

Three cases reshaping patent licensing practice

US judges have recently set higher standards for calculating royalties in patent infringement cases. **Elizabeth M Bailey**, **Alan Cox** and **Gregory K Leonard** explain what the decisions could mean for IP owners negotiating licences and suing infringers

On September 11 2009, the CAFC issued its opinion in Microsoft's appeal of the \$358 million damage award in *Lucent*. In a jury trial, Microsoft was found to have infringed a patent that describes a method to enter information on a computer screen without using a keyboard (for instance, by using a stylus). Lucent contended that Microsoft's use of a drop-down calendar in Outlook and other programs infringed its patent. Microsoft appealed the damages award to the CAFC. Finding that the "damages calculation lacked sufficient evidentiary support", the CAFC remanded the matter for a new trial on damages.

Less than two weeks later, on September 23 2009, the CAFC heard oral arguments in Microsoft's appeal of the District Court's decision in *i4i*. The patent that Microsoft was found to have infringed describes a method to edit Extensible Markup Language (XML) files. XML provides indicators that are embedded in a document to denote how text is to be displayed. The patented technology was claimed by *i4i* to facilitate the editing of documents created in XML. The jury found that Microsoft incorporated the technology described in the patent and awarded damages in the amount of \$200 million to *i4i*. Microsoft appealed the damages award and, in its questioning at the hearing, the CAFC took up several issues related to the appropriate standard for estimating damages. On December 22 2009, the CAFC issued its opinion in Microsoft's appeal, upholding the damages award because Microsoft did not file a pre-verdict motion for judgment as a matter of law (JMOL) on damages.

In March 2009, Judge Rader, sitting by designation, made a ruling related to damages in the *Cornell* matter. A jury had found that Hewlett-Packard infringed a patent that describes a method to read a component of a processor's instruction reorder buffer (IRB). The technology in Cornell University's patent was claimed to enhance the throughput of a processor. The jury awarded damages in the amount of \$184 million to Cornell. In response to a post-trial motion by Hewlett-Packard, Judge Rader reduced the damage award to \$53 million, less than one-third of the amount awarded by the jury.

Common themes

While the details differ, several common themes emerge from the CAFC judges' consideration of the methodologies on damages in these three matters. These common considerations have general applicability in matters involving patent damages. First, the economic approach to calculating reasonable royalty damages, because it focuses on the incremental value provided by the patented technology, does not depend on whether the patented technology is a large or small component of the overall product. Second, it is not economically sensible to determine the royalty base and royalty rate independently of one another because a mismatched rate and base can lead to an unreasonable dollar amount of royalties. Finally, non-economic approaches to calculating reasonable royalties, such as the use of non-comparable benchmarks and the so-called 25% rule, are unreliable because they are not based on factual support for the patent's use in the specific cases at hand.

Theme 1: Size doesn't matter

In each of these three matters, the patented technology represented a single small feature of the overall product into which it was incorporated. In *Lucent*, "the infringing feature contained in Microsoft Outlook is but a tiny feature of one part of a much larger software program" (specifically, Outlook). Similarly, in *i4i*, XML (let alone the editing feature covered by the patent) "is only a tiny portion of the

One-minute read



Judges of the Court of Appeals for the Federal Circuit (CAFC) are giving increased scrutiny and guidance on the standards for reasonable royalty damage awards in patent matters. This appears to be in response to the widely held perception that district courts, in awarding damages, have tolerated the use of methodologies that are not based upon sound economic and business principles and thus are unscientific. Three recent cases are indicative of the trend toward higher standards for damage calculation: *Lucent Technologies, Inc v Gateway, Inc*, *i4i Limited Partnership v Microsoft Corp* and *Cornell University v Hewlett-Packard Co*. These three cases - and the economic themes they present - have important implications for IP owners, in-house counsel and outside counsel who are involved in litigating intellectual property rights and negotiating patent licences.

huge functionality offered by Microsoft Word”. Finally, in *Cornell*, the patented technology is “a small part of the IRB, which is a part of a processor, which is part of a CPU module, which is part of a ‘brick’, which is itself only part of the larger server”.

