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Arriving at Simplicity Amid Increasing Complexity: How the Federal Circuit Has Systemically Defined the Pursuit of Reasonable Royalties

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ARRIVING AT SIMPLICITY AMID INCREASING COMPLEXITY: HOW THE FEDERAL CIRCUIT HAS SYSTEMATICALLY DEFINED THE PURSUIT OF REASONABLE ROYALTIES

Jesse D.H. Snyder†

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INTRODUCTION

At the end of the often long road of litigation, when one side is found liable for the other’s damages, only one prejudgment question remains that truly matters: how much recovery should the victor receive? In the context of patent law, Federal Circuit opinions over the past five years suggest a distinct trend toward limiting the discretion afforded to patent damages experts when opining on recovery. In response, both patentees and accused infringers should prepare to muster more detailed and concrete damages models. Those models must fit and candidly address the facts of each case. As for using historical licensing activity to calculate royalties, a threshold showing of factual comparability appears to be the new norm before experts can rely on prior agreements on the asserted patent or comparable technology. Likewise, the circumstances in which patentees can successfully invoke the entire-market-value rule have shrunk progressively. And while those litigation trends are apparent to practitioners, other trends are just now coming into focus.

Until recently, the Federal Circuit emphasized apportionment of the royalty base—as opposed to the royalty rate—when calculating reasonable royalties. To many practitioners, it was “All About That Bas[e]” when crafting damages arguments.1 In a series of opinions issued in late 2014, the Federal Circuit dispelled that notion by clarifying that apportionment through a royalty base and a royalty rate is permissible so long as “the ultimate combination of royalty base and royalty rate . . . reflect[s] the value attributable to the infringing features of the product, and no more.”2

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1. MEGHAN TRAINOR, All About That Bass, on TITLE (Epic 2014).
2. Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1226 (Fed. Cir. 2014) (“When the accused infringing products have both patented and unpatented features, measuring this value requires a determination of the value added by such features. Indeed, apportionment is required even for non-royalty forms of damages: a jury must ultimately ‘apportion the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features’ using ‘reliable and tangible’ evidence. Logically, an economist could do this in various ways—by careful selection of the royalty base to reflect the value added by the patented feature, where that differentiation is possible; by adjustment of the royalty rate so as to discount the value of a product’s non-patented features; or by a combination thereof.” (citation omitted)); see also VirnetX, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1327–28 (Fed. Cir. 2014) (“Where the smallest salable unit is, in fact, a multi-component product containing several non-infringing features with
While some commentators have questioned the difficulty that these opinions place on patentees when trying to prove damages, the beauty of this caselaw lies in an advocate's ability to tame the chaos and reach a palatable argument. In Getting to Maybe, a classic law school primer, Professors Richard Michael Fischl and Jeremy Paul teach that students should strive to become comfortable with uncertainty when confronting law school exams because the very nature of legal analysis is not about reaching the correct answer as much as it is about recognizing that ambiguous situations necessarily demand a nuanced approach. Perhaps lessons learned long ago can galvanize effective advocacy moving forward.

This paper argues that, by broadening the concept of how to apportion royalties, the Federal Circuit's recent jurisprudence strengthens the patent system by providing advocates with greater latitude to advance damages theories within the confines of the claimed invention. In three parts, this paper introduces the concept of reasonable royalties in patent litigation, highlights the evolution of caselaw in this area, and explains why the Federal Circuit's most recent holistic approach toward calculating royalties provides parties with greater certainty when litigating damages. At bottom, as each appellate opinion clarified upon release, reasonable royalties must be, quite simply, reasonable and realistic in light of the facts and circumstances of each case—and nothing more.

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4. RICHARD MICHAEL FISCHL & JEREMY PAUL, GETTING TO MAYBE: HOW TO EXCEL ON LAW SCHOOL EXAMS passim (1999).

5. See infra Part I.

6. See infra Part II.

7. See infra Part III.
I. AN OVERVIEW OF REASONABLE ROYALTIES

Section 284 of the Patent Act provides for an award of reasonable royalties upon a finding of infringement: "Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court." 8

So even when patentees cannot prove lost profits (or other actual damages), they are still entitled to damages that cannot be less than a reasonable royalty for the use of the invention by the infringer. 9 This is the most common measure of damages used by entities that do not practice the patent by making, using, or selling products. A reasonable royalty reflects the minimum amount that the patentee and infringer would have agreed to in the absence of a lawsuit. 10 A patentee bears the burden of proving the nature and amount of damages necessary to compensate for the infringement. 11

A. Running Royalties versus Lump-Sum Awards

A reasonable royalty award can take a variety of forms, including a lump-sum payment, a running royalty based on a percentage of revenues, a running-per-unit royalty based on sales, or some combination of those structures. 12 The varied payment structures carry significant and fundamental differences. 13 When a running royalty is adopted by the court, the amount awarded is tied to the extent of the infringer’s use of the claimed invention and fluctuates with future sales or use. 14 Thus, running royalties typically assign most of the risk to the

