Towards an Efficient Market for Innovation

Submitted by IBM Corporation for the Federal Trade Commission's "The Evolving IP Marketplace" Hearing on Patent Damages, February 11, 2009

Summary

Court awarded reasonable royalty determinations provide the backdrop against which all patent settlements and patent licensing activities are measured. Collectively, these settlements and licenses define an IP market in which developers and implementers of IP come together to trade the rights necessary to provide goods and services. This market must function efficiently, minimizing market friction and transaction costs that are ultimately passed along to consumers. Thus, it is paramount that royalties fairly compensate the patentee and fairly charge the licensee. Damages awards that reflect the economic value of an innovation appropriately balance interests and act as essential references for IP market participants, since patentees and licensees are respectively neither overcompensated/overcharged nor under-compensated/undercharged. IBM believes that an efficient IP market is important for promoting innovation, including for the development of complex products incorporating multiple inventions[1] that have become commonplace; and that an efficient IP market rests heavily on the ability to predict with a high degree of certainty the legal remedies available for patent infringement. Damages determinations informed by the economic value of the essential features of an invention as articulated in the Supreme Court's Quanta decision,[2] and increased focus by District Courts on their gate-keeping function, will promote and enable the needed efficiency in the IP market.

A. Environment: The Evolution of Open Innovation and Collaborative Development

Technology industries are evolving towards providing products and services incorporating multiple innovations from multiple sources and are evolving further towards open innovation. Collaborative development may be horizontal -- in which multifunction products such as computer systems incorporate innovative features from multiple sources; or vertical -- in which single function products such as pharmaceuticals reflect inventions from multiple "upstream" and "downstream" participants in the development "chain".[3]

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[1] While multi-function products tend to have high visibility in the IT sector, there is a similar issue in biotechnology due to the multiparty nature of research. Some entities such as universities perform fundamental or "upstream" innovation while other "downstream" entities productize. *See* Michael Heller and Rebecca Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research,* Science, New Series, Vol. 280, No. 5364 (May 1, 1998), pp. 698-701.

[2] Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109 (U.S. 2008).

[3] *Rising in the East,* The Economist, January 3, 2009, at 47. Citing as an example the Apple iPhone: "Apple's contribution is the design and software – and importantly, integrating the innovations of others." *See also* Carl Shapiro and Mark Lemley, *Patent Holdup and Royalty Stacking,* 85 Texas Law Review 1991 (2007).

As technologies have become more complex, it is typically no longer feasible for any one party to be the source of all the innovative aspects and/or components that are integrated into advanced products. Providers are increasingly integrating multiple inventions of multiple parties -- often competitors -- into increasingly complex products. Incorporating innovation from multiple sources is enabled by: (1) open innovation environments, such as the open source software model; (2) technology standards, where innovators work collaboratively to create a common platform for product-level competition; and (3) licensing and cross-licensing of technology to gain access to others' innovations.

The information technology sector is not unique in this regard. Licensing and cross-licensing are of course common in many industries, and collaborative innovation through open platforms and standards has blossomed across numerous industries in recent years. The U.S. economy as a whole will therefore benefit from an efficient IP market where certainty in damages determinations ensures efficient access to innovation, reduces transaction costs, and avoids unwarranted speculation.

IBM's Perspective on Collaborative Innovation and New IP Models

Participants in a healthy innovation economy include researchers, inventors, IP licensees and licensors, product and services developers and sellers, and the public. Often none of these parties are the same in a given market. IBM's experience is illustrative of the complexity of the modern IP landscape. As a result of its investments and innovation culture, IBM inventors have helped it become the world leader in issued U.S. patents for sixteen consecutive years. IBM has extensively licensed these patents for many years, and generates approximately $1 billion annually in IP licensing income. IBM also has for many years obtained licenses from others, often through cross-licensing to obtain the freedom of action to sell approximately 100 billion dollars in goods and services to its worldwide customer base. Thus, IBM plays many of the evolving roles described above in a variety of markets.

IBM is also actively involved in open and collaborative forms of innovation such as open source software, standards development, and sharing IP through patent pledges. IBM is a member of over 350 standards organizations and actively participates in the development of standards across diverse fields. IBM is also a major developer and provider of open source software solutions.