But whether the patented feature is small or large is not the right question. Instead, the reasonable royalty analysis should seek to determine the economic value generated by the patented feature relative to the next best (non-infringing) alternative. In principle, a small feature might generate substantial value. Indeed, the product may not be commercially feasible without the feature. Conversely, a large feature might have a very similar next best alternative, making its economic value small.

The economic value of the patented technology derives from the licensee being able to earn higher profits (through, for example, charging a higher price for or making greater sales of the product) with the patented component than without it. If the patented component is unimportant (to customers and the licensee), it will not have a substantial impact on demand for the product, and thus it will not have a substantial effect on the licensee’s price, sales, and profits (unless it is a cost-saving technology). It is the link between the patent and the licensee’s profits (in dollars) that should be the focus of the reasonable royalty analysis. There are many accepted and rigorous economic approaches that can be used to determine how the demand for the product would change, if at all, when an additional feature is added to, or removed from, the product. These economic approaches do not depend on whether the patented technology is a large or a small part of the overall product – they measure the economic value in either case. In this analysis, it is typically important to consider demand for the product itself, and the impact of the feature on demand for the product, rather than trying to consider demand for the feature. The latter concept is not economically meaningful in circumstances where consumers purchase the entire product and do not pay a separate price for the individual features or sub-components of the product. An exception would be where the feature is offered as an option for an additional price. Then, the feature can be separately purchased and it would be sensible to talk about demand for the feature.

The CAFC judges appear to be focussing increasingly on the economic value of the patented technology to the defendant rather than whether the patented component is a large or small part of the overall product. For example, in *Lucent*, the CAFC pointed out, in the context of discussing *Georgia-Pacific* Factor 13 (the portion of the profit of the product that should be credited to the invention), that “numerous features other than the date-picker appear to account for the overwhelming majority of the consumer demand [for the product] and therefore significant profit”. The Court went on to conclude that the “portion of the profit that can be credited to the infringing use of the date-picker tool is exceedingly small”.

Theme 2: Royalty base and rate: together forever

Five steps to an economically sound reasonable royalty analysis

- 1 Gather information on business plans and financial information associated with the products that incorporate the patented technology.
- 2 Identify potential design-arounds for the patented technology and the costs to implement such design-arounds.
- 3 Determine the incremental profit to the alleged infringer from using the patented technology instead of the design-around – for example, the extent to which products incorporating the patented technology have higher prices, lower costs, or greater sales.
- 4 Measure the effects on the patent owner of the increase in competition, if any, resulting from the alleged infringer’s use of the patented technology.
- 5 Assess the relative bargaining power of the patent owner and the alleged infringer.

In the past, whether the patented component is a small or large part of the overall product has been debated in the context of whether the so-called entire market value rule can be invoked to argue that the royalty base should be the entire product as opposed to something smaller. However, the focus on the royalty base misses the point as a matter of economics. Parties engaged in licensing negotiations, as well as litigants, care about the total dollar amount of royalties. The royalty rate and the royalty base must be chosen in conjunction so that the product of multiplying them will yield a dollar amount that reflects the economic value of the patented technology.

In the context of the *Cornell* case, suppose that the patented technology resulted in an increase in a server’s processing speed relative to what was achievable with the next best technology. Enhanced speed may result in greater sales of, and higher prices for, servers; that is, it may lead to incremental profits due to the patented technology. These incremental profits represent the largest dollar amount that a rational licensee would pay for the right to use the patented technology.

The choice of the royalty base should be largely irrelevant as long as the royalty rate is set, conditional on the choice of royalty base, so as to reflect the economic value (in dollars) of the patented technology. Problems arise, however, when the royalty base and the royalty rate are chosen independently of each other and with no connection to the economic value of the patented technology.

The CAFC in *Lucent* endorsed this theme when it stated that “[t]here is nothing inherently wrong with using the market value of the entire product [as the royalty base], especially when there is no established market value for the infringing component or feature, so long as the multiplier [or the royalty rate] accounts for the proportion of the base represented by the infringing component or feature”.