9. See Bandag, Inc. v. Gerrard Tire Co., 704 F.2d 1578, 1583 (Fed. Cir. 1983) ("[A] reasonable royalty, when it can be determined, and which may be equivalent to an established royalty, is merely the floor below which damages shall not fall.").
10. See Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324 (Fed. Cir. 2009), cert. denied, 130 S. Ct. 3324 (2010) ("The hypothetical negotiation or the 'willing licensor-willing licensee' approach, attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.").
12. See Lucent, 580 F.3d at 1326; VirnetX, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1326 ("A reasonable royalty may be a lump-sum payment not calculated on a per unit basis, but it may also be, and often is, a running payment that varies with the number of infringing units.").
13. See Lucent, 580 F.3d at 1326 ("Significant differences exist between a running royalty license and a lump-sum license.").
14. See id.
patentee-licensor because payments are not guaranteed.\(^{15}\) Comparatively, lump-sum royalties allocate risks differently by providing patentees with an immediate and guaranteed infusion of cash while allowing infringers to cap their liability notwithstanding the extent of their infringing use.\(^{16}\) Lump-sum royalties have the added advantage of eliminating the administrative burden of monitoring usage and supervising periodic payments.\(^{17}\) Even so, for a licensee, the lump-sum approach carries the disadvantage of a required financial expenditure, regardless of the actual useful lifespan of the technology.\(^{18}\) This concern is germane to industries where the technology rapidly evolves and frequently improves, or where obsolescence is commonplace. On the other side, the patentee also runs the risk that the claimed technology is one of those rare inventions with an extended useful lifespan and greater-than-anticipated actual market value.\(^{19}\) So the patentee leaves money on the table under that scenario.

Putting aside pragmatic rationales on which model is more advantageous, in actual practice, the extent of accused infringement is generally known at the time of litigation, and the parties generally select the royalty structure most favorable to their position. These strategic decisions are subject to only a few additional considerations, such as a party's historical practice of using a particular royalty structure or any actual negotiations between the parties regarding similar inventions.

All things being equal, patentees still tend to seek a running royalty based on actual accused sales, while many large companies sued as defendants (especially those in industries where products are often covered by many patents, such as semiconductors and computers) prefer the lump-sum approach. As illustrated in \textit{Interactive Pictures Corp. v. Infinite Pictures, Inc.},\(^{20}\) a lump-sum award can be minor in comparison to the enticement of running royalties. There, the Federal Circuit affirmed a lump-sum damages award of a relatively small

\begin{itemize}
\item \(^{15}\) See id. ("Royalties are dependent on the level of sales or usage by the licensee, which the licensee can often control.").
\item \(^{16}\) See id. ("A lump-sum license removes any risk that the licensee using the patented invention will underreport, e.g., engage in false reporting, and therefore underpay, as can occur with a running royalty agreement.").
\item \(^{17}\) Id.
\item \(^{18}\) Id.
\item \(^{19}\) See id. ("The licensed technology may be wildly successful, and the licensee may have acquired the technology for far less than what later proved to be its economic value.").
\item \(^{20}\) 274 F.3d 1371 (Fed. Cir. 2001).
\end{itemize}
value—$1 million, the lower end of the range sought by the patentee—which was based on the patentee’s use of a 10% rate applied to the defendant’s projections covering the damages period.21

In short, determining the appropriate reasonable royalty structure in any given case largely depends on the particular factual scenario, available information, and the historical practices and negotiations of the parties.

B. Calculating Reasonable Royalties: Georgia-Pacific and Comparability

No single methodology completely dominates or defines how to calculate reasonable royalty damages. And while many methodologies can be used to determine a reasonable royalty, the hypothetical negotiation framework in particular has been endorsed implicitly by the Federal Circuit and is the most commonly used method.22 This analysis was set forth in the seemingly timeless case Georgia-Pacific Corp. v. United States Plywood Corp., a 1971 decision from the U.S. District Court for the Southern District of New York.23 In Georgia-Pacific, the court envisioned that a reasonable royalty award could be calculated through a “hypothetical negotiation” between a “willing licensor” (the patent owner) and a “willing licensee” (the infringer) at the time infringement began.24 The Georgia-Pacific approach assumes that, at the time of the hypothetical negotiation, both parties agree that the patent is valid and infringed.25 It considers 15 factors to arrive at the product of the hypothetical negotiation. The famous Georgia-Pacific factors follow below:

(1) [R]oyalties the patentee has received for licensing the patent to others; (2) rates paid by the licensee for the use of comparable patents; (3) the nature and scope of the license (exclusive or nonexclusive, restricted or nonrestricted by territory or product type); (4) any established policies or marketing programs by the licensor to maintain its patent monopoly by not licensing others to use the invention or granting licenses under special conditions to maintain the monopoly; (5) the commercial relationship between the licensor and licensee, such as whether they are competitors; (6) the effect of selling the patented specialty in promoting sales of other

21. See Interactive Pictures, 274 F.3d at 1384–86.
22. See Lucent, 580 F.3d at 1324–25.
24. Id. at 1121.
25. See Lucent, 580 F.3d at 1325.
products of the licensee; (7) the duration of the patent and license term; (8) the established profitability of the product made under the patent, including its commercial success and current popularity; (9) the utility and advantages of the patent property over old modes or devices; (10) the nature of the patented invention and the benefits to those who have used the invention; (11) the extent to which the infringer has used the invention and the value of that use; (12) the portion of profit or of the selling price that may be customary in that particular business to allow for use of the invention or analogous inventions; (13) the portion of the realizable profit that should be credited to the invention as opposed to its non-patented elements; (14) the opinion testimony of qualified experts; and (15) the results of a hypothetical negotiation between the licensor and licensee.26

Of the Georgia-Pacific factors, comparable license agreements have drawn recent judicial attention.27 On comparability, past licensing agreements are probative to establish a reasonable royalty rate under certain carefully delineated circumstances. Courts consider “the rates paid by the licensee for the use of other patents comparable to the patent-in-suit,”28 and examine whether “the licenses relied on by the patentee in proving damages are sufficiently comparable to the hypothetical license at issue.”29 “Actual licenses to the patented technology are highly probative” and “most clearly reflect the economic value of the patented technology in the marketplace”; whereas a damages case “untethered from the patented technology at issue . . . [is] arbitrary and speculative.”30 Technological irrelevance and arbitrary use appear to be the considerations that most consistently lead to a finding that a license is not comparable.31 In contrast, the relative date of the license may be the least influential, though the Federal Circuit has upheld the exclusion of licenses on that basis in the past.32