IBM believes the importance of IP and IP markets to innovation in collaborative environments cannot be understated. New IP challenges are shared by any person or entity that wishes to participate in this new environment; all who join standards bodies commit to their IP policies; and all who work on open source software development must understand and comply with the various licensing obligations. These commitments and obligations are difficult to undertake if there is significant risk of IP market failure in determining patent royalties. New developments in collaboration present many possibilities for exciting innovation, but at the same time present significant challenges for the efficient use of IP.

B. An Efficient IP Market Is Needed to Promote Innovation

Horizontal and vertical collaborative innovation combines the ingenuity of different parties to yield the kinds of advanced products customers desire, but it is these same products that present challenges for the IP market. To offer these products and to license the related IP, providers need an efficient market in which IP rights can be readily valued and exchanged. Where there is divergence between licensor's and licensee's views regarding fair and reasonable licensing fees, transaction costs rise and the market becomes inefficient. Multiple parties make the problem more complex and increase sensitivity since more parties must agree regarding IP valuation. Without certainty, there is also a heightened risk of speculation. For example, parties may be encouraged to enforce patents for purposes of extracting high royalties from the producers of goods and services, while producers may be encouraged to hold out against taking licenses for purposes of extracting access to innovations at low royalty rates. The inability to agree on a royalty fee prevents innovators from being compensated, prevents products and services from reaching the market, and increases the incidence of costly litigation.

As products have become increasingly complex and integrated, the licensing necessary for the IP market to function has become more complicated. Companies need to consider not only their own internally developed technology and IP, but also the technology and IP of others.[4] The oft-cited example of the computer, or even the CPU itself, containing hundreds if not thousands of patented innovations is illustrative. Similarly, a pharmaceutical product may incorporate the "fundamental" research of a university combined with the targeted product development of a pharmaceutical firm.[5] The typical licensee/product-seller must consider all the fees to be paid to all patentees in order to make and sell its product. And the licensor/innovator must consider the role its innovation plays in the applicable product.

When a patented invention is included in a product of any kind, including in a complex multifunction product, its economic value should be determined based on the substance of the invention. Economic value should not be affected by the inclusion or omission of background or context elements added to the patent's claims. Nor as a general proposition should economic value be affected by the aggregate cost of a complex multifunction product in which the invention is incorporated. This substance-based approach is fair to both the licensor and the licensee, avoiding both under-compensation and over-compensation. It also enhances predictability and certainty by causing all parties to focus on the inherent value of the patented invention. The public benefits when innovators/licensors and producers/licensees are able to readily come to terms regarding an invention's economic value.

Market complexity creates significant challenges for determining royalty fees. As such, licensors and licensees are and will continue to be influenced in their negotiations by the legal standard for reasonable royalty damages and its application. This is not surprising – both parties understand that reasonable royalty damages is the metric by which the licens-

[4] For example, the Apple iPhone must by necessity incorporate cell phone technology unrelated to the computer and music handling expertise of the company. *See also* Shapiro and Lemley, *supra* note 2.
[5] Heller and Eisenberg, *supra* note 1, citing M. Kenney, Biotechnology, the University-Industrial Complex (Yale University Press, New Haven, Ct. 1986)

ing fee should be judged since it is the measure for damages if they are forced to litigate. Given the challenging developments in the market and the resulting challenges in licensing, it is of paramount importance that the law of damages provides clear guidance.

C. Proposed Solutions: Emphasis on "Best Practices" for Damages Law Will Support an Efficient IP Market

To facilitate an efficient market in ideas and licensing, IBM supports an increased focus on best practices for determining patent infringement damages. IBM believes that IP market efficiency can be ensured by focusing the damages calculation on the economic value of the essential features of the subject invention. In particular, IBM believes that this focus can be ensured by: (1) incorporating Quanta's "essential features" concept into the damages determination; (2) encouraging District Courts to increase precision in EMVR and Convoyed Sales determinations; and (3) encouraging District Courts to better exercise their gatekeeper powers to cause rigorous expert analysis and review of damages evidence and reasonable royalty determinations. IBM believes these recommendations are representative of best practices that are supported by Federal Circuit law. Both Congress and the Federal Circuit can play helpful roles in effecting the above recommendations. For this reason, IBM supports both careful judicial management as well as enactment of patent reform legislation that addresses reasonable royalty damages.

