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# Analysis of the Entire Market Value Rule in Complex Technology Litigation: Arduous Royalty Base Determinations, Unjust Damage Rewards, and Empirical Approaches to Measuring Consumer Demand

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# **ANALYSIS OF THE ENTIRE MARKET VALUE RULE IN COMPLEX TECHNOLOGY LITIGATION: ARDUOUS ROYALTY BASE DETERMINATIONS, UNJUST DAMAGE REWARDS, AND EMPIRICAL APPROACHES TO MEASURING CONSUMER DEMAND**

**Ravi Mohan†**

## *Abstract*

*Inspired by the unpredictability of patent value apportionment in complex technologies and the thicket of mobile patent litigation, this article analyzes the entire market value rule. When applicable, the rule allows infringement damages to be based on market value of the infringing product, which includes both infringing and non-infringing features. Considering the convergence of multiple complex technologies in a single device, such a rule could result in unfair damage awards. Advancing a study of the Apple iPhone 4, a device that is the subject of significant and varied patent litigation, this article argues that consumers will ultimately suffer because patentee overcompensation is a realistic possibility in light of current Federal Circuit jurisprudence. To address resulting overcompensation issues, this article explores statistical methods in an effort to produce more reliable damage base determinations. The article concludes by making suggestions to give the rule more teeth, and suggests that while patent value apportionment is difficult, it is not impossible.*

## **INTRODUCTION**

For a moment, close your eyes and imagine that you own a technology company that sells a mobile device. The device is comprised of many hardware components, and it runs on a proprietary operating system. Would you be surprised to learn that if someone

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sued your company over a patent reading on just *one* of those components, they could potentially reap damages on sales based upon the entire value of your company's device? This is not fiction. The doctrine governing this recovery is known as the entire-market-value rule (EMVR). When applicable, the rule allows infringement damages to be based on market value of the infringing product, which includes both infringing and non-infringing features.<sup>1</sup> Specifically, the 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."<sup>2</sup>

Understandably, the EMVR could expose downstream manufacturers to significant liability, especially if they integrate multiple technologies into one device. I suggest that the EMVR motivates patent holders to sue the most downstream entity incorporating the invention in the hopes of hitting the maximum remedy "jackpot." To support this contention, in Part I of this article, I navigate the patent landscape and survey EMVR jurisprudence. Noting that the current application of the EMVR is nebulous at best, I demonstrate in Part II how and why the EMVR is particularly dangerous for device manufacturers with respect to monetary liability.<sup>3</sup> Certain ambiguities within the rule make EMVR application difficult and unpredictable. As a result, case law is impossible to harmonize. Exacerbating this predicament, evasive (or, dare I say creative) litigation strategies result in inequities and unfair results.<sup>4</sup> In light of the high stakes and need for clarity, I conclude that the current EMVR construct lacks the teeth necessary to prevent unjust outcomes. I suggest congressional intervention to maximize clarity and further the constitutional aim of promoting the progress of science and useful arts.<sup>5</sup>

In Part III, I present a study of the iPhone 4, a device that is the

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1. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1331 (Fed. Cir. 2009).

2. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995).

3. It is unclear exactly what is required in determining the basis of consumer demand. For example, in *Bose Corp. v. JBL, Inc.*, the court did not require the patented feature form "the basis" for demand or a "predominant" factor. *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1361 (Fed. Cir. 2001). *See also* *Tec Air v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1362 (Fed. Cir. 1999).

4. *See Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120-21 (S.D.N.Y. 1970).

5. *See* U.S. CONST. art. I, § 8, cl. 8.

subject of significant and varied patent litigation.<sup>6</sup> Technological convergence results in synergies and innovation, ultimately benefiting consumers by way of monetary savings.<sup>7</sup> For example, consider the Apple iPhone 4—a device that even at the most superficial level combines a phone, a camera, and a video game system. Complex devices such as the iPhone contain many features, making it the perfect target for recovering EMVR damages. Using fictitious yet plausible patent infringement actions against Apple, I demonstrate how the EMVR could result in overcompensation to an insignificant<sup>8</sup> component manufacturer.<sup>9</sup> I conclude that consumers will ultimately suffer because manufacturers will price products higher to reconcile the risks attributed to potential royalty stacking.<sup>10</sup>

In an effort to produce more reliable damage base determinations, I explore approaches to measure consumer demand, including conjoint analysis and the use of market research surveys.<sup>11</sup> I critique the pros and cons of these approaches, arguing that such alternatives are imperfect and jurors will still be influenced by flawed statistical analysis.<sup>12</sup> Nonetheless, these approaches may be a good start towards presenting “some plausible economic connection between the invented feature and the accused [product] before using the market value of the entire product as the royalty base.”<sup>13</sup> Finally,

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6. Apple is being sued over a laundry list of patents. Notably: Nokia (user interfaces, cameras, antennas, power management); HTC (more than twenty patents including touch screen methods, GUI commands); Motorola (WCDMA, 802.11, antenna design, proximity sensing, email); Kodak (image preview patents); and Elan (capacitive touch interfaces) are all currently suing Apple. As of this writing more suits have been added, including Samsung (power reduction during data transmission, tethering, and other wireless data technologies). Most of these corporations have far more patents at issue than those listed here.

7. For example, consumers have the opportunity of buying one device that combines a phone, a camera, an Internet browser, a video recorder, and a gaming machine in one convenient form factor.

8. By insignificant, what I intend to convey is that there are many reasonable substitutes for integrated circuits, and there is no evidence that the particular feature was marketed.

9. I demonstrate how easily the EMVR could result in overcompensation because a savvy litigant would proffer: 1) hyperbolic opinions regarding royalty base determinations and 2) imperfect consumer demand statistics that result in the manipulation of jurors.

10. See Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2012-15 (2007), <http://faculty.haas.berkeley.edu/shapiro/stacking.pdf>.

11. See generally Warren F. Kuhfeld, *Conjoint Analysis* (2010), <http://support.sas.com/techsup/technote/mr2010h.pdf>; see also Joseph Curry, *Understanding Conjoint Analysis in 15 Minutes*, SAWTOOTH SOFTWARE, RESEARCH PAPER SERIES (1996), [www.sawtoothsoftware.com/download/techpap/undca15.pdf](http://www.sawtoothsoftware.com/download/techpap/undca15.pdf).

12. See generally Michael A. Einhorn, *Reasonable Royalties and the Entire Market Value Rule* (2010), [media.expertpages.com/ep/media/1162\\_einhorn3.pdf](http://media.expertpages.com/ep/media/1162_einhorn3.pdf).

13. See, e.g., *IP Innovation L.L.C. v. Red Hat, Inc.*, 705 F. Supp. 2d 687, 690 (E.D. Tex. 2010).

in Part V I entertain arguments by critics who suggest that the EMVR rewards infringement, interferes with the development and financing of critical new technologies, and circumvents the free-market process. In the event that the legislature fails to codify the EMVR, I urge the Federal Circuit to at least adopt the language introduced in *Cordis* with respect to a feature forming the basis of consumer demand.<sup>14</sup> In light of the potential for unpredictable application, difficulty in making royalty-base determinations, and potentially debilitating effect on innovation, this article develops the case for strengthening the EMVR in the context of complex technology litigation.

## I. THE ENTIRE MARKET VALUE RULE

### A. Patent Damages Basics

Patent damages are governed by statute.<sup>15</sup> Claimants receive damages “adequate” to compensate for infringement.<sup>16</sup> A court may award damages for patent infringement in the form of lost profits or a reasonable royalty. Assuming the patentee can prove actual damages, to recover lost profits a patent owner must demonstrate: (1) a demand for the patented product, (2) the absence of acceptable non-infringing substitutes, (3) manufacturing and marketing capability to exploit the demand, and (4) the amount of profit he would have made.<sup>17</sup> If a patentee cannot recover lost profits, the damage award shall not be “less than a reasonable royalty.”<sup>18</sup> Determining a reasonable royalty requires a determination of both a royalty base and royalty rate.<sup>19</sup> The reasonable royalty may take the form of a lump sum or running payments, but in either case, it is often calculated on a “base” of sales of a particular infringing product or uses of a particular infringing process.<sup>20</sup>

Patent infringement damages are a prominent source of debate because of the mystery surrounding reasonable royalty calculation.

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14. See *Cordis Corp. v. Boston Scientific Corp.*, No. 03-27, 2010 WL 331792, at \*3 (D. Del. Jan. 28, 2010). The court noted that “literally, without the patented feature, [the defendant] would not have a product to sell.” *Id.*

15. See 35 U.S.C. § 284 (2000).

16. *Id.*

17. *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978).

18. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1554 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995); see also *Del Mar Avionics v. Quinton Instrument Co.*, 836 F.2d 1320, 1326 (Fed. Cir. 1987).

19. *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1339 (Fed. Cir. 2009).

20. See *Rite-Hite*, 56 F.3d at 1554-55.

The most prominent source of debate is the methodology used to set the royalty base. Determining the royalty base is not an easy task, especially for devices comprised of multiple features.<sup>21</sup> Unfortunately, the patent statute provides no guidance of how a reasonable-royalty damage award should be calculated.<sup>22</sup> Thus, courts are burdened with the unenviable task of patent value apportionment, and ultimately responsible for providing a legal structure for patent damages.<sup>23</sup>

### *B. The Issue of Apportionment*

The royalty base is not always the same as the claimed invention. This is a result of: 1) the market for the product; 2) patent claim drafting strategy; and 3) a recognition that in devices combining multiple features, there is rarely if ever only one patented feature. The market affects the royalty base because, in a device comprised of many features, certain patented features are more valuable than others.<sup>24</sup> Patent claims affect the value because the patentee may draft claims broadly, creating more long-term value.<sup>25</sup>

One method for setting a royalty base is known as apportionment. Apportionment pinpoints the portion of the value of an infringing product, or the patent owner's product that is attributable to the patent in suit, as opposed to all other elements that make up the value of the product.<sup>26</sup> Judge Learned Hand described the issue of apportionment and allocating lost profits as unanswerable and mythological.<sup>27</sup> Judge Learned Hand's observation in 1933 is

21. *Fromson v. W. Litho Plate & Supply Co.*, 853 F.2d 1568, 1574-75 (Fed. Cir. 1988). Indeed, "[d]etermining a fair and reasonable royalty is often . . . a difficult judicial chore, seeming often to involve more the talents of a conjurer than those of a judge." *Id.*

22. Chris Marchese & Olga May, *Runaway Patent Damages Awards: Is Statutory Reform on the Way?*, L.A. DAILY JOURNAL, Aug. 11, 2010, at 7.