As an example of comparable licensing under less-than-perfect circumstances, in Finjan Inc. v. Secure Computing Corp., the Federal

29. Lucent, 580 F.3d at 1325.
Circuit upheld a running royalty damages award based on a lump-sum portfolio license.\textsuperscript{33} There, Finjan’s damages expert adequately “account[ed] for differences in the technologies and economic circumstances” of the portfolio license during testimony by explaining to the jury the different relationships between the parties, the differences in royalty forms, and the additional value Finjan received under the portfolio license that was not relevant to the hypothetical license.\textsuperscript{34} On the flipside, as demonstrated by the decision in \textit{Wordtech Systems, Inc. v. Integrated Networks Solutions, Inc.}, failing to account for the details in less-than-ideal circumstances comes at the peril of exclusion.\textsuperscript{35} There, the Federal Circuit reversed a small lump-sum damages award where past licensing agreements—2 lump-sum licenses and 11 running royalty licenses to some or all of the patents-in-suit—were offered at trial.\textsuperscript{36} Though the jury’s damages award was roughly the average of the two lump-sum agreements, the court nonetheless concluded that the evidence did not support the verdict because there was no basis to compare the actual value of those licenses to the case at hand.\textsuperscript{37} Thus, the “licenses offered the jury ‘little more than a recitation of royalty numbers.’”\textsuperscript{38}

As those cases demonstrate, damages experts must adequately account for the factual differences among past license agreements relied upon in their reasonable royalty calculations.\textsuperscript{39} To craft a cogent argument, a candid and thorough review of any relevant agreements is necessary. Mirror-image licenses to the patent-in-suit are not required, but accounting for all the differences leading to a proposed damages amount is required. Also, in close cases, arguing that a lack of comparability goes to evidentiary weight may ultimately save admissibility.\textsuperscript{40} This reconciliation of the caselaw is consistent with Judge Kathleen O’Malley’s guidance below:

\begin{itemize}
\item \textsuperscript{33} \textit{See} Finjan, Inc. v. Secure Computing Corp., 626 F.3d 1197, 1211–12 (Fed. Cir. 2010).
\item \textsuperscript{34} \textit{Id.; see also} Multimedia Patent Trust v. Apple Inc., No. 10-CV-2618-H (KSC), 2012 U.S. Dist. LEXIS 165928, at *28 (S.D. Cal. Nov. 20, 2012) (allowing reliance on “different” licenses where the expert “acknowledge[d] the differences” and “explain[ed] how these differences do or do not affect his reasonable royalty calculation”).
\item \textsuperscript{35} \textit{See} Wordtech Sys., Inc. v. Integrated Networks Solutions, Inc., 609 F.3d 1308, 1319–22 (Fed. Cir. 2010).
\item \textsuperscript{36} \textit{Id.} at 1320.
\item \textsuperscript{37} \textit{Id.}
\item \textsuperscript{38} \textit{Id.} (citation omitted).
\item \textsuperscript{39} \textit{See also} Ericsson Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1227 (Fed. Cir. 2014).
\item \textsuperscript{40} \textit{See} ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc., 694 F.3d 1312, 1333 (Fed. Cir. 2012) (holding that the differences between the licenses at issue were questions of weight and “factual issues best addressed by cross examination and not by exclusion”).
\end{itemize}
We do not require that witnesses use any or all of the Georgia-Pacific factors when testifying about damages in patent cases. If they choose to use them, however, reciting each factor and making a conclusory remark about its impact on the damages calculation before moving on does not more than tell the jury what factors a damages analysis could take into consideration. Expert witnesses should concentrate on fully analyzing the applicable factors, not cursorily reciting all fifteen. And, while mathematical precision is not required, some explanation of both why and generally to what extent the particular factor impacts the royalty calculation is needed.

... "[S]uperficial testimony" and the simple recitation of royalty numbers that happen to be in the ballpark of the jury’s award will not support the jury’s award when no analysis is offered to the jury which would allow them to evaluate the probative value of those numbers. 41

Taken together, the comparability requirement may be driven, in part, by a desire for more concrete and detailed damages analyses that are specifically tailored to the particular facts of each case. Although there are no categorical rules in determining comparability, patentees and accused infringers should be mindful of the need to thoroughly analyze the licenses that each side believes are relevant and advantageous. Consideration also should be given to third-party discovery where the number of infringing sales covered by a particular license is likely to be a key issue or where a lump-sum license must be analogized to a running royalty (or vice versa). Given this fact-intensive analysis, at trial, arguments and defenses should be marshaled early on and succinctly presented to the jury to avoid penalties for exceeding time restrictions placed on the parties by the court.

In view of the varying methods to arrive at reasonable royalties disputes often center on the threshold inquiry of where to start the calculations because, from there, a party’s resulting exposure necessarily follows. Over the past five years, the Federal Circuit has been attentive in this area.

II. 2009 TO 2013: ANCHORING REASONABLE ROYALTIES

At the heart of calculating reasonable royalties is where to begin—both at the royalty base and royalty rate. As early as 1884, federal courts have held fidelity to the following mantra:

[T]he patentee . . . must in every case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative," or show that "the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature.\(^{42}\)

Under a concept later articulated as the entire-market-value rule, a narrow exception to the rule of apportionment, "[a] patentee may assess damages based on the entire market value of the accused product only where the patented feature creates the basis for customer demand or substantially creates the value of the component parts."\(^{43}\) If established, the damages calculation may roll up the value of the product as a whole. Otherwise, the damages calculation can take into account only the value of the patented feature as a subset of the market price. So the path to rags or riches is embedded in the concepts of whether the patentee can latch onto the entire market value of the infringing product or, failing that, how much the patentee can apportion as attributable to the patented invention. Starting in 2009, the Federal Circuit took up these old concepts with fresh interest.

