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Patent Monetization and Valuation

The use of new patent monetization techniques and patent damages concepts are increasingly impacting companies' patent monetization strategies.

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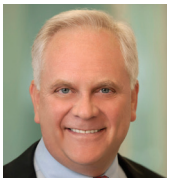

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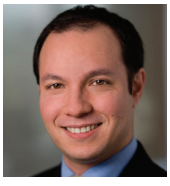

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Patent monetization describes a variety of methods for extracting value from and otherwise financially leveraging patents. The increased value of patents has led to increased focus on patent monetization beyond the standard techniques of direct patent licensing and enforcement by patent owners. In addition, the Leahy-Smith America Invents Act (AIA) and various patent damages concepts have affected companies' strategies to maximize and realize the value of their patent portfolios.

This article discusses:

- Different strategies for monetizing or otherwise extracting value from patent portfolios.
- Factors to consider when valuing patents.
- The potential impact of *inter partes* review proceedings on patent valuation.
- The methods used to calculate reasonable royalty patent infringement damages, including the Nash Bargaining Solution.

Search Patent: Overview for an overview of US patent law.

PATENT MONETIZATION STRATEGIES

For many companies, intellectual property (IP) comprises one of their most valuable asset classes. At the same time, many companies have come to realize that building and maintaining a high quality global patent portfolio puts ever-increasing pressure on operating expenses and profitability. This, coupled with the broader dynamics in the patent ecosystem, has translated to pressure from the board of directors, activist shareholders and the C-suite to extract value and demonstrate a return on investment.

While significant patent infringement damages awards continue to get substantial attention, including six damages awards of $100 million or more in 2014 (as of press time), there are numerous other ways for a company to extract value from its patent portfolio, including one or more of the following:

- Generating revenue by directly licensing its patents.
- Generating revenue by indirectly licensing its patents through a third party, typically a non-practicing entity (NPE), that administers an enforcement and licensing program.
- Generating cash through patent sales.
- Securitizing existing royalty streams to modify the risk profile of income streams or the structure and timing of revenues.
- Using IP assets as collateral for significant financings instead of, or in addition to, equity or bond vehicles for raising capital.
- Using the contribution of key IP to obtain strategic collaborations or joint ventures with other companies.
- Contributing IP to promote the broad adoption of a particular technology or standard to develop a fledgling market and further future market penetration or product sales (such as Tesla Motors, Inc.'s recent announcement not to assert its patents in order to expand the electric automobile platform generally).
- Using IP to exclude competitors from a given market.
- Decreasing net tax liability through tax-efficient corporate and IP holding structures.

The highest cash return typically arises from a successful licensing program. However, the degree of return, and the associated risk, depends on many factors.

For example, a direct licensing program typically results in a higher rate of return and gives the company more control over deal flow and litigation decisions. However, a direct licensing program also increases expenses, consumes substantial time of key personnel and presents a risk of the company losing infringement cases. An indirect licensing program mitigates expenses but generates a lower net return, and will typically result in loss of control over pricing and enforcement and settlement decisions.

Successfully leveraging a company's IP can have the important benefits of increasing a company's net profits and boosting the overall valuation of the enterprise. Ultimately, the IP rights and methods of exploiting these rights that a company relies on will depend on that company's goals and strategies, all of which should be subject to continuous adjustment and review.

VALUING PATENT PORTFOLIOS

Determining the value of a patent portfolio is somewhat imprecise and variable, as patent value is context specific. In addition, valuation methods vary based on the strategic direction a company takes in extracting value from its patents.

In the patent sale context, value is highly dependent on the particular needs of particular buyers, which can vary widely. For example, in 2010 on the eve of its initial public offering, Facebook, Inc. paid approximately $2.22 million per patent for patents from early social networking company Friendster. In contrast, two years later Facebook paid Microsoft Corporation approximately $846,000 per patent in a deal for about 650 patents. This illustrates that the value of a portfolio is not a fixed amount based solely on the specific patents, but is often determined, in part, by the buyer's particular situation and needs.