23. *Id.* See also Dennis Crouch, *Patent Reform: Damage Apportionment*, PATENTLY-O, Mar. 30, 2007, [http://www.patentlyo.com/patent/2007/03/patent\\_reform\\_d.html](http://www.patentlyo.com/patent/2007/03/patent_reform_d.html).

24. William C. Rooklidge, "Reform" of Patent Damages: S. 1145 and H.R. 1908, (May 2007) [http://www.patentsmatter.com/press/pdfs/Patent\\_Damages\\_Reform\\_Rooklidge.pdf](http://www.patentsmatter.com/press/pdfs/Patent_Damages_Reform_Rooklidge.pdf). This is demonstrated in the real world by devices comprised of multiple features, both patented and unpatented.

25. See *id.*

26. See Eric E. Bensen, *Apportionment of Lost Profits in Contemporary Patent Damages Cases*, 10 VA. J.L. & TECH., Summer 2005, at ¶ 12 (2005).

27. See *Cincinnati Car Co. v. New York Rapid Transit Corp.*, 66 F.2d 592, 593 (2d Cir. 1933).

The situation was not that, however, but one so common in patent accountings, in which the invention is not of the article as a whole, but of a small detail. The difficulty of allocating profits in such cases has plagued the courts from the

even more applicable in today's complex, technology-driven culture. Modern courts tend to agree, noting, "[t]ranslating the Court's early stylistic description into a precise, contemporary, economic paradigm presents a challenge."<sup>28</sup> Apportioning patent value will become more difficult as technology continues to increase in complexity.

Litigants invoke the EMVR as another method for setting a royalty base.<sup>29</sup> The EMVR recognizes the economic reality that sometimes a single patent may drive the demand for an entire product.<sup>30</sup> Notably, the rule represents the upper-bound-royalty base that a patentee may recover from, as it includes the entire market value of the final product combining the infringing feature. Using the EMVR to calculate a reasonable royalty award can be controversial, depending on the market value's size relative to the contribution of the patent at issue.<sup>31</sup>

### C. Origins of the EMVR

Over time, the EMVR construct has changed, but the underlying theory has remained the same. In 1884, to recover EMVR damages, the patentee had to demonstrate that the entire value of the whole machine, was "properly and legally attributable" to the patented feature.<sup>32</sup> Approximately sixty years later, the Court of Appeals for

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outset, and will continue to do so, unless some formal and conventional rule is laid down, which is not likely. Properly, the question is in its nature unanswerable . . . . It is generally impossible to allocate quantitatively the shares of the old and the new, and the party on whom that duty falls, will usually lose. If the patentee is required to assess the contribution of his invention to the profits, he will find it impossible; vice versa, if this is demanded of the infringer. The burden of proof in such cases is the key to the result.

*Id.* at 593.

28. *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1337 (Fed. Cir. 2009).

29. *Rite-Hite* is dubiously credited with inappropriately bleeding EMVR analysis into reasonable royalty cases. See Mark A. Lemley, *Distinguishing Lost Profits From Reasonable Royalties*, 51 WM. & MARY L. REV. 655, 662 n.34 (2009).

Prof. Lemley suggests that the entire market value rule should have little role in reasonable royalty law. See *id.* He cites the *Rite-Hite* court's reference to the EMVR, "courts have applied a formulation known as the 'entire market value rule' to determine whether such components should be included in the damage computation, whether for reasonable royalty purposes . . . or for lost profits purposes."). See *id.* (quoting *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995) (en banc)). Prof. Lemley notes "[t]he reference to reasonable royalties was dictum there, though, since *Rite-Hite* itself involved lost profits. Ironically, it is not clear that the Federal Circuit had applied the entire market value rule to decide a reasonable royalty case before this statement in *Rite-Hite*." *Id.*

30. See, e.g., *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995).

31. See *Lucent*, 580 F.3d at 1338-39.

32. See *Garretson v. Clark*, 111 U.S. 120, 121 (1884). See also *Westinghouse Elec. &*

the Federal Circuit held that damages for component parts used with a patented apparatus were recoverable under the EMVR if the patented apparatus “was of such *paramount* importance that it *substantially* created the value of the component parts.”<sup>33</sup> In 1986, the Federal Circuit affirmed language most similar to the modern construction: recovery of damages based on the value of a patentee’s entire apparatus containing several features is available when the patent-related feature is the “basis for customer demand.”<sup>34</sup>

#### *D. Modern Application of the EMVR*

Over time, products have become increasingly difficult to apportion due to device convergence. Consequently, from the perspective of the patentee, it has become increasingly difficult to determine exactly what it means for something to form “the basis for customer demand.” Fortunately, Chief Judge Rader, sitting by designation in a district court, formulated a three-prong test for the EMVR in a reasonable royalty case:

The entire market value rule in the context of royalties requires adequate proof of three conditions: (1) the infringing components must be the basis for customer demand for the entire machine including the parts beyond the claimed invention; (2) the individual infringing and non-infringing components must be sold together so that they constitute a functional unit or are parts of a complete machine or single assembly of parts; and (3) the individual infringing and non-infringing components must be analogous to a single functioning unit. It is not enough that the infringing and non-infringing parts are sold together for mere business advantage. Notably, these requirements are additive, not alternative ways to demonstrate eligibility for application of the entire market value rule.<sup>35</sup>

As a result, modern application of the EMVR has become more standardized, but there are some outlier cases. Patentees and manufacturers desire clearer standards, albeit for different reasons. Down-stream manufacturers need clearer standards to prevent

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Mfg. Co. v. Wagner Elec. & Mfg. Co., 225 U.S. 604, 615 (1912).

33. Marconi Wireless Telegraph Co. v. United States, 53 U.S.P.Q. 246, 250 (Ct. Cl. 1942), *aff’d in part and vacated in part*, 320 U.S. 1 (1943) (emphasis added).

34. State Indus. Inc. v. Mor-Flo Indus. Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989). *See also* TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 900-01 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 852 (1986).

35. Cornell Univ. v. Hewlett-Packard Co., 609 F. Supp. 2d 279, 286-87 (N.D.N.Y. 2009) (internal citations omitted).



unsupported damage awards, while patentees need to know exactly how and what evidence is necessary to prove to the consumer demand predicate. Without some legislative intervention, it is only a matter of time until the EMVR is stretched to its practical limits.

### 1. Technological Convergence

As society benefits from technological convergence, downstream manufacturers derive intellectual property protection from increasingly extensive patent portfolios. Technological convergence results in synergies and innovation, ultimately benefiting consumers through monetary savings.<sup>36</sup> The EMVR has become a hot-button issue over the past few years due to its potential application in multi-function products such as cellular phones, personal computers, and software. These products are generally not easily separable into distinct components, and thus it becomes more difficult to determine an appropriate damages base.

Recently, some plaintiffs have attempted to apply the EMVR to complex hardware and software products, but defendants have argued that the EMVR is inapplicable.<sup>37</sup> Despite arguments to the contrary, recent case law teaches that the EMVR may apply to such technologies.<sup>38</sup> Judge Rader, sitting by designation in the Northern District of New York, addressed complex technology and the EMVR in *Cornell v. Hewlett-Packard*.<sup>39</sup> Plaintiff's patent covered a feature that enhanced computer microprocessor performance by processing commands for information simultaneously rather than sequentially.<sup>40</sup>

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36. For example, consumers have the opportunity of buying one device that combines a phone, a camera, an Internet browser, a video recorder, and a gaming machine in one convenient form.

37. See, e.g., *Cornell*, 609 F. Supp. 2d 279; *Cornell Univ. v. Hewlett-Packard Co.*, No. 01-CV-1974, 2008 WL 2222189 (N.D.N.Y. May 27, 2008); *Lucent Technologies, Inc. v. Gateway, Inc.*, 509 F. Supp. 2d 912, 937 (S.D. Cal. 2007), *aff'd on other grounds*, 543 F.3d 710 (Fed. Cir. 2008).

38. See *Cornell*, 609 F. Supp. 2d 279; *Cornell*, No. 01-CV-1974, 2008 WL 2222189; *Lucent*, 509 F. Supp. 2d 912.

39. See *Cornell*, 609 F. Supp. 2d at 285-88.

Notably, Cornell chose this hypothetical royalty base in favor of another alternative more clearly relevant to the value of the patented invention—the revenue Hewlett-Packard would have earned had it sold each infringing processor as just that, a processor, without any additional non-infringing components . . . . [This] logical and readily available alternative was the smallest salable infringing unit with close relation to the claimed invention—namely the processor itself. Cornell nevertheless stuck to its guns, aiming for the highest royalty base still available after the court's exclusion order.

*Id.*

40. See *id.* at 283.

Nonetheless, plaintiff sought damages on the revenue from defendant's entire server and workstation systems, which included "vast amounts of technology beyond the infringing part of the processors."<sup>41</sup> Cornell argued that it deserved royalties based on sales that the defendant would have made if it had sold all of the alleged infringing processors as CPU bricks.<sup>42</sup> The jury agreed and awarded Cornell approximately \$184 million in damages.<sup>43</sup>

Although Cornell was able to convince the jury of its argument at an evidentiary hearing, the district court held that Cornell had not offered "credible and sufficient economic proof that the patented invention drove demand for Hewlett-Packard's entire server and workstation market."<sup>44</sup> Thus, the court excluded at trial "testimony that the entire market value of Hewlett-Packard's servers and workstations should be used as the royalty base."<sup>45</sup> According to the court, "Cornell simply stepped one rung down the Hewlett-Packard revenue ladder from servers and workstations to the next most expensive processor-incorporating product [the CPU brick]."<sup>46</sup> Judge Rader found that the processor was an appropriate royalty base

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41. *Id.*

42. *Id.* at 283-84.

43. *See id.* at 282. The jury applied a 0.8% royalty rate against \$23 billion in revenue that Hewlett-Packard had derived from sales of a "CPU brick" that included the accused component. *Id.*

44. *Id.* at 284.