A. Lucent Technologies, Inc. v. Gateway, Inc.—Basis for Demand

In *Lucent Technologies, Inc. v. Gateway, Inc.*, the Federal Circuit held that patented features must be the basis of demand to invoke the entire-market-value rule.\(^ {44}\) Decided in 2009, the Federal Circuit considered an appeal by Microsoft about the denial of post-trial motions following a lump-sum jury award of more than $350 million for infringement.\(^ {45}\) The lawsuit involved a single patent relating to a method for entering information into a field on a computer screen by selecting an option from a menu of information or otherwise using predefined tools to input the information.\(^ {46}\) Microsoft argued that,

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\(^{42}\) *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1318 (Fed. Cir. 2011) (citing *Garretson v. Clark*, 111 U.S. 120, 121 (1884)).

\(^{43}\) *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1383 (Fed. Cir. 2013) (quoting *Uniloc*, 632 F.3d at 1318).

\(^{44}\) See *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1308 (Fed. Cir. 2009).

\(^{45}\) *Id.* at 1309.

\(^{46}\) *Id.* at 1310–12.
among other things, the jury award should be vacated because the jury applied improperly the entire-market-value rule.\textsuperscript{47} Noting that it would be legal error if the jury relied on overall product values when calculating the award, the appellate panel reiterated that invocation of the entire-market-value rule requires the patentee to prove that "the patent-related feature is the ‘basis for customer demand.’"\textsuperscript{48} According to Chief Judge Redmond Michel,\textsuperscript{49} if that standard is not met, the patentee must present "reliable and tangible" evidence "tending to separate or apportion the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features."\textsuperscript{50} Ultimately, the evidence did not support the use of the entire-market-value rule because the patentee failed to prove that the accused date-picker feature was "the basis—or even a substantial basis—of the consumer demand for [Microsoft’s] Outlook [email service]."\textsuperscript{51} The tool was merely a minor feature in a larger software program, and there was no evidence that any consumer ever purchased Outlook because of the accused functionality.\textsuperscript{52} The court also found that application of the entire-market-value rule was improper because the expert’s royalty-calculation approach set the royalty base as the price of the software program but increased the royalty rate from 1\% to 8\%.\textsuperscript{53} Foreshadowing opinions to come in 2014, although the court suggested that this approach could be acceptable in some cases, it was not appropriate in this context because there was no evidence to support the 8\% rate and no reliable "account[ing] for the proportion of the base represented by the infringing component or feature."\textsuperscript{54}

\textsuperscript{47} Id. at 1336.  
\textsuperscript{48} Id. (citations omitted).  
\textsuperscript{50} Lucent, 580 F.3d at 1337 (citations omitted).  
\textsuperscript{51} Id. at 1337–38.  
\textsuperscript{52} Id. at 1338.  
\textsuperscript{53} Id. at 1338–39. On remand, a new jury trial on damages resulted in a lump-sum award of $70 million for Lucent, despite Lucent’s admission that the entire-market-value rule was not satisfied. Lucent Techs., Inc. v. Microsoft Corp., 837 F. Supp. 2d 1107, 1110, 1117 (S.D. Cal. 2011). The district court subsequently granted in part Microsoft’s motion for judgment as a matter of law and reduced the award to $26.3 million. Id. at 1127. Specifically, the court concluded that Lucent’s expert failed to properly apportion the revenue generated by Microsoft Office to reflect the value of Outlook within the bundle and therefore overstated the eligible royalty base. Id. at
B. Uniloc USA, Inc. v. Microsoft Corp.—Entire Market Value Is Not a Reference Point by Itself

In addition to jettisoning the infamous 25% rule of thumb for calculating baseline royalty rates, in Uniloc USA, Inc. v. Microsoft Corp., the Federal Circuit also rejected two analytical arguments that seemingly attempted to circumvent the requirements of the entire-market-value rule. At trial, there was no dispute that the accused technology (a registration program for deterring illegal copying of software) did not drive customer demand and that the entire-market-value rule did not apply.

Undaunted, Uniloc’s damages expert opined that a $2.50 per unit royalty was appropriate, and the expert testified that the amount was reasonable because it represented 2.9% of the $19.8 billion in total revenue generated by the accused versions of Microsoft Office and Microsoft Windows.

First, Uniloc relied on the following language from Lucent to argue that, if the royalty rate is sufficiently small, the entire market value of a product can be used as the royalty base: “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.”

The panel discarded that contention because, according to Judge Richard Linn, the passage from Lucent was taken out of context and had to be read in view of the language reiterating the requirement of proving that the patented invention is the basis for consumer demand.

Failing that, Uniloc resorted to characterizing the reference to overall product revenues as a “reasonableness check” only, and not as the expert’s actual damages calculation. The Federal Circuit rejected that argument as well, stating that “the fact that the entire market value was brought in as only a ‘check’ is of no moment” because “[t]he disclosure that a company has made $19 billion dollars in revenue . . .

1119–22. The court also held that consumer surveys regarding use, reasons for purchase, and time-savings associated with the date-picker feature were admissible to demonstrate the relative value of the accused feature within Outlook. Id. at 1122–24. The case later settled.