A value assessment of a given portfolio for licensing purposes may also rely on a variety of factors, for example:

- Third-party assessments of the portfolio's strength.
- Algorithmic calculations, which are often based on data such as:
  - litigation history;
  - prosecution times;
  - the size of the patent family and number of foreign counterparts; and
  - forward and reverse citation metrics.
- Actual qualitative assessments of a certain number of patents to identify potential issues concerning:
  - validity;
  - the discernibility of infringement; or
  - claim construction.

In addition to an analysis of the specific patents, valuation models typically consider:

- The applicable revenue of various companies using the patented technology in given product lines.
- Financial modeling around different assumptions concerning royalty rates and unit sales.
- Existing encumbrances on key patents, such as:
  - cross-licenses;
  - settlement agreements; or
  - the patents' contributions to an industry standard.
- The damages that may be recoverable for infringement.

Where a company wishes to use a patent portfolio as collateral for a financing event, the lender often will require a third-party valuation opinion to have an empirical basis for making loan-to-value assessments. However, these opinions will generally be discoverable and may undercut later claims for damages in infringement actions. Therefore, the company should have a clear patent value extraction strategy before proceeding along this path.

INTER PARTES REVIEW

Inter partes review (IPR) proceedings have become a powerful weapon for those seeking to void patents and thereby minimize

exposure for patent infringement. IPR proceedings are an administrative trial proceeding created by the AIA. In an IPR proceeding, the Patent Trial and Appeal Board (PTAB) reviews an issued patent for patentability under 35 U.S.C. §§ 102 or 103 in view of prior art patents and printed publications. The entire process typically takes approximately 18 months and can cost each party several hundred thousand dollars.

Search USPTO Post-prosecution Patentability Proceedings for more on IPR proceedings.

The IPR process provides an additional avenue to invalidate a patent and does not require court litigation. It presents a risk that a potential licensee could file an IPR petition as a tactical move to gain leverage during negotiations. To mitigate this risk, patent owners should seek to avoid patent-specific discussions with the potential licensee where possible. The patent owner should also consider conducting a reasonable prior art search and analyzing the prior art to get a sense of the risk an IPR could pose to its patents.

The ease of filing for an IPR and the possibility of a litigation stay pending resolution of an IPR also has ramifications for a patent owner's (as well as potential patent purchasers') valuation of the patent's likely revenue stream. An IPR could delay expected revenue for potentially 18 months or more until it is resolved. In licensing negotiations, this delay in revenue recognition can:

- Provide the potential licensee with additional leverage.
- Result in decisions to monetize the patent through an up-front payment rather than a declining share of future revenue.

Although the PTAB has instituted the majority of IPR petitions filed to date, the relatively short history of the IPR regime and the corresponding small data sample size injects uncertainty into patent valuation. This uncertainty is likely to continue until the PTAB resolves more IPR proceedings and the predictability of the IPR process increases.

CALCULATING REASONABLE ROYALTY PATENT INFRINGEMENT DAMAGES

Damages calculations in patent infringement lawsuits present complex issues and are subject to evolving case law.

The starting point for quantifying damages is that adequate damages must be no less than a reasonable royalty for the use of the invention (*35 U.S.C. § 284*). The courts have interpreted Section 284 to define two distinct but not mutually exclusive categories of damages valuations in patent infringement suits:

- The patentee's lost profits.
- The reasonable royalty the patentee would have received through arms-length bargaining of a royalty-bearing license agreement.

Courts will consider a hypothetical negotiation to ascertain the value of a reasonable royalty and in doing so will look to the 15 *Georgia-Pacific* factors (*Georgia-Pacific Corp. v. U.S. Plywood Corp. 318 F. Supp. 1116, 1120-21 (S.D.N.Y. 1970)*).

Search Patent Infringement Claims and Defenses for more on patent damages, including the *Georgia-Pacific* factors.

A reasonable royalty can take the form of either:

- **A lump sum payment.** A lump sum payment is a single up-front payment that, unlike a running royalty, is not expressed as a portion or percentage of the value derived from the success of the product incorporating the licensed invention.
- **A running royalty.** A running royalty is calculated by multiplying the appropriate royalty base, for example, units produced or net sales, by the appropriate royalty rate.