The actual math is not at issue, as both parties agree on \$23 billion as the appropriate royalty base based on CPU brick sales. The important point is not the way that Cornell derived this royalty base, but that it exceeded again this court's direction and proceeded to attempt to show economic entitlement to damages based on technology beyond the scope of the claimed invention. The entire market value rule indeed permits damages on technology beyond the scope of the claimed invention, but only upon proof that damages on the unpatented components or technology is necessary to fully compensate for infringement of the patented invention. Thus, this court faults Cornell for using the CPU brick as the royalty base without credible and economic proof that damages on the unpatented portions of this technology was necessary to compensate for the infringement.

*Id.* at 284-85.

45. *Id.* at 284 (quoting *Cornell Univ. v. Hewlett-Packard Co.*, No. 01-CV-1974, 2008 WL 2222189, at \*2 (N.D.N.Y. May 27, 2008)).

46. *Id.* at 285.

Instead of linking its base amount to the processors (of which the infringing IRB is an important component), Cornell simply stepped one rung down the Hewlett-Packard revenue ladder from servers and workstations to the next most expensive processor incorporating product without offering any evidence to show a connection between consumer demand for that product and the patented invention.

*Id.*

because the infringing part was an important component.<sup>47</sup> Thus, the processor represented “the smallest salable patent-practicing unit,”<sup>48</sup> and damages could be calculated by multiplying the 0.8% royalty rate against the processor as the royalty base.<sup>49</sup> The court applied that rate and reduced the jury award by one-third to approximately \$53.5 million.<sup>50</sup>

## 2. To What Degree Does the EMVR Still Exist?

Six months after *Cornell*, the Federal Circuit addressed EMVR in the context of reasonably royalty damages on a personal computer in *Lucent v. Gateway*.<sup>51</sup> Lucent accused Microsoft’s Outlook, Money, and Windows Mobile software of using the patented “date picker” feature, of which Microsoft sold approximately 110 million units.<sup>52</sup> Sales of these three products totaled approximately \$8 billion.<sup>53</sup> Lucent’s royalty base at trial was based on the entire market of these sales.<sup>54</sup> Lucent applied an 8% royalty against the sales revenue for the accused software, and asked the jury to award \$561.9 million.<sup>55</sup> The Court of Appeals rejected Lucent’s application of the entire market value rule, citing lack of evidence that the date-picker was the basis, or even a substantial basis, of any consumer demand for Microsoft’s products.<sup>56</sup> Common sense suggests that no one reasonably bought these Microsoft products just because they could pick a date in Outlook. Nonetheless, the jury awarded Lucent a lump-sum royalty payment of approximately \$358 million.<sup>57</sup>

The Federal Circuit came to the rescue, finding two errors in the district court’s EMVR application.<sup>58</sup> The Court took issue with

47. *See id.*

48. *Id.* at 283.

49. *See id.* at 282-83. Judge Rader explained,

[i]n the anatomy of a Hewlett-Packard server, the processor is the smallest salable patent-practicing unit . . . the claimed invention 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 a part of the larger server.

*Id.*

50. *See id.* at 292.

51. *See Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1338-39 (Fed. Cir. 2009).

52. *See id.* at 1317, 1323.

53. *Id.* at 1323.

54. *Id.*

55. *Id.*

56. *Id.* at 1337.

57. *See id.* at 1325.

58. *See id.* at 1336. *See also* Douglas J. Kline & Jonathan W. Lent, *Federal Circuit*

Lucent's damage expert's approach.<sup>59</sup> Specifically, the district court precluded Lucent from applying its royalty rate to the larger royalty base, so Lucent's expert massaged the royalty rate to 8% to achieve the previously calculated damage figure.<sup>60</sup> The Federal Circuit noted that by increasing the royalty rate, "Lucent's expert tried to reach the damages number he would have obtained had he used the price of the computer as a royalty base."<sup>61</sup> Although the court admonished Lucent's licensing expert's approach, it noted, "[t]here is nothing inherently wrong with using the market value of the entire product . . . so long as the multiplier accounts for the proportion of the base represented by the infringing component or feature."<sup>62</sup>

Chief Judge Rader has explained that while "the Federal Circuit permits estimates in the damages context," trial courts must "ensure that the estimates are tied to demand for the claimed invention and proper economic methodologies, not just numbers in an accounting format."<sup>63</sup> In accordance with this assertion, in *ResQNet.com, Inc. v. Lansa, Inc.*, the Federal Circuit overturned a district court's royalty rate as "speculative and unreliable" because it was based on prior licenses when "none of these licenses even mentioned the patents in suit or showed any other discernible link to the claimed technology."<sup>64</sup> Specifically, the Federal Circuit instructed the district

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*Takes a Hard Look at the "Entire Market Value Rule"*, GOODWIN PROCTER (Jun. 22, 2010), <http://www.goodwinprocter.com/Publications/Newsletters/IP-Advisor/2010/20100622.aspx?device=pdf> ("First, the Federal Circuit found a lack of evidence to support the jury's finding that Lucent's patented invention formed the basis for consumer demand for the defendants' infringing products. Second, the court criticized the approach adopted by Lucent's licensing expert.").

59. *See Lucent*, 580 F.3d at 1338.

60. *See id.*

61. *Id.* The Federal Circuit noted that:

What Lucent's licensing expert proposed here does not comport with the purpose of damages law or the entire market value rule. Lucent's expert tried to reach the damages number he would have obtained had he used the price of the entire computer as a royalty base. Being precluded from using the computer as the royalty base, he used the price of the software, but inflated the royalty rate accordingly. This cannot be an acceptable way to conduct an analysis of what the parties would have agreed to in the hypothetical licensing context.

*Id.*

62. *Id.* at 1339.

63. *See Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 290 (N.D.N.Y. 2009) (citing *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 898 (Fed. Cir. 1986)).

64. *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869-73 (Fed. Cir. 2010). Specifically, the court found the 12.5% royalty rate to be excessive and inadequately supported by the evidence, and therefore remanded the case back to the district court for a recalculation of a reasonable royalty. *See id.*

court not to rely on unrelated licenses during remand to increase the royalty rate above rates that better represent the economic demand for the claimed technology.<sup>65</sup> Although *ResQNet* is not an EMVR opinion, some scholars have noted that if *ResQNet* is interpreted as such, even if a component was the basis for consumer demand, a damage award will probably still be struck for the same reasons as those proffered in *Lucent*.<sup>66</sup>

Two recent cases from the notoriously plaintiff-friendly Eastern District of Texas bolster the argument that EMVR recovery has become significantly more difficult. In *IP Innovation LLC v. Red Hat and Novell*, Judge Rader excluded expert testimony because it “improperly inflate[d] both the royalty base and the royalty rate by relying on irrelevant or unreliable evidence and by failing to account for the economic realities of this claimed component as part of a larger system.”<sup>67</sup> He noted that the expert’s “methodology . . . [did] not show a sound economic connection between the claimed invention and this broad proffered royalty base.”<sup>68</sup>

Similarly, in *Laserdynamics v. Quanta*, the Court applied the *Lucent* analysis to reduce Laserdynamics’ \$52 million award to \$6.2 million.<sup>69</sup> The court observed that “there is nothing in the record that shows the demand for QCI’s assembled computers was in any way driven by LaserDynamics’ disc-discrimination method patent” and that LaserDynamics “did not carry its evidentiary burden of proving that anyone purchased [the assembled computer] because of the patented method.”<sup>70</sup> The *LaserDynamics* and *IP Innovation* cases are

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65. *Id.* at 872-73. “A reasonable royalty based on such speculative evidence violates the statutory requirement that damages under § 284 be ‘adequate to compensate for the infringement.’ Thus, this court vacates the damages award and remands to the district court for a recalculation of a reasonable royalty in accordance with this opinion.” *Id.* at 873.

66. See Robert M. Isackson & Alexandra V. Lee, *Patent Damages and The Entire Market Value Rule Post Lucent: An Open Question* (2010), [http://www.aipla.org/learningcenter/library/papers/SM/2010-Spring-Meeting-Speaker-Materials/Documents/ED\\_2010\\_SM\\_Isackson\\_PPR.pdf](http://www.aipla.org/learningcenter/library/papers/SM/2010-Spring-Meeting-Speaker-Materials/Documents/ED_2010_SM_Isackson_PPR.pdf).

67. *IP Innovation L.L.C. v. Red Hat, Inc.*, 705 F. Supp. 2d 687, 691 (E.D. Tex. 2010).

68. *Id.* at 689. In fact, he explained that “[t]he claimed invention [a workspace switching feature] is but one relatively small component of the accused operating systems” and that the “relative importance of certain other features such as security, interoperability, and virtualization” confirm the patented invention’s “small role in the overall product.” *Id.* at 698-90. Finally, the court explained that the expert failed to account “for the record evidence that most users of the accused operating systems do not seem to use the workspace switching feature at all.” *Id.* at 690.

69. See *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 06-CV-348, 2010 WL 2331311 (E.D. Tex. 2010). Here, the plaintiff’s expert testified the royalty should be 2% on assembled computers using the EMVR, and 6% on stand-alone disk drives. *Id.* at \*2.

70. *Id.* at \*3 (quoting *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1337

particularly significant because if a plaintiff cannot win in the Eastern District of Texas, chances are it will not win anywhere else.<sup>71</sup>

Most recently, in *Uniloc v. Microsoft*, the Federal Circuit found that Uniloc's continuous implication of a relationship between the entire market value of the accused products and the patent tainted the jury's damage award.<sup>72</sup> The court found that Uniloc exacerbated the damages horizon for the jury by implying this relationship, and noted, "[t]his case provides a good example of the danger of admitting consideration of the entire market value of the accused where the patented component does not create the basis for customer demand."<sup>73</sup> As a result, the Federal Circuit found that the district court's verdict of \$388 million in damages was "fundamentally tainted by the use of a legally inadequate methodology" and called for a new trial on damages.<sup>74</sup>

Taken in totality, the EMVR exists and is far from elimination. While the Federal Circuit has held that "the base used in a running royalty calculation can *always* be the value of the entire commercial embodiment,"<sup>75</sup> recent decisions stand for the proposition that recovery under an EMVR theory has become significantly more difficult. In fact, in *Cornell*, Judge Rader went so far as to require

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(Fed. Cir. 2009)). Judge Ward held that LaserDynamics had presented no evidence that its patented method drove the demand for QCI's finished computers and noted "the claimed invention embodied in the disc-drive is but one relatively small component of the entire assembled computer." *Id.*

71. The Eastern District of Texas is well known for being plaintiff-friendly. See, e.g., Julie Creswell, *So Small a Town, So Many Patent Suits*, N.Y. TIMES, Sept. 24, 2006, § 3 (Business), at 31.