55. See Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1315, 1318–19, 1321 (Fed. Cir. 2011).
56. Id. at 1318–19.
57. Id. at 1311, 1318.
58. Id. at 1319–20 (quoting Lucent, 580 F.3d at 1338–39).
59. Id.
60. Id. at 1318.
cannot help but skew the damages horizon for the jury." Accordingly, the panel affirmed the district court’s grant of a new trial on damages.

C. LaserDynamics, Inc. v. Quanta Computer, Inc.—Smallest Salable Patent-Practicing Unit Reaffirmed for Multi-Component Products

In LaserDynamics, Inc. v. Quanta Computer, Inc., the Federal Circuit held that, when patented features do not drive consumer motivation to purchase a multi-component product, the smallest salable patent-practicing unit must be used as the base for royalty calculations. There, a Texas jury awarded $52 million in royalties for a patent involving a method of automatic optical disc discrimination in an optical disc drive ("ODD"). That amount was consistent with LaserDynamics’ damages expert. After the trial, the district court set aside the award based on the improper invocation of the entire-market-value rule. A second trial on damages was held and resulted in a lump-sum award of $8.5 million. LaserDynamics cross-appealed both the district court’s finding that the rule was improperly invoked in the first trial and its grant of a new trial. In both rulings, the trial court found that the patentee had presented no evidence that the claimed invention drove demand and, "at best, ...[demonstrated] that almost all computers sold in the retail market include optical disc drives and that customers would be hesitant to purchase computers without an optical disc drive."

Recognizing the complexities of isolating the value of a single component in modern multifunction products, the Federal Circuit has since limited the Uniloc holding by recently declining to rule that any reference to an infringer’s total sales is unfairly prejudicial and taints the jury verdict such that a new trial is required. See Synqor, Inc. v. Artesyn Techs., Inc., 709 F.3d 1365, 1383 (Fed. Cir. 2013). The appellate court concluded that the district court did not abuse its discretion by admitting evidence of the defendants’ $20 billion in product sales because that figure was offered only to prove that the price elasticity of demand would be high—not to justify a damages calculation. Id.

61. Id. at 1320–21. The Federal Circuit has since limited the Uniloc holding by recently declining to rule that any reference to an infringer’s total sales is unfairly prejudicial and taints the jury verdict such that a new trial is required. See Synqor, Inc. v. Artesyn Techs., Inc., 709 F.3d 1365, 1383 (Fed. Cir. 2013). The appellate court concluded that the district court did not abuse its discretion by admitting evidence of the defendants’ $20 billion in product sales because that figure was offered only to prove that the price elasticity of demand would be high—not to justify a damages calculation. Id.
62. Uniloc, 632 F.3d at 1321.
64. Id. at 56–63.
65. Id.
66. Id. at 63.
67. Id. at 64–65.
68. Id. at 65–66.
acknowledged that apportioning value between patented and non-patented components "can be an exceedingly difficult and error-prone task."\textsuperscript{70} Nonetheless, reviewing the district court's findings, the appellate court agreed that LaserDynamics' damages expert had improperly applied the entire-market-value rule, noting that "[w]hether called 'product value apportionment' or anything else, the fact remains that the royalty was expressly calculated as a percentage of the entire market value of a laptop computer rather than a patent-practicing unit alone."\textsuperscript{71} Writing for the panel, Judge Jimmie V. Reyna expounded that even proof of the following is insufficient to invoke the entire-market-value rule: (1) that the patented feature is "valuable, important, or even essential" to the product; (2) that the product without the patented feature is commercially unviable; and (3) that consumers do not want products lacking the patented technology.\textsuperscript{72}

According to Judge Reyna, a "higher degree of proof . . . must exist to support an entire market value rule theory."\textsuperscript{73} Specifically, the patented feature must be "what motivate[d] consumers to buy" a particular product.\textsuperscript{74} The court also reaffirmed its holding in Uniloc that the entire-market-value rule cannot be circumvented by applying a very small, reduced royalty rate to the broader revenue source.\textsuperscript{75} The court indicated that, so long as an appropriately narrow base is selected, the dispute over pricing of that base is a question of fact for the jury.\textsuperscript{76} In sum, "in any case involving multi-component products, patentees may not calculate damages based on sales of the entire product, as opposed to the smallest salable patent-practicing unit, without showing that the demand for the entire product is attributable to the patented feature."\textsuperscript{77}

\textsuperscript{70} LaserDynamics, 694 F.3d at 66.
\textsuperscript{71} Id. at 68 (citation omitted).
\textsuperscript{72} Id.
\textsuperscript{73} Id.
\textsuperscript{74} Id.
\textsuperscript{75} See id. at 67–68.
\textsuperscript{76} See id. at 78–79. On the latter issue, in Whitserve, the Federal Circuit reached a similar result. See Whitserve, LLC v. Computer Packages, Inc., 694 F.3d 10 (Fed. Cir. 2012), cert. denied, 133 S. Ct. 1291 (2013). There, the court rejected an argument that a damages expert's estimate for average service fees inappropriately applied business-wide revenues and swept in non-infringing uses. See id. at 27–28. To the Federal Circuit, the average amount for the service fee ($15.69 versus $41) was a question of fact for the jury and not "impermissible speculation." Id. at 28–29.
\textsuperscript{77} LaserDynamics, 694 F.3d at 67–68 (emphasis added).
D. Versata Software, Inc. v. SAP Am., Inc.—Comparable Units Can Substitute as the Royalty Base

As the next evolution in this area, in Versata Software, Inc. v. SAP America, Inc., decided in 2013, the Federal Circuit affirmed a Texas jury’s damages award of $260 million in lost profits and $85 million in royalties because the award was “supported by substantial evidence.” On appeal, the defendant argued that the Texas jury’s award of $85 million in royalties violated the entire-market-value rule. In an interesting twist, the district court precluded the patentee’s expert from presenting evidence related to royalties. Instead, the jury heard evidence from the defendant’s expert that comparable software “had an average per customer royalty of $133,200.” The defendant’s expert opined that “the reasonable royalty rate should be around $2 million in a lump-sum payment,” a far cry from the $85 million actually awarded.

