror the life cycle of disputes and will be of interest to newcomers and aficionados alike.

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