72. See *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1295 (Fed. Cir. 2011).

73. *Id.* at 1320. As the district court aptly noted, "[t]he \$19 billion cat was never put back into the bag even by Microsoft's cross-examination of Mr. Gemini and re-direct of Mr. Napper, and in spite of a final instruction that the jury may not award damages based on Microsoft's entire revenue from all the accused products in the case." *Id.* (quoting *Uniloc USA, Inc. v. Microsoft Corp.*, 640 F. Supp. 2d 150, 185 (D. R.I. 2009)).

74. *Id.* at 1320.

75. *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1338-39 (Fed. Cir. 2009) (emphasis added).

Simply put, the base used in a running royalty calculation can always be the value of the entire commercial embodiment, as long as the magnitude of the rate is within an acceptable range (as determined by the evidence). Microsoft surely would have little reason to complain about the supposed application of the entire market value rule had the jury applied a royalty rate of 0.1% (instead of 8%) to the market price of the infringing programs. Thus, even when the patented invention is a small component of a much larger commercial product, awarding a reasonable royalty based on either sale price or number of units sold can be economically justified.

*Id.*

demand curves to link consumer demand for servers and workstations to the claimed invention.<sup>76</sup> Indeed, the Federal Circuit has given the EMVR more “bite” by requiring that reasonable royalty claims be based on “sound economic and factual predicates.”<sup>77</sup>

## II. AMBIGUITIES AND UNPREDICTABILITY GALORE

### A. *Linguistic Variations of the EMVR*

While the courts should be lauded for their willingness to reject unsupported royalty figures, rampant unpredictability within the EMVR construct exists. Admittedly, no rule is perfect, but part of the reason why the EMVR needs modification, or at least codification, stems from the fact that application of the EMVR has been unpredictable to say the least. Furthermore, patentees do not have clear standards on just what it will take to satisfy the EMVR. The Patent Reform Acts, Federal Circuit, and various district courts each have their own construction of the EMVR.

Congressional reform bills propose their own variation of the EMVR.<sup>78</sup> The Patent Reform Act of 2009 sought to codify the EMVR using a construct where “the claimed invention’s specific contribution over the prior art is the *predominant basis* for the market demand for an infringing product or process . . . .”<sup>79</sup> Unfortunately, changing “substantial” to “predominant” is only a rudimentary semantic change, and still too ambiguous a standard to make any real difference in solving the problems with the EMVR. This discrepancy is a moot point, however, as the Patent Reform Act of 2010 does not even speak of the EMVR, but rather sets forth a “gatekeeper” approach, attempting to ensure that courts or juries consider only evidence supported by substantial evidence.<sup>80</sup> While this approach is a viable resolution to the overcompensation problem, it remains uncertain what will happen now to legislation with respect to patent

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76. See *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 284 (N.D.N.Y. 2009).

77. See *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1311 (Fed. Cir. 2002).

78. See Amy L. Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 SANTA CLARA L. REV. 307, 362 (2006) (“The current iterations of the entire market value rule are inconsistent with the Patent Act’s statutory language.”)

79. S. 515, 111th Cong. § 4 (2009) (emphasis added).

80. See Patent Reform Act of 2010, Amendment to S. 515, 111th Cong. (2010). Amended versions of the bill have been introduced in both the House and Senate (H.R. 1260 in the House, S.515 in the Senate).

damages.<sup>81</sup> Recent cases from the Federal Circuit, and especially those with Chief Judge Rader sitting by designation, suggest that Congressional intervention may not be necessary.<sup>82</sup> To the extent that this policing continues, there may not be a need for major patent reform, at least with respect to damages.

Cases from the Federal Circuit use different language to describe the EMVR. In *Rite-Hite*, as explained above, to recover damages based on the value of a patentee's entire apparatus containing several features, the patent-related feature must be the "*basis* for customer demand."<sup>83</sup> Other cases imply that the patented feature must be the *substantial basis* of consumer demand.<sup>84</sup> Similarly, the *IP Innovations* court noted, "damages are recoverable only 'if the patented apparatus was of *such paramount importance that it substantially created the value* of the component parts.'"<sup>85</sup> Thus, the question is, what basis does the consumer demand predicate require? Even if the issue of basis is clarified, what does that translate to with respect to proof at trial?

Adding to the confusion, some cases do not even require proof of the consumer demand predicate. In *Bose v. JBL*, the Federal Circuit affirmed the district court's finding that the patented invention "inextricably worked with other components of loudspeakers as a single functioning unit."<sup>86</sup> JBL argued that the royalty base should be

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81. See *Statement of Senator Patrick Leahy On The Introduction Of the Patent Reform Act of 2011*, THE STATE COLUMN (Jan. 26, 2011), [http://www.thestatecolumn.com/state\\_politics/vermont/statement-of-senator-patrick-leahy-on-the-introduction-of-the-patent-reform-act-of-2011/](http://www.thestatecolumn.com/state_politics/vermont/statement-of-senator-patrick-leahy-on-the-introduction-of-the-patent-reform-act-of-2011/).

Most recently, the Federal Circuit aggressively moved to constrain run-away damage awards, which has plagued the patent system by basing awards on unreliable numbers, untethered to the reality of licensing decisions. As the court continues to move in the right direction, it is more apparent than ever that the gatekeeper compromise on damages we have worked to reach with Senator Feinstein and others is what is needed to ensure an award of a reasonable royalty is not artificially inflated or based on irrelevant factors.

*Id.* The Patent Reform Act of 2011 is proposed at S. 23, 112th Cong. (2011).

82. See, e.g., *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301 (Fed. Cir. 2009); see also *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279 (N.D.N.Y. 2009).

83. See *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995).

84. See *Lucent Technologies*, 580 F.3d at 1337 (noting, "[t]he first flaw with any application of the entire market value rule in the present case is the lack of evidence demonstrating the patented method of the [patented invention] as the basis—or even a substantial basis—of the consumer demand.").

85. *IP Innovation L.L.C. v. Red Hat, Inc.*, 705 F. Supp. 2d 687, 689 (E.D.Tex. 2010) (quoting *Rite-Hite*, 56 F.3d at 1549) (emphasis added).

86. *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1361 (Fed. Cir. 2001).



based either on the manufacturing cost of the elliptical port and the speaker enclosure housing the port or the manufacturing cost of the entire speaker, less any associated “electronics.”<sup>87</sup> Bose, however, produced un rebutted evidence that the elliptical-port design, which considerably improved the performance of the speakers at issue, shared a substantial nexus with the demand for the products incorporating it.<sup>88</sup> The Federal Circuit, however, affirmed the district court’s holding, concluding that substantial evidence supported the district court’s award of a reasonable royalty based upon the entire value of the loudspeakers.<sup>89</sup> Thus, *Bose* stands for the proposition that in some cases, a patentee need not directly prove that its patented feature formed the basis of consumer demand.

Some courts, such as the District of Delaware, have applied the EMVR with more force. In *Cordis Corp. v. Boston Scientific Corp.*, Judge Robinson denied BSC’s motion to preclude Cordis’s damage expert calculations based on the EMVR.<sup>90</sup> The *Cordis* court noted, “[t]his . . . is not a case where the patented feature is optional or unimportant; literally, without the patented feature, [the defendant] would not have a product to sell.”<sup>91</sup> Therefore, the *Cordis* case represents a construction of the EMVR with the tenacity necessary to preclude unsupported entire market damages.

Thus, Congress could go a long way in resolving EMVR unpredictability by codifying an exacting standard and elaborating on requirements to recover entire market damages. In early 2011, a bipartisan group of Senators introduced the Patent Reform Act of

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87. *See id.*

‘Porting’ pertains to a port tube inside a loudspeaker enclosure used to radiate acoustic energy from inside the loudspeaker enclosure to an area outside the loudspeaker enclosure at high, crisp audible levels. The design of the port tube is critical in avoiding audible distortion. The specific feature at issue here is the shape of the boundary surrounding the port tube.

*Id.* at 1357.

88. *Id.* at 1361.

89. *Id.* (noting that, both Bose’s and JBL’s marketing executives agreed that consumers value the performance of the loudspeakers above any other attribute in making a purchasing decision. Finally, “Bose presented evidence detailing its efforts to market the benefits of its loudspeakers using the invention [described in its patent] and provided testimony on its increase in sales in the year following the introduction of its speakers [containing the patented invention].” Consequently, the district court found that the invention described in the ‘721 Patent was an integral part of the speaker units Bose sold and that port design was an integral part of the speaker systems JBL sold, noting that both companies devoted substantial resources to port design because of its close connection to speaker performance.).

90. *Cordis Corp. v. Boston Scientific Corp.*, No. 03-27, 2010 WL 331792, at \*3 (D. Del. Jan. 28, 2010).

91. *Id.*

2011, again with no mention of the EMVR.<sup>92</sup> Although gate-keeping will go a long way towards providing certainty in high stakes litigation, codifying the EMVR is the only way to 1) silence arguments regarding damage unpredictability, and 2) harmonize the currently irreconcilable EMVR landscape.