During cross-examination, a defense witnesses confirmed that his calculations yielded $133,200 per customer and that the defendant had around 1,300 sales after discarding sales attributable to lost profits. From there, the following interplay arose:

Q. So, if the jury believed that your per-customer royalty rate [of $133,200] should be applied to every infringing sale instead of just twelve [sales], then the number is not $2 million but $170 million.

A. That would be the correct math.

Writing for the panel, Chief Judge Randall Rader began the court’s analysis by stating that “[t]he entire market value rule is a narrow exception to the general rule that royalties are awarded based on the smallest salable patent-practicing unit.” Reviewing the record,

79. Id.
80. See id. at 1260 (“With respect to reasonable royalties, the district court precluded Versata from putting forward its damages model.”).
81. Id. at 1267.
82. Id.
83. Id.
84. Id.
Judge Rader determined that the expert did not apply the royalty rate to "the entire value" of the infringing products.\textsuperscript{86} Rather, the rate was applied to the value of a comparable product's sales and therefore "merely accounted for all infringing sales."\textsuperscript{87} So "the entire market value exception was never triggered, and Versata was not required to show that demand for hierarchical pricing drove demand for SAP's product as whole."\textsuperscript{88} According to the court, the jury used "common sense and merely applied SAP's proposed royalty to a larger number of infringing sales than SAP desired."\textsuperscript{89} Though not quite $170 million, "the jury is not bound to accept the maximum proffered award and may choose an intermediate rate," such as $85 million.\textsuperscript{90} As Versata demonstrates, a savvy litigant may be able to avoid the difficult hurdles associated with the entire-market-value rule by simply substituting the value of a comparable product juxtaposed with the sales of the actual infringing product. Further, Judge Rader's opinion implicitly suggests that reasonableness does not turn on how something is apportioned or calculated necessarily; rather, it turns on how something is presented to the jury. That understanding lays further groundwork for the forthcoming opinions in 2014.

\section*{E. Evidentiary Burdens and Other Considerations}

Before addressing the more recent jurisprudence on apportionment, below are some additional thoughts on evidentiary burdens spurred by these cases. Patentees seeking to rely on the entire market value of a multicomponent product face a high evidentiary hurdle. Indeed, given the increasing complexity of modern day products, particularly in the electrical and mechanical spaces, it seems unlikely that any one component could ever be the motivating basis for consumer demand. But, despite the strict holdings in \textit{Lucent}, \textit{Uniloc}, and \textit{LaserDynamics}, courts nonetheless may be willing to allow the issue to go to the jury if the patented feature is important and substantially contributes to the value of the product as a whole.

In the lost profits context, in \textit{Funai Electric Co. v. Daewoo Electronics Corp.}, the Federal Circuit upheld a jury award based on the entire market value of VCR sales where the patented feature allowed

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\textsuperscript{86} \textit{Versata}, 717 F.3d at 1267.
\textsuperscript{87} \textit{Id.}
\textsuperscript{88} \textit{Id.}
\textsuperscript{89} \textit{Id. at 1269.}
\textsuperscript{90} \textit{Id.}
\end{flushright}
for “smaller, cheaper, faster, and more reliable” VCRs, all of which were shown to be the basis for consumer demand. Specifically, the patentee offered evidence demonstrating that each of the patents-in-suit either “shrank the size of VCRs,” “reduced costs and increased reliability,” or “enabled use of a high-performance motor that reduced rewind speeds for VCR cassette tapes.” Moreover, Funai established that no non-infringing alternatives existed on the market.

Similarly, in Marine Polymer Technologies Inc. v. HemCon, Inc., the patentee properly invoked the entire-market-value rule by introducing “substantial evidence” of the accused features’ importance and significance to consumer demand. That evidence came from multiple witnesses, including the defendant’s president, that the accused technology was “critical to the core hemostatic function of the accused products.” Though the damages award was ultimately overturned because the entire-market-value rule was not met for all accused products, the case demonstrates the type of testimony that may be beneficial to invoke the rule.

Finally, consumer and market survey evidence should be considered when seeking to invoke the entire-market-value rule. In LaserDynamics, Judge Reyna signaled that market studies and consumer surveys may be required to satisfy the rule by explicitly noting that the patentee’s expert “never conducted any market studies or consumer surveys to ascertain whether the demand for a laptop computer [was] driven by the patented technology.” If such evidence is necessary, it most likely comes at the premium cost of retaining another expert to develop and conduct a methodologically sound consumer survey. Additionally, the need for third-party discovery may be required to make the surveys statistically reliable to withstand impeachment. Generally, that cost would be borne by the patentee and any accused infringer seeking to offer a rebuttal. In some cases, there may be little or no evidence that the patented feature is sufficiently valuable. In other cases, the accused infringer may have to provide discovery not only on the value of the accused component, but also

92. Id.
93. See id at 1376.
95. Id.
96. Id. at 1370 (plurality opinion).
components, features, or functionality that actually drives demand to ensure that the patentee’s case is adequately rebutted.

As a natural progression from these cases, and as litigants continued to carve up and apportion infringing products into tailor-made pieces to support various damages theories, in 2014, the Federal Circuit again took the opportunity to discuss what viable damages arguments consist of and how those arguments should be presented to juries. Those decisions addressed, among other things, the reach of apportionment.