1. Incorporation of Quanta "Essential Features" Standard into Damages Determination.

Application by analogy of the Quanta Court's formulation of the "essential features" of a patented invention to damages determinations will focus the damages determination on the value of what the inventor actually invented. In the unanimous Quanta decision, the Court held that if a patentee sells (or licenses another to sell) a product that includes all the essential features of a patented invention,[6] then the patent rights are "exhausted" meaning that the patent can no longer be asserted against downstream buyers of that product. The underlying theory behind the patent exhaustion rule is that "in such a transaction, the patentee has bargained for, and received, an amount equal to the full value of the goods."[7] In other words, the patentee received full compensation when the product was sold, and is not entitled to collect an additional royalty.[8] The connection between Quanta and the law of exhaustion on the one hand, and the determination of patent damages on the other, is the Court's renewed focus on the substance of the invention in determining the proper scope of patent protection. Thus, the economic value of the essential features of the invention should correspond to the full value of the invention.

[6] The "essential features" exclude "common processes" or "standard parts," even if included in the claims. *See* Quanta, 128 S.Ct. at 2120. Determining what constitutes the "invention" is of course fundamental to the determination of damages under the patent statute, which requires that damages are no "less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. Sec. 284.

[7] B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1426 (Fed. Cir. 1997); *see also* Adams v. Burke, 84 U.S. (17 Wall.) 453, 456-57 (1874); Keeler v. Standard Folding Bed Co., 157 U.S. 659, 663-64 (1895).

[8] *See* PSC v. Symbol Techs., 26 F. Supp. 2d 505, 510 (W.D.N.Y. 1998) ("The purpose of the exhaustion doctrine is to 'prevent[] patentees from extracting double recoveries for an invention . . . .' Cyrix Corp v. Intel Corp., 846 F. Supp. 522, 539 (E.D. Tex.), aff'd 42 F.3d 1411 (Fed. Cir. 1994).")

For complex products incorporating many inventions and unpatented elements, focus on the "essential features" results in fair compensation for the patentee. It does not over-compensate by including the value contributed by others, nor does it undercompensate by excluding the value provided by the patented invention. The standard is flexible and applies fairly to all inventions. Where, for example, the invention is in a combination of elements itself, the Court in Quanta recognized that the elements of the combination could not be evaluated separately or the invention's "essential features" would be lost.[9]

Focusing on the invention's essential features also assists fact-finders in determining equitable compensation. Inventors receive the same value whether or not background or context elements are added to their claims. An invention of significant scope and value should be entitled to a large royalty regardless of whether it is claimed precisely or includes additional elements that are not essential to the invention. Likewise, a minor improvement should be entitled to a limited royalty regardless of whether the claim includes elements that are unrelated to patentability.[10] Basing reasonable royalty damages on the economic value of the essential features of the invention should thus properly compensate the inventor by focusing the inquiry on the invention itself. Furthermore, as the essential features are determined objectively through examination of the public record of the patent file history, this approach will increase the predictability and certainty necessary for the functioning of an efficient IP market.[11]

2. Precision in EMVR Analysis and Convoyed Sales.

Due to the increasing complexity of products, including systems incorporating many individual and grouped components, application of the Entire Market Value Rule ("EMVR") and the related Convoyed Sales doctrine have become widespread. In these situations, for convenience and simplicity, damages analysis tends to emphasize the product environment in which a "component of a component" within a component[12] is placed, rather than the more precise and relevant issue of whether the infringing product corresponds closely to the invention. In a recent case covering a product of this type,

[9] *See* Quanta, 128 S.Ct. at 2121 (2008) ("Aro's warning that no element can be viewed as central to or equivalent to the invention is specific to the context in which the combination itself is the only inventive aspect of the patent."). The Court also held that the patent exhaustion doctrine applies to process claims. *Id*. at 2117.

[10] In this context, a "significant" invention, for the purposes of calculating damages, is one of significant economic value, and a "minor improvement" is similarly an invention of limited economic value. An invention may be significant technologically but limited in value, or limited in technological impact but significant in value. In either case, the substance of the invention must be determined first, and then its value can be assessed.