### *B. Litigation Strategies Circumventing the Rule*

Standardizing the EMVR will be a great step forward towards predictability, but great leaps will only come when the court recognizes and develops solutions to some of the strategies used by creative litigants. Testimony or evidence supporting an entire market royalty base must be grounded or based in accepted economic principles.<sup>93</sup> Despite judges policing damage evidence, creative litigation strategy allows savvy litigants to circumvent the rule, resulting in inequities and unfair results. Indeed, Judge Ronald Whyte of the Northern District of California referred to economic damages experts as the “most flexible witnesses” that testify in his court.<sup>94</sup> Exemplifying this flexibility, experts may submit inversely proportional royalty percentage evidence as a function of the royalty base.<sup>95</sup>

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92. See Patent Reform Act of 2011, S. 23, 112th Congress (2011). See also Press Release, Leahy, Hatch, Grassley: Patent Reform Will Protect American Jobs, Promote Economic Development, UNITED STATES SENATOR FOR VERMONT, Jan. 20, 2011, available at [http://leahy.senate.gov/press/press\\_releases/release/?id=74cbf540-cc98-4172-b719-8d630e6bdf78](http://leahy.senate.gov/press/press_releases/release/?id=74cbf540-cc98-4172-b719-8d630e6bdf78) (“The Act will provide more certainty in damages calculations and enhanced damages. Specifically, the Act includes a rigorous gate keeping role for the court, pursuant to which judges will assess the legal basis for the specific damages theories and jury instructions sought by the parties. The gate keeping provisions will ensure consistency, uniformity, and fairness in the way that courts administer patent damages law.”).

93. See IP Innovation L.L.C. v. Red Hat, Inc., 705 F. Supp. 2d 687, 691 (E.D. Tex. 2010). Judge Rader, sitting by designation, issued an order excluding the expert report and reminded the parties “that expert testimony on the topic of damages *will not be allowed* absent a firm basis in accepted economic principles with an eye to the facts of [the] record.” *Id.* (emphasis added).

94. Honorable Ronald Whyte, Keynote Address at the Santa Clara Computer and High Technology Law Journal Symposium (Jan. 21, 2011). See also Dennis Crouch, *Damages: Federal Circuit Again Demands More Substance from Damages Experts*, PATENTLY-O (Feb. 08, 2010), <http://www.patentlyo.com/patent/2010/02/damages-federal-circuit-again-demands-more-substance-from-damages-experts.html>. The Patently-O article states that Judge Whyte “refer[red] to economic damages experts as the ‘most intellectually dishonest witnesses’ that testify in his court.” See *id.* Judge Whyte later noted that a better description would be that damages experts are the most “flexible” witnesses. Honorable Ronald Whyte, Keynote Address at the Santa Clara Computer and High Tech Law Journal Symposium (Jan. 21, 2011).

95. In other words, if the royalty base is large, experts will pronounce a low royalty percentage. Alternatively, if the royalty base is small, experts will pronounce a high royalty percentage. The result is identical compensation to the patentee, independent of the actual royalty base determination.

### 1. Inverse Proportional Royalty Rates

The practice of using inversely proportional royalty rates was most clearly demonstrated in *Lucent*.<sup>96</sup> The Federal Circuit admonished such practices, but as a practical matter this strategy is quite simple. If the base is the entire commercial embodiment, the defendant will present a low royalty rate. If the base becomes the smallest salable patent-practicing unit, the defendant will simply massage the royalty rate to achieve the desired damage award.<sup>97</sup> Interestingly, in *Lucent*, the court criticized Lucent's damages experts' royalty rate,<sup>98</sup> demonstrating the court's willingness to reject inversely proportional royalty rate and base calculations. As a result, I suspect that the courts will recognize and admonish future instances of this unsophisticated practice.

### 2. Use Georgia-Pacific Factors

A more plausible strategy for presenting entire market value rule evidence is via *Georgia-Pacific* factor six.<sup>99</sup> For example, in *OPTi Inc. v. Apple, Inc.*, the United States District Court for the Eastern District of Texas noted that it did not err in permitting evidence of total revenue derived from computers rather than just the infringing chipsets because it was relevant to *Georgia Pacific* factor six, derivative sales.<sup>100</sup> The court noted that if Apple had sold very few computers containing the infringing chipsets, the total revenue evidence would not have been admissible.<sup>101</sup> As a result, the Court denied Apple's motion for a new trial, remittitur, and JMOL regarding damages.<sup>102</sup>

Similarly, in *Rembrandt Data Technologies, LP, v. AOL, LLC.*, the United States District Court for the Eastern District of Virginia denied the defendant's pretrial motion to exclude the testimony of the plaintiff's damage expert.<sup>103</sup> The court recognized that the damage

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96. See generally *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301 (Fed. Cir. 2009).

97. See generally *id.* at 1338.

98. See *id.*

99. See *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

100. *OPTi, Inc. v. Apple, Inc.*, No. 07-CV-21, 2009 WL 4727912, at \*4 (E.D. Tex. Dec 3, 2009).

101. *Id.*

102. *Id.* at \*5.

103. *Rembrandt Data Technologies, LP, v. AOL, LLC*, No. 08-CV-1009, 2009 WL 2242624, at \*1 (E.D. Va. Jun. 17, 2009).

expert's methodology was not flawed because he discounted the royalty base of HP's end-user products using the 25% rule and *Georgia-Pacific* factors.<sup>104</sup> Thus, *Georgia-Pacific* factor six represents a viable strategy for litigants to circumvent the EMVR and bombard jurors with entire market statistics.

### 3. Reasonableness Checks

Attempts to present entire market value evidence under the guise of a "reasonableness check" to an expert witnesses' calculations will have little success going forward. Reasonableness checks were upheld in *i4i Limited Partnership v. Microsoft Corporation*.<sup>105</sup> There, the United States District Court for the Eastern District of Texas rejected Microsoft's argument that i4i's testimony was a "back-door" attempt to argue an "entire market value" theory of royalties to the jury and found that the expert's testimony was properly admitted.<sup>106</sup>

However, *i4i* was decided before the *Uniloc* decision in early 2011, where after "passively tolerating" the 25% rule in earlier cases, the Federal Circuit noted that the rule is a "fundamentally flawed tool for determining a baseline royalty rate in a hypothetical negotiation."<sup>107</sup> Furthermore, the Federal Circuit stated, "[t]his case provides a good example of the danger of admitting consideration of the entire market value of the accused where the patented component does not create the basis for customer demand."<sup>108</sup>

Thus, looking forward, litigants are finally precluded from using the 25% rule as a reasonableness check, but it is unclear whether litigants may simply mention a *Georgia-Pacific* factor to present EMVR evidence. I applaud the Federal Circuit's rejection of the 25% rule and concur with commentators who suggest that the rule undermined the Court's requirement for sound economic reasoning.<sup>109</sup>

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104. *Id.*

105. See *i4i Limited Partnership, Inc. v. Microsoft Corp.*, 670 F. Supp. 2d 568, 592-93 (E.D. Tex. 2009), *aff'd*, 589 F.3d 1246 (Fed. Cir. 2009), *withdrawn and superseded on rehearing*, 598 F.3d 831 (Fed. Cir. 2010).

106. *Id.*

107. See *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1315 (Fed. Cir. 2011). "The 25% rule is a shorthand phrase for a method of dividing expected profit between a licensor and licensee . . . [by dividing] net pretax profit with normally 25% of that profit being paid by the licensor as a reasonable royalty." *Standard Mfg. Co., Inc. v. United States*, 42 Fed. Cl. 748, 766 (1999).

108. *Uniloc*, 632 F.3d at 1320.

109. See generally William C. Rooklidge & Martha K. Gooding, *When Hypothetical Turns to Fantasy: The Patent Reasonable Royalty Hypothetical Negotiation*, AIPLA (2010), [http://www.aipla.org/learningcenter/library/papers/am/2010/Documents/Rooklidge\\_Paper.pdf](http://www.aipla.org/learningcenter/library/papers/am/2010/Documents/Rooklidge_Paper.pdf).

### C. Proposed Construction

Recent cases such as *Lucent* and *Uniloc* are on the right track. For example, the Federal Circuit's recognition in *Uniloc* that the 25% rule is a "fundamentally flawed tool for determining a baseline royalty rate in a hypothetical negotiation"<sup>110</sup> demonstrates that future theories or practices in setting a royalty rate need some nexus to the facts specific to the case. Common sense ought to trump "flexible" expert witness testimony with respect to damages. It is unfathomable that anyone buys Microsoft Outlook solely because of the date-picker feature.<sup>111</sup> It is almost insulting to suggest that anyone buys Microsoft Office because of a product activation feature.<sup>112</sup> Courts are on the right track in recognizing that not all features form the basis of consumer demand for a particular product.

In light of the varying linguistic constructs and creative litigation strategies, a codified rule must contain a customer demand predicate. Specifically, the rule should make EMVR recovery rare and warranted only in those few circumstances where the inventor's contribution is so significant that without it, the defendant would not have a product to sell.<sup>113</sup> Thus, to truly prevent EMVR unpredictability, in addition to gate-keeping, the courts or Congress should: 1) adopt language similar to the *Cordis* construction; 2) maintain a consumer demand predicate; 3) recognize creative techniques to present entire market evidence via *Georgia-Pacific*; and 4) require evidence grounded in well-established *economic principles*. Thus, when combined with court's gate-keeping function, this proposal will further the policy goals of the patent system, and prevent unfounded damage awards.

### III. EMPIRICAL APPLE IPHONE 4 STUDY

An exploration and understanding of current market trends will help demonstrate why downstream manufacturers will be exposed to

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110. *Uniloc*, 632 F.3d at 1315.

This court now holds as a matter of Federal Circuit law that the 25 percent rule of thumb is a fundamentally flawed tool for determining a baseline royalty rate in a hypothetical negotiation. Evidence relying on the 25 percent rule of thumb is thus inadmissible under *Daubert* and the Federal Rules of Evidence, because it fails to tie a reasonable royalty base to the facts of the case at issue.

*Id.*

111. *See Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1332-33 (Fed. Cir. 2009).

112. *Uniloc*, 632 F.3d at 1319.