III. 2014: A BROADER VIEW OF REASONABLE ROYALTIES

Two Federal Circuit opinions issued in late 2014 that further clarified how the concept of apportionment can apply beyond the royalty base. These two opinions arrive at a common-sense approach to royalty calculations and provide the necessary guideposts for practitioners to formulate a cogent litigation strategy for damages.

A. VirnetX, Inc. v. Cisco Systems, Inc.—Patentees Must Do More

On September 16, 2014, the Federal Circuit vacated a jury’s $368 million award after finding that apportionment to the smallest salable patent-practicing unit was not necessarily sufficient to account for only the contribution of the asserted patent.98 Though Chief Judge Sharon Prost debunked the damages theories proffered by the patentee’s expert, the salient points come not from the rejection of those methods but rather how the panel addressed what a suitable damages theory would entail.99 Notwithstanding that the asserted claims were software-oriented only, for the royalty base, the expert “undisputedly based his calculations on the entire cost of [certain Apple] iOS devices, ranging in value from $199 for the iPod Touch to $649 for the iPhone 4S.”100 Stated differently, the expert considered whole devices as smallest salable units, excluding only the additional costs associated with components sold separately.101 When challenged for failing to extract unpatented features from the base, the expert answered, “To the extent

100. VirnetX, 767 F.3d at 1328.
101. Id.
that the products that we’re talking about here contain additional features, like additional memory, for instance, that Apple was charging for, by using the lowest saleable unit, I’m doing as much as I can to remove payments for those features.”

That testimony, among other things, doomed the patentee’s damages case because the base included unclaimed features (e.g., touchscreen, camera, processor, speaker, microphone, etc.) without sufficient mitigating countermeasures.

Rejecting an over-inclusive royalty base was not groundbreaking; Judge Prost’s analysis alongside that rejection, however, reinforces what reasonable royalties have come to mean. Turning to the jury instructions, Judge Prost observed that the instruction suggesting that a jury may use the entire market value of a product when ascertaining a base royalty amount was incorrect. Instead, unless the entire-market-value rule is properly invoked, instructions (and experts) must discuss apportionment to some degree:

[T]he instruction mistakenly suggests that when the smallest salable unit is used as the royalty base, there is necessarily no further constraint on the selection of the base. That is wrong. For one thing, the fundamental concern about skewing the damages horizon—of using a base that misleadingly suggests an inappropriate range—does not disappear simply because the smallest salable unit is used.

Judge Prost further explained that apportionment is not a formalistic check or limitation:

In other words, the requirement that a patentee identify damages associated with the smallest salable patent-practicing unit is simply a step toward meeting the requirement of apportionment. Where the smallest salable unit is, in fact, a multi-component product containing several non-infringing features with no relation to the patented feature (as VirnetX claims it was here), the patentee must do more to estimate what portion of the value of that product is attributable to the patented technology. To hold otherwise would permit the entire market value exception to swallow the rule of apportionment.

102. Id. (emphasis in original and citation omitted).
103. Id.
104. Id. at 1327.
105. Id. (emphasis added).
106. Id. at 1327–28 (emphasis added).
Though some ambiguity remained about whether the Federal Circuit required apportionment of the royalty base or whether apportionment of the royalty rate would be permissible as well, the court’s underlying concerns were apparent—litigants must provide a theory that is helpful to the jury and approximates the value of the invention only. Indeed, “the patentee must do more to estimate the value of that product is attributable to the patented technology” foretells that it is all about substance (and not exclusively about that base).107

B. Ericsson, Inc. v. D-Link Systems, Inc.—It’s All About that Base, Rate, or Any Combination Thereof

On December 4, 2014, in a standard-essential-patents case, the Federal Circuit vacated a jury award of $10 million in damages because, among other things, the lower court failed to properly instruct the jury “that any royalty for the patented technology must be apportioned from the value of the standard as a whole.”108 In a complex case involving the obligations of standard-essential-patent owners to license under reasonable and non-discriminatory terms, when Judge O’Malley turned to damages, her analysis made clear that apportionment can occur between the royalty base and royalty rate in tandem to achieve the underlying value of the invention:

As we explained recently in VirnetX, Inc. v. Cisco Systems, Inc., where multicomponent products are involved, the governing rule is that the ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more. . . .

When the accused infringing products have both patented and unpatented features, measuring this value requires a determination of the value added by such features. Indeed, apportionment is required even for non-royalty forms of damages: a jury must ultimately “apportion the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features” using “reliable and tangible” evidence. Logically, an economist could do this in various ways—by careful selection of the royalty base to reflect the value added by the patented feature, where that differentiation is possible; by adjustment of the royalty rate so as to

107. Id.

DEFINING REASONABLE ROYALTIES

discount the value of a product's non-patented features; or by a combination thereof.\textsuperscript{109}

Rather than simply stopping at this proposition, the court went further to suggest that, though mathematical logic allows apportionment to occur in a variety ways, very real policy concerns about how to appropriately present a case to a jury temper how to go about apportioning value. For example, though there is no categorical rule that a hubcap patent could not use the price of a truck as the base even where the suggested royalty rate is very low, pragmatism necessarily makes that arrangement difficult to manage. Here, the concern lies not with the method to arrive at a particular amount—it lies with the potential that the jury may not fully grasp why the rate must be very low:

It is not that an appropriately apportioned royalty award could never be fashioned by starting with the entire market value of a multi-component product—by, for instance, dramatically reducing the royalty rate to be applied in those cases—it is that reliance on the entire market value might mislead the jury, who may be less equipped to understand the extent to which the royalty rate would need to do the work in such instances.\textsuperscript{110}

In the hypothetical case of the hubcap patent, if a premium suspension or sound system boosts the value of the truck in a way that is unrelated to the patent, a jury may inadvertently award a royalty that reflects value beyond the contribution of the invention. In that example, perhaps combination apportionment is a better approach if individual hubcap pricing is unobtainable or speculative. This logic is grounded in the Federal Circuit's reasoning that, "[i]n each case, district courts must assess the extent to which the proffered testimony, evidence, and arguments would skew unfairly the jury's ability to apportion the damages to account only for the value attributable to the infringing features."\textsuperscript{111} So, while Ericsson resolved the debate about what could be apportioned, its practical effects still linger for practitioners to ponder.