[11] In proposing incorporation of the Quanta standard in determining reasonable royalties, we do not suggest that this is the end of the inquiry. To the contrary, much of the existing damages jurisprudence contains helpful constructs and models for assisting in the determination of an appropriate royalty. We propose simply that the inquiry should begin with the determination of the essential features of the invention and that this will provide an objective focus for the full analysis of compensatory damages.

[12] Cornell University v. Hewlett-Packard Co., 2008 U.S. Dist. LEXIS 41848 (N.D.N.Y May 27, 2008)(Rader, J., sitting by designation) (In this case the court excluded testimony of a damages "expert" for failure to consider apportionment and show a connection between the patented feature and the market demand for a complex multi-featured product.)

Judge Rader sitting by designation recognized the significant burden of proof that application of the EMVR should require:

> "Moreover, neither Cornell nor Dr. Stewart has offered sufficient economic proof that the component of a component of a part of the server and workstation systems drove demand for the entire server and workstation products and entitles Cornell to damages on sales of Hewlett-Packard's entire servers and workstations".[13]

It is important to encourage widespread and vigorous application of this evidentiary threshold so that the "reach" of patent protection afforded an invention does not extend beyond the actual invention and onto unrelated components or features of a product incorporating the invention unless the invention is in fact "**the** basis for customer demand" for the entire product that nevertheless includes other functions or features.

Finally, as IBM understands application of the EMVR it may be based on demand driven by the claimed invention as expressed by all of its respective limitations.[14] IBM suggests that in an environment characterized by the proliferation of complex products incorporating multiple inventions, the fairest application of the law would require evaluating whether the demand is driven by the invention itself – i.e. by the essential features of the patented invention. This avoids giving weight to claim elements that may be unrelated to the invention, in applying the EMVR.

3. Judicial Gatekeeping

In the Cornell case mentioned above, the court also excluded damages expert testimony because the purported expert failed to "show a sound economic connection" between the claimed invention and the proffered royalty base.[15] IBM believes that such strong gatekeeping is highly supportive of an efficient market in IP, and should be encouraged by the Federal Circuit. District Courts that provide clear articulation of the logic and factors relied upon in their damages decisions provide a better foundation for review, and equally importantly provide the clear guidance for negotiators that is critical for commercial entities and the public. Rigorous requirements for damages experts, coupled with clear articulations of the bases for damages determinations, creates certainty for licensors and licensees alike, improving the efficiency of IP markets.

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[13] *Id*. at *7.

[14] Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538 (Fed. Cir. 1995) ("Subsequently, our predecessor court held that damages for component parts used with a patented apparatus were recoverable under the entire market value rule if the patented apparatus 'was of such paramount importance that it substantially created the value of the component parts.' Marconi Wireless Telegraph Co. v. United States, 99 Ct. Cl. 1, 53 U.S.P.Q. (BNA) 246, 250 (Ct. Cl. 1942), aff'd in part and vacated in part, 320 U.S. 1 (1943). We have held that the entire market value rule permits recovery of damages based on the value of a patentee's entire apparatus containing several features when the patent-related feature is the 'basis for customer demand.' State Indus., 883 F.2d at 1580, 12 U.S.P.Q.2D (BNA) at 1031; TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 900-01, 229 U.S.P.Q. (BNA) 525, 528 (Fed. Cir.), cert. denied, 479 U.S. 852, 93 L. Ed. 2d 117, 107 S. Ct. 183 (1986)."). In Rite-Hite, the court declined to apply the Entire Market Value Rule to the dock levelers since they did not function together with the patented vehicle restraint to achieve one result, but could have been used independently. *See Id*. at 1549-50.

[15] *See* Cornell University v. Hewlett-Packard Co., 2008 U.S. Dist. LEXIS 41848.

Conclusion

IBM believes an efficient IP market will benefit innovators/licensors, producers/licensees, and most importantly the public. The jurisprudence of the Federal Circuit supports the best practices that will facilitate an efficient IP market and fair licensing results for all participants in the IP marketplace. IBM supports both careful judicial management and enactment of patent reform legislation addressing reasonable royalty damages to achieve consistent and predictable application of these best practices. This will focus damages analysis around essential features of the patented invention, engender precise application of the Entire Market Value Rule and Convoyed Sales doctrine, and encourage district courts to perform a careful gatekeeping role, and thus will ensure efficient functioning of the IP marketplace in an era characterized by a wide array of innovation and a wide array of products and services delivering that innovation to the public.