113. *See, e.g., Lemley, supra* note 29, at 671-72.

significant risk due to potential EMVR application as device convergence continues. First, while the number of patent lawsuits has remained constant over the past twenty years, the number of named defendants has increased nearly 600% over that same time period.<sup>114</sup> Second, the number of patent grants has been increasing over that same period, and, patent grants were higher in 2010 than in any other year on record.<sup>115</sup> Third, as technological convergence continues, devices will increasingly incorporate multiple features. Thus, taken in totality, an examination of a downstream manufacturer is imperative to demonstrate the inequities of the EMVR. As of this writing, perhaps no device better epitomizes or represents device convergence than the Apple iPhone 4. Thus, in this section, I present a study of the EMVR through the eyes of Apple Computer, the largest<sup>116</sup> tech company in the world—and the most sued.<sup>117</sup>

#### A. Hypothetical Apple iPhone Litigation

The iPhone 4 is already the subject of significant and varied patent litigation.<sup>118</sup> Unfortunately, the EMVR could be very dangerous for a device manufacturer like Apple because a single device incorporating multiple features could read on hundreds if not thousands of patents. Adding insult to injury, plaintiffs could use language from recent EMVR cases to easily recover when the accused product is a complex device.<sup>119</sup> From this perspective, perhaps the most dangerous EMVR opinion for Apple is *Bose v. JBL*, where the

114. Kyle Jensen, *Guest Post: Counting Defendants in Patent Litigation*, PATENTLY-O, Oct. 27, 2010, <http://www.patentlyo.com/patent/2010/10/guest-post-counting-defendants-in-patent-litigation.html>. However, the patent suit filings for 2010 have increased. See, e.g., Jason Rantanen, *Patent Suits Filings for 2010 Show a Slight Rise*, PATENTLY-O, Jan. 28, 2011, <http://www.patentlyo.com/patent/2011/01/patent-suit-filings-for-2010-show-a-slight-raise.html>.

115. See Joe Mullin, *Patent Grants Rose Last Year—Are We About To See More SmartPhone Lawsuits?*, PAIDCONTENT.ORG, Jan. 19, 2011, <http://paidcontent.org/article/419-patent-grants-rise-last-year-are-we-about-to-see-more-smartphone-lawsuit/>.

116. See YAHOO! FINANCE, *Apple Inc. Stock Quote*, <http://finance.yahoo.com/q?s=AAPL> (last visited Jan. 17, 2011).

117. Richard Adhikari, *Apple Loads its Guns for Patent War*, MACNEWSWORLD, Nov. 29, 2010, <http://www.macnewsworld.com/story/71334.html?wlc=1295317647>. According to LegalMetric, since 2005, Apple has been involved in a total of 141 patent suits in U.S. district courts. *Id.*

118. Apple is being sued over a laundry list of patents. Notably: Nokia (user interfaces, cameras, antennas, power management); HTC (more than 20 patents including touch screen methods, GUI commands); Motorola (WCDMA, 802.11, antenna design, proximity sensing, email); Kodak (image preview patents); and Elan (capacitive touch interfaces) are all currently suing Apple. See, e.g., David McCandless & James Key, INFORMATIONISBEAUTIFUL.NET, [http://infobeautiful2.s3.amazonaws.com/whos\\_suing\\_whom.png](http://infobeautiful2.s3.amazonaws.com/whos_suing_whom.png).

119. See *infra* Section II.

patented invention “inextricably worked with other components of loudspeakers as a single functioning unit.”<sup>120</sup> By definition, components comprising a complex device work as a “single functioning unit.” As a result, plaintiffs will find and present evidence demonstrating how their technology works in conjunction with other features, potentially allowing them to recover damages based on the entire commercial embodiment. Does this mean that companies like Apple will be faced with insurmountable litigation and extreme damage awards?

### 1. Integrated Circuit Manufacturer

Under current EMVR jurisprudence, what would happen if an aggressive integrated circuit manufacturer sued Apple, claiming entitlement to damages under the value of the entire device, an Apple iPhone 4? Let us assume that the case has made it to the Federal Circuit, or at the very least, let us assume that Judge Rader is sitting by designation. We know a few things: 1) the “entire market value” rule still exists; 2) damages for patent infringement must be supported by “sound economic proof” (i.e., supply/demand info, survey evidence, etc.);<sup>121</sup> and 3) Judge Rader will prevent the jury from hearing unsupported EMVR evidence via gate-keeping.

Plaintiff would probably allege that it deserves EMVR damages because its integrated circuit technology formed the basis for consumer demand. In fact, it would proffer that its integrated circuit was implemented in the A4 processor, which controls or processes all the functions of the iPhone 4.<sup>122</sup> Plaintiff would likely present evidence of the fact that more than 70 million iPhones have been sold,<sup>123</sup> at a retail price of \$499 each. Significantly, an integrated circuit does not cost more than a few dollars.<sup>124</sup> It is both unlikely and

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120. *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1361 (Fed. Cir. 2001).

121. *See, e.g., ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010) (citing *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 185 F.3d 1341, 1350 (Fed. Cir. 1999) (“To prevent the hypothetical from lapsing into pure speculation, this court requires sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture.”)).

122. *See iPhone, The Future is in The Details*, <http://www.apple.com/iphone/design/> (last visited April 8, 2011).

123. Greg Kumparak, *Apple Sold 14.1 Million iPhones Last Quarter, Over 70 Million Since Launch*, MOBILECRUNCH, Oct. 18, 2010, <http://www.mobilecrunch.com/2010/10/18/apple-sold-14-1-million-iphones-last-quarter-over-70-million-since-launch/>.

124. This, of course, represents the “at cost” price, and doesn’t consider licensing fees, etc. that are ultimately considered in bringing a product to market.

unfathomable that anyone bought an iPhone for a part they probably did not even know they are buying. In the unlikely event that such an award is granted, it would represent the quintessential case of patentee overcompensation.<sup>125</sup>

On these facts, Apple will likely prevail on summary judgment because of the *Cornell* case. Under Judge Rader's opinion in *Cornell*, it is highly unlikely for the plaintiff to prevail unless it can provide substantial evidence tending to demonstrate that the patent was the basis for consumer demand. As a last resort, plaintiff could argue that the "smallest salable patent-practicing unit" is the A4 processor, which reportedly is made by Samsung for \$10.75/chip.<sup>126</sup> This argument is analogous to the reasoning proffered by plaintiffs in *Cornell*, i.e., that the patented feature is part of a component, which is part of a brick, which is in turn part of a server.<sup>127</sup> However, the plaintiff here probably will not recover. In fact, a recent district court opinion teaches that damages should not be based automatically on the smallest salable infringing unit if the EMVR does not apply.<sup>128</sup> Thus, it is unlikely that the patentee would prevail on these facts.

## 2. Retina Display Manufacturer

What if the technology at issue is something more significant, thus making EMVR recovery more plausible? Specifically, what if the technology at issue is the highly lauded and marketed "retina display" touch screen? In *Lucent*, the Federal Circuit first examined the evidence concerning the application of the EMVR and concluded that "[t]he first flaw with any application of the entire market value rule in the present case is the lack of evidence demonstrating the patented method of the [patented invention] as the basis—or even a substantial basis—of the consumer demand."<sup>129</sup> In light of the foregoing, to recover EMVR damages, it is crucial for the plaintiff to demonstrate that its invention was the basis of consumer demand for

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125. This assumes that once the royalty rate is applied to the royalty base of the entire commercial embodiment, it will result in a higher damage award when compared to a smaller royalty base.

126. Nick Farrell, *The iPhone 4 Costs Just \$187.51 To Make*, *THE INQUIRER*, Jun. 29, 2010, <http://www.theinquirer.net/inquirer/news/1719652/iphone-cost-usd18751>.

127. See *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 283 (N.D.N.Y. 2009).

128. See *Phillip M. Adams & Associates, LLC v. Winbond Electronics Corp.*, No. 05-CV-64, 2010 WL 3522097 (D. Utah Sept. 8, 2010) ("The Court agrees. *Cornell University* did not, as asserted by Sony, hold that where the entire market value rule does not apply, damages should be based on the smallest salable infringing unit."). *Id.* at \*2.

129. *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1337 (Fed. Cir. 2009).



the iPhone 4.

*B. Types of Evidence the Litigant May Rely Upon*

The retina-display is a feature that has been significantly advertised in nearly all iPhone 4 marketing materials. As the *Fonar v. General Electric* case demonstrates, obtaining persuasive support in discovery regarding the importance of the patented feature to customer demand is a primary factor in determining EMVR applicability.<sup>130</sup> In *Fonar*, the court held that under the EMVR, it was proper for the jury to base a reasonable royalty on the value of the entire accused MRI machines.<sup>131</sup> Since GE's own technical literature emphasized the patented feature, the court found that there was evidence to conclude that the EMVR was satisfied.<sup>132</sup> As a result, there was substantial evidence to support a reasonable royalty award based upon the cost of the entire accused machines.<sup>133</sup>

While some might argue that the retina display maker needs to merely go to Apple's website and present marketing materials showcasing the item, this seems rudimentary at best. If all it takes to recover EMVR damages is showing a few ads or visiting the manufacturer's website and presenting this evidence, then patent damages need reform much sooner and more substantially than I originally imagined. Realistically though, this marketing evidence would only be one factor in the remedy calculus, rather than being dispositive and sufficient for recovery.

Without more, i.e., data with a sound economic basis, EMVR damages even in this case are highly unlikely. As discussed *supra*, a common sense approach combining judicial gate-keeping and a consideration of discovery comprising of benchmark products,

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130. See, e.g., *Fonar Corp. v. General Electric Co.*, 107 F.3d 1543, 1552 (Fed. Cir. 1997).

131. See *id.*

132. *Id.* at 1552-53. For example,

[a] brochure for GE's Signa machine highlighted MAO in 1987, stating that "[m]ulti-slice, multi-angle capabilities offer direct acquisition of multiple view angles in one acquisition." Several other brochures of GE machines also identified the MAO feature. One GE brochure, entitled "Multi-angle MR imaging," states that: "A recent advance at GE Medical Systems, however, is helping to enhance efficiency and patient throughput. Multi-angle imaging, featured on all Signa systems, allows a single scan to be graphically prescribed with each slice or group of slices acquired at a different angle." There was thus substantial evidence to support an award of a reasonable royalty based upon the cost of the entire accused machines.

*Id.*

133. *Id.* at 1553.

marketing materials, and patented-value importance will promote just outcomes. To make the patentee's case even stronger, perhaps some of the alternative approaches to measure consumer demand discussed in the following section will prove to be beneficial.

#### IV. ALTERNATIVE APPROACHES TO MEASURE CONSUMER DEMAND

To satisfy its burden to recover damages under the EMVR, the plaintiff has an arduous task. First, it is unclear what level of demand will sufficiently satisfy the rule. Second, even if the patented feature is considered more than just an insignificant component in a very complex device, the fact remains that case law is helpful but unpredictable.