Though a broader view of acceptable methodologies for calculating damages presents greater opportunity and latitude when presenting a damages case, a two-fold concern also has surfaced in the wake of these cases. For some, a patentee's burden to prove damages

\textsuperscript{109.} Id. at 1226 (emphasis added) (citations omitted).
\textsuperscript{110.} Id. at 1227.
\textsuperscript{111.} Id. at 1228.
has become too onerous.\textsuperscript{112} Even the Federal Circuit has observed that arriving at a value for patented features “can be an exceedingly difficult and error-prone task.”\textsuperscript{113} And, even if a party is willing to invest the time and effort necessary to carefully apportion the patented features at issue, the next daunting challenge involves packaging the information in a manner that is both helpful to juries and able to withstand judicial scrutiny. Taken to an extreme, this inherent uncertainty when carving out what to apportion and where to apportion may give some patentees pause before ever bringing a lawsuit.\textsuperscript{114}

Despite those positions, any cognizable chilling effect in the wake \textit{VirnetX} and \textit{Ericsson} is assuaged by understanding and embracing that apportionment is an art and not an exact science. Progressively, with each opinion, the Federal Circuit dispels misgivings by homing in on the central issue when awarding damages—what is a helpful, realistic starting point for a jury when calculating royalties:

[W]here the entire value of a machine as a marketable article is “properly and legally attributable to the patented feature,” the damages owed to the patentee may be calculated by reference to that value. Where it is not, however, courts must insist on a more realistic starting point for the royalty calculations by juries—often, the smallest salable unit and, at times, even less.\textsuperscript{115}

The Federal Circuit has acknowledged that determining a reasonable royalty can involve “some degree of approximation and uncertainty,”\textsuperscript{116} and that tension should be met with increasing tolerance as technology and science become more complex. And although the appellate court has recognized “the difficulty that

\textsuperscript{112} See, e.g., The Federal Circuit's VirnetX Ruling Continues Its Focus on Requirements for Proving Patent Damages, BROOKS KUSHMAN (Sept. 30, 2014), http://www.brookskushman.com/News/NewsDetails/tabid/95/articleType/ArticleView/articleId/346/The-Federal-Circuits-VirnetX-Ruling-Continues-Its-Focus-On-Requirements-For-Proving-Patent-Damages.aspx (“Patentees arguing for a reasonable royalty measure of damages likely will face increased difficulty in using completed product sales as a royalty base. Parties also should expect the court to carefully review evidence attempting to prove that a patented technology is the basis for customer demand for the product.”).

\textsuperscript{113} LaserDynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 66 (Fed. Cir. 2012).

\textsuperscript{114} See, e.g., Jorgenson & Blumenkopf, supra note 3 (“Although since largely reversed, this case demonstrates the uncertainties in establishing damages evidence and theories that will pass muster under still-evolving legal standards.”); Decker, supra note 3 (“Those decisions are among recent cases illustrating patent owners’ challenges making money from royalty payments and litigation instead of manufacturing products.”).

\textsuperscript{115} Ericsson, 773 F.3d at 1227 (Fed. Cir. 2014) (citation omitted).

\textsuperscript{116} VirnetX, Inc. v. Cisco Sys., Inc. 767 F.3d 1308, 1328 (Fed. Cir. 2014).
patentees may face in assigning value to a feature that may not have ever been individually sold," the standard thrust on patentees has never been "absolute precision." Still, the paradox is that it may not be sufficient to apply the letter of a Federal Circuit opinion on damages in one case directly to another case if the facts, circumstances, and economic realities are dissimilar. Perhaps, as Professors Fischl and Paul taught in their book on law school exams, no one size fits all. But practitioners who understand the conceptual points of *VirnetX* and *Ericsson* should be equipped to navigate latent exclusion issues. To those advocates, the question is not what can be apportioned—the focus lies in how different sets of data can be apportioned to arrive at a methodology that is helpful to the jury and true to the facts and circumstances of the case.

**CONCLUSION**

The trend in recent damages jurisprudence is relatively clear: damages theories must be reliable and clearly tailored to the particular facts of each case. Though the specific legal standards designed to achieve those goals are still evolving, clarity is on the horizon for perceptive practitioners ready to seize upon the Federal Circuit’s guidance in *VirnetX* and *Ericsson*. Lawyers with the gumption to advocate in a deliberate manner in the face of uncertainty will benefit. More than ever, determining the most advantageous damages strategy in a particular case requires careful, strategic analysis. Trial preparation will demand the availability of, and willingness to pursue, additional discovery and a highly credible damages expert. As a result, litigants can expect to spend more time and resources on damages issues. But, for those advocates who effectively grasp the “getting to maybe” aspects of damages, a winning damages strategy is, quite simply, one that is reasonable and realistic in light of the facts and circumstances of each case—and nothing more. And for that, a trial team is limited only by its resources and creativity to arrive at a sound course of action.

117. *Id.*