Because successful products are the subject of most patent infringement suits, and because a running royalty analysis does not require proof that the success of the product was foreseeable, there are significant incentives for patent owners to argue that a running royalty is an appropriate measure of damages. Consequently, identifying the appropriate royalty base and rate are two of the most contentious issues in patent infringement damages valuations.

SMALLEST SALEABLE PATENT-PRACTICING UNIT AND ENTIRE MARKET VALUE

The general rule is that the smallest saleable patent-practicing unit (SSPPU), and not the entire product sold to the customer, must be the royalty base (see *Cornell Univ. v. Hewlett-Packard Co., 609 F. Supp. 2d 279 (N.D.N.Y. 2009) (Rader, J., sitting by designation)*).

The entire market value rule (EMVR) is a limited exception to this general rule. When an apparatus is made up of several features, the EMVR allows the patentee to recover damages based on the value of the whole apparatus rather than on one of its patented features, but only where the patented feature is the basis for customer demand for the entire apparatus (*LaserDynamics Inc. v. Quanta Computers, 694 F.3d 51, 67 (Fed. Cir. 2012)*).

Therefore, the starting point for any royalty base calculation is to identify the SSPPU. Then, if the patentee wants to base its damages on a larger royalty base, it will have to prove that the patented feature is the "basis for customer demand" for the product that yields that larger royalty base.

For example, a patented feature will satisfy the basis for customer demand requirement when it alone drives the decision to purchase a more complex product incorporating it (*Inventio AG v. Otis Elevator Co., No. 06 Civ. 5377 (CM), 2011 WL 3359705, at *5 (S.D.N.Y. Jun. 23, 2011)*; see also *IP Innovation LLC v. Red Hat, Inc., 705 F. Supp. 2d 687, 689 (E.D. Tex. 2010) (Rader, J., sitting by designation)*), such as where its inclusion in a more expensive product is the sole distinction between that product and a less expensive product that does not contain the patented feature (see *Sloan Valve Co. v. Zurn Indus., Inc., No. 10-cv-00204, 2014 WL 1245101, at *7 (N.D. Ill. Mar. 26, 2014)*).

Because the basis for customer demand requirement is very difficult to satisfy, patentees are incentivized to formulate a large reasonable royalty valuation in a manner that does not trigger the application of the EMVR.

At least one court allowed the patentee to avoid the application of the EMVR by calculating the reasonable royalty on a per-unit dollar amount. The US District Court for the Southern District of California held that such a valuation does not trigger the application of the EMVR and the basis for customer demand requirement, as long as the dollar amount is not represented as a percentage of total revenue (see *Multimedia Patent Trust v. Apple, Inc., 10-CV-2618-H (KSC), 2012 WL 5873711, *4-6 (S.D. Cal. Nov. 20, 2012)*).

Another way to avoid the application of the EMVR may be to calculate the reasonable royalty as a lump sum, rather than as a running royalty. For example, the US District Court for the Northern District of California held in one case that the patentee may use the entire revenue from the end product to estimate a lump sum royalty without having to satisfy the EMVR basis for customer demand requirement. The patentee will still need to show that the parties would have agreed on a lump sum royalty in a hypothetical negotiation.

However, the court noted that the US Court of Appeals for the Federal Circuit limited its endorsement of lump sum royalties in *LaserDynamics* to those not calculated as a percentage of a component or product (see *HTC Corp. v. Tech. Props. Ltd., 5:08-cv-00882, 2013 WL 4787509, *1-3, n. 9 (N.D. Cal. Sep. 6, 2013)*). Consequently, the extent to which a patentee can be certain that reliance on a lump sum will not trigger the EMVR is questionable.

THE NASH BARGAINING SOLUTION

The rise of the Nash Bargaining Solution (NBS) in the patent damages context is a reflection of courts' struggles to develop a framework for calculating reasonable royalty damages.

The NBS, developed by Nobel Laureate John Nash, is a "mathematical model that purports to define the most mutually beneficial outcome of a two-party bargaining scenario" (*Oracle Am., Inc. v. Google, Inc., 798 F. Supp. 2d 1111, 1119 (N.D. Cal. 2011)*). The NBS assumes that:

- Each party's preferences can be defined and compared.
- Each party has perfect knowledge of the other's tastes and preferences.
- Each party is highly rational.
- The parties are equal in bargaining skill.