In this section I explore some options to measure and prove that the plaintiff's component formed the basis of consumer demand in an effort to produce more reliable damage base determinations. This section is organized from the most complex and sophisticated methods of proving demand, to the most simple. I critique the pros and cons of these alternative approaches, specifically as applied to complex technology litigation.<sup>134</sup> I argue that independently, such alternatives are somewhat imperfect and jurors will still be influenced by flawed statistical analysis. Perhaps the strongest EMVR case will present some combination of the following:

##### A. *Conjoint/Trade-Off Analysis*

Conjoint analysis is a statistical technique used to determine how people value different features that comprise a particular product or service.<sup>135</sup> The analysis is premised on participants providing data regarding their preferences for hypothetical products defined by attribute combinations.<sup>136</sup> If the key in recovering EMVR damages is proving that a feature forms the basis of consumer demand, then conjoint analysis could prove to be very valuable. The objective of this analysis is to determine what combination from a limited number

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134. For example, the analysis allows preference measurements on an individual level, but on the other hand the complexity of designing a study for a device with features spanning from the mechanical to most technical arts.

135. Kuhfeld, *supra* note 11. "Consider the decision to purchase a car. Increased size generally means increased safety and comfort. The trade off is an increase in cost and environmental impact and a decrease in gas mileage and maneuverability. Conjoint analysis is used to study these trade-offs." *Id.* See also Curry, *supra* note 11; *Conjoint Analysis Demonstration*, DOBNEY.COM, <http://www.dobney.com/Conjoint/CnjtDemo.htm> (last visited Apr. 18, 2011).

136. See Kuhfeld, *supra* note 11, at 683.

of attributes is the most influential in making a purchasing decision.<sup>137</sup>

The analysis is a multi-step process. First, a controlled set of features or products is shown to respondents. Then, by analyzing how respondents make value decisions between these products, conjoint analysis is used to decompose the judgment data into components, based on qualitative attributes of the products.<sup>138</sup>

Designing a conjoint analysis for a complex device such as the one explored in the hypothetical iPhone 4 litigation is difficult. The first problem in designing the study is choosing which features are given as choices to respondents. At the very least, the major components need to be included in the analysis. Once the components are included, the next step in the analysis should be more narrowly defined so that qualitative weights may be assigned to the features. For example, once the analysis is applied to the iPhone 4, the first considerations could include: price, brand, and features (such as touch screen, operating system, and camera).

Unfortunately, conjoint analysis has its limits. The analysis could easily become very complicated. The results may be manipulated based on the analytical design. With too few choices, respondents may be forced to choose a function or feature they might not actually care about. On the other hand, users may resort to simplification strategies when given too many options, resulting in skewed results. Some commentators have noted that having respondents make choices is an inefficient way to elicit preferences.<sup>139</sup> Finally, just like other statistical devices described in this section, litigation time restraints may prevent the analysis from painting the full analytical framework. Thus, although conjoint analysis is a very powerful tool, it has its weaknesses.

### *B. Hedonic Regression*

Hedonic analysis is a statistical technique that considers price, actual sales, and other attributes to measure consumer demand. This technique decomposes the item being researched into its components, and obtains estimates of the contributory value of each component.<sup>140</sup>

137. See *id.* at 681-82.

138. *Id.* at 682 (“Large part-worth utilities are assigned to the most preferred levels, and small part-worth utilities are assigned to the least preferred levels. The attributes with the largest part-worth utility range are considered the most important in predicting preference.”).

139. See *CDB v6.0 Technical Paper*, SAWTOOTH SOFTWARE, TECHNICAL PAPER SERIES 1, 1 (1999), [www.sawtoothsoftware.com/download/techpap/cbctech.pdf](http://www.sawtoothsoftware.com/download/techpap/cbctech.pdf).

140. See Neil Gandal, *Hedonic Price Indexes for Spreadsheets and an Empirical Test for*

Hedonic regression may prove to be quite powerful and useful for EMVR analysis as it allows for estimation of the average value of a patented feature.<sup>141</sup> Defendants could effectively use this technique to demonstrate that a feature's value is minimal when compared to other patented features comprising the device.

### C. Incremental Profits

The incremental income approach is "well established in the law relating to patent damages."<sup>142</sup> Both parties to litigation will want to consider the incremental profit technique, i.e., determining the contribution attributable to the patented feature. If a downstream manufacturer produces a device combining multiple features (both patented and unpatented), then it should be possible to isolate the individual contribution of each component that comprises the device. This analysis isolates the incremental revenues associated with a product that contains the patented invention, relative to an alternative that does not embody the patentee's invention, and deducts the incremental costs associated with these revenues may be an appropriate measure of the patent's contribution.<sup>143</sup>

The incremental profits method could be useful for both parties because it inherently sets an upper and lower bound value based upon the difference of one feature. In a hypothetical litigation, the touchscreen manufacturer could argue that without a touchscreen, the entire device would appeal to a completely different subset of users. The next best alternative would likely be a different manufacturer's touchscreen. Perhaps the substitute touchscreen could be a better product, but it might also be more expensive. If the features are more expensive, then the overall cost of the product will go up, and that

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*Network Externalities*, 25 RAND J. ECON. 160, 160 (1994).

141. Jesse David & Kara Gorski, *Economic Approaches to Royalty Calculations*, LAW360, May 25, 2010, <http://www.law360.com/technology/articles/169174/economic-approaches-to-royalty-calculations>.

142. *Paper Converting Machine Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 22 (Fed. Cir. 1984). See, e.g., *Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1065 (Fed. Cir. 1983); *Levin Bros. v. Davis Manufacturing Co.*, 72 F.2d 163 (8th Cir. 1934).

The approach recognizes that it does not cost as much to produce unit  $N + 1$  if the first  $N$  (or fewer) units produced already have paid the fixed costs. Thus fixed costs—those costs which do not vary with increases in production, such as management salaries, property taxes, and insurance—are excluded when determining profits.

*Paper Converting*, 745 F.2d at 22.

143. See Charles F. Kuyk, *United States: Early Assessment of IP Damages Can Prove Beneficial*, MONDAQ, Jan. 11, 2008, <http://www.mondaq.com/unitedstates/article.asp?articleid=56070>.

price will categorically appeal to a different party. Substitutes might come bundled with higher costs because of required licenses and limited manufacturing ability. Unfortunately, this analysis could get very complex, and ironically results in a skewed damage award.

#### *D. Benchmarks*

In some cases, a product that offers consumers benefits similar to those of the patented invention may be available in the marketplace—i.e., a “benchmark.” Benchmark products may be used to provide an estimate of the value consumers place on a patented invention, isolated from the accused product.<sup>144</sup> In *i4i Limited Partnership v. Microsoft Corporation*, i4i’s damage expert used a standalone XML editor as a benchmark to measure the value of this feature when bundled into Word.<sup>145</sup> i4i sued Microsoft alleging infringement of its patent related to XML functionality within Microsoft Word.<sup>146</sup> The jury found infringement and awarded i4i \$200 million in damages.<sup>147</sup> Microsoft appealed the award, arguing that the damages award was based on inadmissible expert testimony and insufficient evidence.<sup>148</sup> i4i’s expert had calculated a royalty rate of \$98 per actually infringing copy of Microsoft Word (2.1 million), based on the selling price of a third party independent XML editor, XMetaL.<sup>149</sup> The stand-alone third party product retailed for \$499.<sup>150</sup> i4i’s expert calculated the licensing fee by multiplying the price of XMetaL (\$499) by Microsoft’s profit margin (76.6%), yielding approximately \$382.<sup>151</sup> The expert then applied the 25% rule, resulting in a baseline royalty rate of \$96.<sup>152</sup> This was then adjusted to \$98 based on the application of the Georgia-Pacific factors.<sup>153</sup>

The Federal Circuit affirmed the damages noting that Microsoft’s objections were really directed at the conclusion drawn by i4i’s expert rather than his methodology.<sup>154</sup> The Court held that the

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144. See David & Gorski, *supra* note 141.

145. See *i4i Ltd. Partnership v. Microsoft Corp.*, 598 F.3d 831, 853-54 (Fed. Cir. 2010). See also David & Gorski, *supra* note 141.

146. *i4i*, 598 F.3d 839.

147. *Id.*

148. *Id.* at 841.

149. *Id.* at 852-53.

150. *Id.* at 853.

151. See *id.*

152. *Id.*

153. *Id.* at 853-54.

154. *Id.* at 854.

use of the XMetaL product was appropriate as it represented a true market example of what customers who desired XML functionality would have paid for the product.<sup>155</sup> Further, the royalty base of 2.1 million copies of Microsoft Word was an appropriate base as the XML feature did drive the sales of copies of Microsoft Word that had the XML feature.<sup>156</sup>

Using benchmarks is an attractive option for plaintiffs because finding a second-best product should not be too difficult. On the other hand, certain manufacturers might argue that their products have no real substitutes because of brand, goodwill, and the like. For example, Apple's brand, function, and intangible "cool-ness" make it hard to substitute. Every time a major manufacturer creates a new device, it is dubbed the new "iPhone killer."<sup>157</sup> However, since 2007, every device that has tried to compete against the iPhone has failed.<sup>158</sup> Ignoring these arguments, benchmarks provide empirical evidence one-step removed from the accused device.

#### *E. Consumer Surveys*

Consumer surveys and market research may provide valuable insight into the value consumers place on various features that comprise a product. For example, during the i4i litigation, the plaintiff's damages expert relied on customer survey results to determine the portion of customers who used the accused feature.<sup>159</sup> Some commentators have noted that product registration cards may also provide evidence of consumer preferences.<sup>160</sup>

Consumer surveys are wonderful in theory, but they have their faults. First, consumer surveys are difficult to implement, especially if done during litigation. It takes time to get a sufficient population

155. *Id.* at 854-55.

156. *See id.* at 855-56.

157. In fact, entire websites are devoted to tracking new technologies that hope to defeat Apple's dominant device. *See* IPHONE KILLER: MOST COMPREHENSIVE IPHONE KILLER SMARTPHONE SITE, <http://www.iphonekiller.com/> (last visited Mar. 21, 2011) (describing itself as the "Most comprehensive iPhone Killer Smartphone Site.")