The CAFC may reinforce this reasoning in *Lucent* in its review of *Cornell* on appeal. In *Cornell*, Cornell’s damages expert had applied a 0.8% royalty to Hewlett-Packard’s sales of servers. Having been told by the court that servers were not an appropriate base for a reasonable royalty, Cornell’s damages expert applied the same 0.8% royalty rate to the value of “CPU bricks”, giving damages for past infringement of \$184 million. The jury awarded this amount. Judge Rader was troubled by the size of the damage award and addressed the overstatement of damages by applying the “jury’s uncontroverted royalty rate of 0.8%” to a reduced royalty base. This appears to be a different approach than was implied by the CAFC decision in *Lucent*, under which a royalty rate, reduced in accordance with the actual incremental value of the patented technology to Hewlett-Packard, could have been applied to the same royalty base of CPU bricks. Judge Rader, however, may have been constrained in *Cornell* by the information available in the trial record, limitations that may have made it impossible to measure the economic value of the patented technology.

Year	Case	Award	Disposition
2005	<i>Freedom Wireless v AT&T</i>	\$128 million	Case settled prior to appeal
2006	<i>Rambus v Hynix</i>	\$307 million	Trial judge set award aside
2007	<i>Lucent v Microsoft</i>	\$1,538 million	Trial judge set award aside
2008	<i>Saffran v Boston Scientific</i>	\$432 million	Case settled prior to appeal
2009	<i>Johnson & Johnson v Abbott</i>	\$1,670 million	On appeal

Theme 3: Not so expert testimony

Debates between plaintiffs and defendants over the royalty base have often been a result of damages experts first choosing a royalty rate based on purportedly comparable licences or industry average royalty rates, and then applying the chosen rate to a royalty base that is chosen independently of the royalty rate. Specifically, the damages expert compiles licence agreements involving patents that are claimed to be similar to the technology at issue or typical of an industry. These compilations are used to determine an average or benchmark royalty rate.

This non-economic approach suffers from a number of problems. First, as discussed above, it makes no economic sense to determine a royalty rate independently of the royalty base because the product of the two independently determined numbers may yield a dollar royalty that has no relationship to the incremental value of the patented technology. Second, the purportedly comparable licences may not, in fact, be comparable. Licensing agreements and the patents that underlie them vary in their attributes. Unless the important attributes are the same across two licences, they will generally not be comparable. Similarly, the economic circumstances surrounding the typical or industry average licensing negotiation that led to the typical or industry average royalty rate are unlikely to correspond to the economic circumstances surrounding the hypothetical negotiation at issue. Before an existing licence can be used as a benchmark, one must carefully analyse whether it is truly comparable in terms of factors such as the technology covered, the product of the licensee, the degree of competition between the licensor and licensee, cross licensing arrangements, and other considerations.

The recent cases demonstrate that the CAFC has recognised the problems with using a non-economic approach to calculating reasonable royalties. For example, in *Lucent*, plaintiffs claimed a reasonable royalty on the basis of purportedly comparable licence agreements. The CAFC determined that some of these supposedly comparable benchmark licences were in fact “radically different from the hypothetical agreement under consideration” for the patent at issue. As to the remainder of licences, the CAFC wrote that they could not “understand how the jury could have adequately evaluated the

probative value of those agreements”, characterising the evidence presented as “superficial” and “doubtful that the technology of those license agreements is in any way similar to the technology being litigated here”.

Similarly, in *i4i*, the CAFC questioned the reasonableness of a so-called benchmark on which *i4i*’s damages expert relied. *i4i* claimed that it needed to use a benchmark product to estimate the profitability of offering XML because Microsoft offered XML capability in Word at no additional cost. *i4i*’s damages expert used a purportedly comparable product to provide an indication of the price that Microsoft could have received (and the profit it could have earned) had it charged separately for its XML editor. The benchmark product that it chose as a comparable was a product called XMetaL Author, which had a list price of \$499 (compared to the zero additional price actually charged by Microsoft). *i4i*’s damages expert then simply used Microsoft’s average profit margin of 80% to calculate a profit of \$400 for every one of the estimated 2 million users of the XML capability of Word. In its hearings, the CAFC judges pointedly questioned whether XMetaL Author was a “reasonable one-to-one substitute” for Microsoft Word because it seemed “totally irrational” that “every person that bought and used Microsoft Word for an infringing use would have alternatively bought the \$500 XML XMetaL product as an alternative if Word did not offer that functionality”. Despite the concerns raised during oral arguments, the CAFC did not consider the reasonableness of the damages award because Microsoft did not file a pre-verdict motion for JMOL on damages. However, in light of the questions raised by the CAFC during oral arguments, it is important to note that the CAFC’s opinion suggested that the outcome with respect to the damages award may have been different had Microsoft filed a pre-verdict JMOL:

“[H]ad Microsoft filed a pre-verdict JMOL, it is true that the outcome might have been different. Given the opportunity to review the sufficiency of the evidence, we could have considered whether the \$200 million damages award was ‘grossly excessive or monstrous’ in light of Word’s retail price and the licensing fees Microsoft paid for other patents ... As this court did in *Lucent*, we could have analyzed the evidentiary basis for the *Georgia-Pacific* factors, and whether the benchmark (XMetaL) was sufficiently comparable.”

In some situations, damages experts apply the so-called 25% rule, that is, the royalty rate is assumed to equal 25% of the operating profit of the product into which the patented technology is incorporated. However, the 25% rule makes no economic sense. A fundamental problem is that it ignores the value of the technology because it is based on operating profits of the product rather than the incremental value provided by the patented technology. Furthermore, it imposes a one-size-fits-all approach to determining the royalty rate. In the real world, each patent, in principle, has a different economic value. Moreover, the economic circumstances that influence the negotiated royalty typically differ substantially from negotiation to negotiation, even if the same patent is involved. As with non-comparable licences, failure to take these negotiation-specific economic circumstances into account can lead to a substantial error in the resulting royalty. During oral arguments in *i4i*, the CAFC appears to concur that the 25% rule lacks a scientific foundation. One of the CAFC judges questioned whether the 25% rule was

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a methodology that was “just something pulled out of the air”.

A reasonable royalty is one which makes the patentee whole with respect to the infringement. In contrast to the use of non-comparable benchmark licences and the 25% rule, the economic approach to calculating a reasonable royalty is reliable because it is grounded in the specific economic conditions and facts of the case and focuses on the value of the patented technology. The economic approach takes into account the alternatives available to both parties to determine the range of royalty payments over which the parties would have bargained. As these three cases illustrate, using a damages expert who utilises approaches that do not account for economic and business realities, such as non-comparable benchmark licences or the 25% rule, can result in damage calculations that run the risk of being overturned on appeal.

A more reasonable outlook

The most straightforward implication of these three cases is that, when involved in litigation, counsel should ensure that their damages analyses are based on sound economic valuation methodologies that focus on the value of the specific patented technology in the particular application that is at issue in the case. In addition, litigation counsel should be certain to make the necessary motions that will allow District Courts to perform their gate-keeping role under Federal Rule of Evidence 702 and *Daubert* to ensure that damages methodologies not based on sound economic and business principles are barred from being heard by juries.

A more subtle implication of the CAFC's trend toward more rigorous standards for damage awards is its effect on so-called upstream licensing negotiations between IP owners and potential licensees. Because bargaining strategies in licensing negotiations are affected by the potential outcomes that would take place downstream in litigation were the negotiations to fail, increased use of economic valuation principles in litigation will strengthen the incentives for patent owners and potential licensees to use the same economic valuation principles in formulating their bargaining positions in negotiations. Moreover, there likely will be feedback effects from licensing practices back downstream to litigation outcomes. If documented in a way that can be produced as evidence in litigation, the ordinary-course-of-business use of bargaining strategies in licensing negotiations that are consistent with sound economic valuation principles will reinforce the courts' movement toward more rigorous standards for damages awards in patent litigation.

Lessons learned

- 1 Request the court to require early disclosure of good-faith preliminary damage estimates and the basis for same in order to enhance the chance for settlement.
- 2 Make all reasonable challenges to expert testimony on damages to ensure that deficient and non-economic testimony does not affect the litigation outcome.
- 3 Document your client's licensing practices so that these practices can be introduced in litigation as evidence of how the hypothetical negotiation would be conducted.



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