(See *John F. Nash, Jr., The Bargaining Problem, Econometrica, Apr. 1950 at 155*.)

Nash demonstrated that the most mutually beneficial solution to a bargaining scenario in which these assumptions are met is one in which the parties equally split the incremental benefits. It is important to note, however, that the split of incremental benefits only occurs after each party receives the amount that could be obtained if no agreement could be reached (disagreement benefits). Moreover, the presumption of a 50/50 split in the incremental surplus is only guaranteed to occur when all of Nash's fundamental assumptions are met. In other scenarios, it is likely that the NBS framework will yield disparate allocation results.

Application of the NBS to Patent Damages

In the patent damages context, the NBS serves as a framework to determine how to allocate the incremental benefits the patents contribute to the infringing technology between the patent owner (licensor) and the infringer (licensee). The NBS considers:

- The respective disagreement profits.
- Profits from agreement for each party.
- The total profits from the hypothetical transaction.

In this way, the framework considers how to best allocate the incremental surpluses generated from the licensing transaction. In a reasonable royalty context, a party is only required to know or reasonably estimate:

- The disagreement profits for the patent owner and infringer respectively (representing the profit each party expects to receive if the licensing negotiation fails).
- The total profits from licensing.

The solution is based on dividing the surplus from the hypothetical licensing transaction in a manner that fulfills five fundamental conditions:

- Neither party should be able to better their position in an alternative transaction.

Although the PTAB has instituted the majority of IPR petitions filed to date, the relatively short history of the IPR regime and the corresponding small data sample size injects uncertainty into patent valuation.

- Neither party should get less in the solution than they would have gotten through disagreement.
- The solution must be independent of any payoff's numerical measurement.
- The solution should not be affected by eliminating alternatives, other than disagreement profits, to the bargaining solution that would not have been chosen.
- If the bargaining positions of both parties are equal, the solution should treat both parties equally.

(See *William Choi and Roy Weinstein, An Analytical Solution to Reasonable Royalty Rate Calculations, 41 IDEA 49, 53 (2001)*.)

In the patent damages context, the NBS analysis should consider multiple factors in assessing the proper allocation of the incremental benefits accrued in the hypothetical licensing transaction.

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Court Response to the NBS

The response to the NBS in the patent damages context has been mixed. While certain courts have strongly criticized its use, other courts have accepted the framework in certain limited situations.

In *Oracle America, Inc. v. Google, Inc.*, the Northern District of California heavily criticized and rejected the plaintiff's expert's use of the NBS, noting that the NBS:

- Involves complex mathematical formulas that no jury could follow.
- Would disguise a blanket reasonable royalty assumption of 50% of the infringer's profits behind "an impenetrable facade of mathematics."

(*798 F. Supp. 2d at 1120*.)

In *Suffolk Technologies LLC v. AOL Inc.*, the US District Court for the Eastern District of Virginia similarly rejected the plaintiff's expert's use of the NBS because the plaintiff failed to explain why the parties would accept a 50/50 split and therefore did not tie the 50/50 presumption to the facts (*No. 1:12-cv-625, slip op. at *3-4 (E.D. Va. Apr. 12, 2012)*). The blanket use of the NBS's 50/50 presumption rule was "not meaningfully distinguishable" from the 25% royalty rule that was previously rejected in *Uniloc USA, Inc. v. Microsoft Corporation, 632 F.3d 1292 (Fed. Cir. 2011)*, and therefore the court found no reason to allow the expert's testimony.

Other courts, however, have accepted the NBS with reservation. For example, in *Mformation Technologies v. Research in Motion*, the alleged infringer filed a motion to exclude the plaintiff's expert's testimony because its reliance on the NBS was an inadmissible rule of thumb (*No. 3:08-cv-04990, slip op. at 5-6 (N.D. Cal. Mar. 29, 2012)*). The Northern District of California denied the motion because the plaintiff's expert engaged in an extensive analysis of the *Georgia-Pacific* factors that was tied to the facts of the case.