158. *See generally* Nexus Failed As An iPhone Killer: Now Google Promising iPad Killer, AREACELLPHONE.COM, May 12, 2010, <http://areacellphone.com/2010/05/nexus-failed-iphone-killer-google-promising-ipad-killer/>; Stephen Foley, *Microsoft's iPhone Killer is Laid to Rest*, THE INDEPENDENT, July 2, 2010, <http://www.independent.co.uk/life-style/gadgets-and-tech/features/microsofts-iphone-killer-is-laid-to-rest-2016199.html>; *Devices intentionally marketed as iPhone/iPod Killers Will Never Succeed*, ARTSTECHNICA, Jan. 9, 2009, <http://arstechnica.com/civis/viewtopic.php?f=14&t=81338>.

159. *See* i4i Ltd. Partnership v. Microsoft Corp., 598 F.3d 831, 854-56 (Fed. Cir. 2010).

160. *See* David & Gorski, *supra* note 141.

replying to the result. Second, survey results can be skewed depending on the choices that are given as answers. In a device with multiple “significant” features, one can imagine a laundry list of potential answers to the question “what feature persuaded you to buy this product?” Third, there is a major issue regarding scale. How many people need to respond to a survey to fairly and reasonably represent the majority? Fourth, how many people should be actual owners of the product in question—all, or just some random percentage? Finally, if the case is already in litigation, achieving reliable and timely results may be very difficult. Thus, while consumer surveys may provide some valuable insight, the unfortunate truth is that they provide more questions than answers.<sup>161</sup>

## V. POLICY ARGUMENTS AND ISSUES

The EMVR recognizes the reality that even the most complex devices may sometimes owe consumer demand for the product to a single patented feature. I submit to commentators who observe that the “entire market value rule” is a misnomer because a patent is rarely ever responsible for the complete value of a product.<sup>162</sup> There should not be an “all-or-nothing” mentality in patent damages, because an infringer should not be allowed to escape liability if the feature in question drove consumer demand for the product. On the other hand, the patentee’s expert should not be allowed to ignore the obligation of apportionment by arguing that it is factored into the royalty rate.<sup>163</sup> If the patented feature is so significant that people bought the product just because of it, justice can only be served if damages are awarded based on the value of the complete commercial embodiment. Maintaining the EMVR will help deter manufacturers from blindly integrating components into a final product. Unfortunately, in cases where the patented feature is combined in a device and is the primary driver of consumer demand, hungry litigants may manipulate jurors to the detriment of the general public. In those cases, it is entirely appropriate to reward damages to the inventor limited to the contributions of the patented feature.<sup>164</sup>

Some critics suggest that the EMVR rewards infringement,

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161. I conducted my own informal survey and realized many of the issues discussed above. A link to my research survey is available at <http://linkd.in/fxezip>.

162. See Brian J. Love, *Patentee Overcompensation and the Entire Market Value Rule*, 60 STAN. L. REV. 263 (2007), available at <http://ssrn.com/abstract=991429>; Lemley, *supra* note 29.

163. See Love, *supra* note 162; Lemley, *supra* note 29; Rooklidge & Gooding, *supra* note 109, at 11.

164. See Rooklidge, *supra* note 24, at 16.

interferes with the development and financing of critical new technologies, and circumvents free market process.<sup>165</sup> Critics of the EMVR argue that it results in extreme and unfounded damage awards that are exorbitant when compared to a reasonable royalty. For example, in the *Lucent* case, the jury initially entered a \$350 million award based on \$20 billion in total sales.<sup>166</sup> If these large awards continue, companies may curtail production, raise prices, or even cease manufacturing efforts altogether. However, so long as the manufacturer is making a profit, new technologies will continue to prosper. From the manufacturer's perspective, this could unfortunately lead to a blind "combine and ship" mentality. Manufacturers should perform due diligence before combining multiple components and attempting to obtain licenses ex post facto. Thus, critics implicitly suggest that courts should be careful not to discourage inventors from disclosing their intellectual pursuits to the public and inadvertently promoting an ignorance carve-out for downstream manufacturers.

While these arguments have merit, recent case law teaches that the court will prevent exorbitant damages by filtering unsupported entire market statistics.<sup>167</sup> Therefore, even assuming arguendo that the EMVR affects the development and financing of new technologies, gate-keeping solves most of the problems. For example, in *IP Innovation LLC v. Red Hat Inc.*, Judge Rader rejected the plaintiff's royalty base under the entire market value rule because the plaintiff failed to show "some plausible economic connection between the invented feature and the accused operating systems."<sup>168</sup> Similarly, in *Cornell*, although the jury originally awarded damages exceeding \$180 million, Judge Rader ruled post-trial that plaintiff's theory ran afoul of the EMVR, and reduced the damages award to \$53 million.<sup>169</sup> These two recent decisions demonstrate the Court's stance that a patentee should only recover entire market value damages when the patentee's invention drives consumer demand for the accused product.

Finally, I agree with assertions that critics of the EMVR are too focused on the overcompensation problem and should thus focus their

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165. See MICHAEL A. EINHORN, REASONABLE ROYALTIES AND THE ENTIRE MARKET VALUE RULE (2010), available at [media.expertpages.com/ep/media/1162\\_einhorn3.pdf](http://media.expertpages.com/ep/media/1162_einhorn3.pdf).

166. See *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301 (Fed. Cir. 2009).

167. See Love, *supra* note 162, at 287.

168. See *IP Innovation L.L.C. v. Red Hat, Inc.*, 705 F. Supp. 2d 687, 690 (E.D. Tex. 2010).

169. See *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 292 (N.D.N.Y. 2009).



efforts on the negative impact of altering the rule in other types of infringement actions. The gate-keeping function applies to all infringement cases and resolves the societal costs associated with patentee overcompensation.<sup>170</sup> Overcompensation is not a result of the rule's application, but rather a consequence of juror manipulation.<sup>171</sup> After being prejudiced by exposure to entire market statistics, juries cannot help but return awards based upon royalty rates less than 1%. For example, if plaintiffs offer evidence suggesting that an accused party sold products in excess of \$20 billion, jurors probably think applying a royalty rate less than 1% is fair. Why? Jurors respect expert authority. After a so-called "expert" witness presents damage statistics, it becomes clear how a layperson could think that royalty rates less than 1% are not only reasonable, but also entirely justified. Thus, gate-keeping solves the issue of juror manipulation by filtering unsupported evidence before experts get the opportunity to mystify and persuade by relying on entire market statistics.

#### CONCLUSION

The EMVR does not need to be eliminated, but it needs to be standardized. For the past seventy years, judges have appreciated that reasonable royalty analysis is not an easy task. Unfortunately, merely recognizing the problem will not provide a real-world solution. While *Rite-Hite* and its progeny provide a reasonable baseline EMVR construction, as science and technology continue to flourish, devices will become increasingly complex. Downstream manufacturers and pioneers of industry deserve uniformity so they can have confidence in our patent system. On first impression, the rule seems to provide an opportunity for savvy litigants to circumvent evidentiary rules and

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170. See *Jackson Price*, The Entire Market-Value Problem, *VIRGINIA SOCIETY OF LAW AND TECHNOLOGY*, Feb. 21, 2010, <http://www.vslat.org/2010/02/the-entire-market-value-problem> ("Instead of presenting the jury with the total size of the market and then presenting the math of how each party calculates a reasonable royalty, the parties could present such evidence to the judge before the trial and simply present the jury with the results of these calculations, approved by the judge. Instead of saying 'The market is \$22 billion and a reasonable royalty is \$200 million,' we would say, 'A reasonable royalty for this patent would be \$200 million.' This approach would still bring the relevant information before the jury while excluding the superfluous size of the market that would only result in prejudicing the jury.").

171. See PATENT DAMAGES HANDBOOK, COMPENSATORY DAMAGES ISSUES IN PATENT INFRINGEMENT CASES: A HANDBOOK FOR FEDERAL DISTRICT COURT JUDGES 24 n.105 (2010), available at [http://www.law.berkeley.edu/files/bclt\\_PatentDamages\\_Ed.pdf](http://www.law.berkeley.edu/files/bclt_PatentDamages_Ed.pdf). ("Courts should be cautious about admitting testimony or allowing argument directed to total revenue, . . . because of the risk that the probative nature of that testimony or argument may be outweighed by its prejudicial nature," and "[i]n this regard, courts should be vigilant in guarding against 'the danger of unfair prejudice, confusion of the issues, or misleading the jury.'")

recover exorbitant monetary damages. In cases where a plaintiff's invention truly formed the basis of consumer demand, ambiguities and lack of standards create unpredictability, thereby opening the door for increased patentee overcompensation. However, if evasive strategies are recognized and dealt with accordingly, and if marketing evidence is supported with adequate scientific and economic foundation, then many of the problems associated with the EMVR will be mitigated.

Finally, Congress needs to provide guidance where case law currently falls short. Assuming that Congress does not step in, the Federal Circuit should give the EMVR more "teeth," by including language similar to that applied in *Cordis*, where the court would not allow EMVR application unless the plaintiffs proved that "literally, without the patented feature, [the defendant] would not have a product to sell."<sup>172</sup> Codifying the EMVR will ensure that only deserving patentees will recover damages. Providing standards will harmonize the murky case law, as well as preserve precious judicial resources. However, some questions remain unanswered. For example, how much demand or evidence is required to prove that the invention is the basis of consumer demand? In proving the consumer demand predicate, does the patented feature need to be 100% of the reason why consumers bought the accused product? What types of evidence will suffice for EMVR recovery? Could marketing evidence ever be dispositive to recover EMVR damages? Should the courts choose not to modify the EMVR, so long as judges continue to perform their gate-keeping function, there may be less need for future legislative intervention.<sup>173</sup> Nonetheless, manufacturers and pioneers of innovation deserve answers to these important questions.

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172. *Cordis Corp. v. Boston Scientific Corp.*, No. 03-27, 2010 WL 331792, at \*3 (D. Del. Jan. 28, 2010).

173. See Michael J. Kasdan & Joseph Casino, *Federal Courts Closely Scrutinizing and Slashing Patent Damage Awards*, 2010 PATENTLY-O PATENT L.J. 24 (2010), <http://www.patentlyo.com/files/kasdan.casino.damages.pdf>.

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