The US District Court for the Southern District of California in *Gen-Probe v. Becton Dickinson* also denied the alleged infringer's motion to exclude the plaintiff's expert's testimony based on a profit split because the expert's conclusions were tied to the facts of the case (*No. 09-CV-2319, 10-CV-0602, 2012 WL 9335913, at *3 (S.D. Cal. Nov. 26, 2012)*).

These holdings suggest that considering the *Georgia-Pacific* factors and tying the NBS analysis to the facts of the case when determining the appropriate assumptions to apply for the hypothetical negotiation can legitimize the use of the NBS.

Lastly, in *VirnetX Inc. v. Cisco Systems, Inc.*, the US District Court for the Eastern District of Texas denied a motion to exclude the plaintiff's expert's testimony regarding the use of the NBS (*No. 6:10-cv-00417, 2013 WL 789288, at *3 (E.D. Tex. Mar. 1, 2013)*). Cisco, the alleged infringer contended that the plaintiff's expert's use of the NBS was unreliable because he failed to calculate the incremental profits associated with the use of the specific patent, and instead applied the solution to the gross profit margins yielded by the accused products without linking them to the expected profits generated by the patented feature. Cisco also challenged the proposed 45/55 profit split as arbitrary.

The court disagreed that the expert had used the wrong profits, explaining that the expert "considered the same incremental profits associated with the incremental revenue created by the patents-in-suit as Cisco's own expert." Additionally, the court noted that the expert proffered some explanation concerning the deviation from the traditional 50/50 split.

Arguments For and Against the NBS

The uncertainty of the case law concerning the applicability of the NBS has compelled both critics and proponents to comment on its legitimacy.

Critics commonly argue that the NBS fails to provide an adequate framework for reasonable royalty calculations because:

- The NBS is overly complex, inviting "a miscarriage of justice by clothing a fifty-percent assumption in an impenetrable facade

of mathematics" (*Oracle Am., Inc. v. Google, Inc., 798 F. Supp. 2d at 1120*).

- The NBS could result in recovery in excess of what is permitted under the current US patent damages law, as a patentee typically can recover its own lost profits but cannot recover the profits of the defendant.
- The NBS relies on an idealized bargaining scenario with a specific set of unrealistic assumptions, and this idealized framework cannot possibly account for the dynamic variables and factors present in complex patent licensing negotiations.
- Any attempt to adjust the idealized NBS profit split based on the *Georgia-Pacific* factors is subjective, and these adjustments violate the NBS's idealized model.
- The NBS's 50/50 split presumption is:
  - analogous to the 25% rule of thumb that was recently rejected in *Uniloc*; and
  - an arbitrary and general rule that is unsubstantiated by empirical data and does not adequately link the facts to the case.

Proponents of the NBS respond to these arguments by noting that:

- Most economic models, including the "hypothetical negotiation," are premised on simplified or unrealistic assumptions. In contrast, the NBS and negotiation game theory are well-accepted methods of modeling the outcome of negotiations generally. Further, courts and juries have grappled with complex economic theories such as demand elasticity and fixed and variable costs in antitrust cases and other contexts, and there is nothing uniquely complicated about the NBS that should bar it from the courtroom while allowing entry to other economic theories.
- The law's current reliance on the *Georgia-Pacific* factors arguably gives litigants too much leeway in formulating damages theories, making them susceptible to abuse.
- Unlike the now-defunct 25% rule, the NBS is tied to the specific facts of the case, taking into account significant elements of the licensing transaction, and the incremental surpluses are only divided evenly when both parties have equal bargaining power. In determining the assumptions of the NBS framework, courts should consider all of the *Georgia-Pacific* factors, which will likely affect the resulting allocation of the incremental surplus benefit.

(See *F. Russell Denton and Paul J. Heald, Random Walks, Non-Cooperative Games, and the Complex Mathematics of Patent Pricing, 55 Rutgers L. Rev. 1175 (Summer 2003)*; *Christopher S. Marchese, Michael E. Florey and Juanita R. Brooks, Retooling Patent Damages Law for NPE Cases, 14 Sedona Conf. J. 47 (Fall 2013)*; *Roy Weinstein, Ken Romig and Frank Stabile, Taming Complex Intellectual Property Compensation Problems, TTI Vanguard Conference (Washington, D.C. October 4, 5, 2011)*.)