The Federal Circuit’s VirnetX Ruling Continues Its Focus On Requirements For Proving Patent Damages

The U.S. Court of Appeals for the Federal Circuit historically has afforded litigants substantial leeway in applying economic theory to establish damages in patent infringement cases, as long as the theories are based on reliable economic evidence and establish direct causation of loss.[1] In recent years, the Federal Circuit has issued a number of decisions addressing the issue of “apportionment,” i.e., apportioning value between patented and unpatented features in an accused product. In a recent decision, VirnetX, Inc. v. Cisco Systems, Inc.[2] the Federal Circuit addressed the issue again and further explained how apportionment can limit acceptable damages testimony. Although apportionment has roots in 19th century cases, it likely will cause parties to reevaluate their approaches to proving damages, particularly in cases involving technologies embodied in components for today’s complex products.

Role of “Apportionment” In Reasonable Royalty Analysis

The Patent Act states only that “the court shall award the [winning patentee] 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[.]”[3] The most prevalent damage measure is a reasonable royalty. To determine damages in this approach, the finder of fact often finds an appropriate royalty base and multiplies it by royalty rate. The product of these two values is the measure of damages:

$$\text{Base} \times \text{Rate} = \$\text{damages}$$

Although simple to express as a mathematic equation, actually calculating reasonable royalty damages can be “a difficult judicial chore, seeming often to involve more the talents
of a conjurer than those of a judge.”[4] The standard analysis envisions a hypothetical negotiation between the patentee and the defendant taking place just before the infringing conduct began. The approach “tries, as best as possible, to recreate the ex ante licensing negotiation scenario and to describe the resulting agreement.”[5] The fact finder is given the familiar Georgia-Pacific factors to determine the royalty rate in the hypothetical negotiation.[6] Despite its hypothetical nature, a royalty damage calculation must be based on the specific facts of each case.[7] The analysis “necessarily involves an element of approximation and uncertainty, [but] a trier of fact must have some factual basis for a determination of a reasonable royalty.”[8]

A long-standing issue in determining damages based on an accused product is separating the value attributable to the patented invention from the value resulting from other features in the product. As the Supreme Court noted in the 1884 Garretson case, involving an improved mop head:

The 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 . . . or he must show, by equally reliable and satisfactory evidence, that the profits and damages are to be calculated on the whole machine, for the reason that the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature.[9]

In recent cases, the Federal Circuit has emphasized the need for trial courts to “tie proof of damages to the claimed invention’s footprint in the market place” by excluding evidence of value unrelated to the patent-in-suit.[10] The selection of an appropriate royalty base is an important consideration in this effort. If the royalty base is too large (for example, if the base inappropriately uses revenues from the complete product instead of a component), then the resulting damage amount may be too large. The Federal Circuit held in Uniloc that an excessively large royalty base is not cured by using a commensurately smaller royalty rate, since a huge revenue figure may “skew the damages horizon for the jury” and cause it to award excessive damages.[11]

The Federal Circuit also has addressed in multiple decisions how the royalty base is influenced by whether the patented invention provides the “basis for customer demand” of the product used as a royalty base.[12] In LaserDynamics, the court rejected a royalty base based on the entire market value (“EMV”) of the accused product. The plaintiff’s patent covered methods for automatically identifying media loaded into a laptop optical disk drive (“ODD”). The court ruled that the patentee could not use sales of laptop computers as a royalty base, even after apportioning one-third the value of the laptops to the ODD
technology. It held that a patentee cannot invoke the EMV rule unless it shows that the patented feature provides the basis for customer demand for the entire product:

LaserDynamics’ use of the entire market value rule was impermissible, however, because LaserDynamics failed to present evidence showing that the patented disc discrimination method drove demand for the laptop computers. It is not enough to merely show that the disc discrimination method is viewed as valuable, important, or even essential to the use of the laptop computer. Nor is it enough to show that a laptop computer without an ODD practicing the disc discrimination method would be commercially unviable. Were this sufficient a plethora of features of a laptop computer could be deemed to drive demand for the entire product. . . . But proof that consumers would not want a laptop computer without such features is not tantamount to proof that any one of those features alone drives the market for laptop computers. Put another way, if given a choice between two otherwise equivalent laptop computers, only one of which practices optical disc discrimination, proof that consumers would choose the laptop computer having the disc discrimination functionality says nothing as to whether the presence of that functionality is what motivates consumers to buy a laptop computer in the first place. It is this latter and higher degree of proof that must exist to support an entire market value rule theory.[13]

The court also observed that “it is generally required that royalties be based . . . on the ‘smallest salable patent-practicing unit.’”[14] The court explained that the EMV rule “is a narrow exception to this general rule” and ensures that the damage amount is “reasonable in light of the technology at issue.”[15]

Some district courts interpreted LaserDynamics as permitting the use of the “smallest salable patent-practicing unit” (“SSPU”) as an alternative to allocating value between patented and unpatented features of an accused product. One court noted: “If the patentee seeks to use something larger than the smallest salable unit as the royalty base for a multi-component product, the patentee must demonstrate that ‘the patented feature drives the demand for an entire multi-component product[.]’” [16]

**VirnetX Requires Apportionment Even For SSPUs.**

In VirnetX, the Federal Circuit considered Apple’s appeal from a $360 million damage verdict for infringing patents for establishing secure communications links over the internet.[17] VirnetX alleged that Apple’s iPhone, iPad, IPod, and Mac computers infringed the patents through the use of Apple’s FaceTime and VPN On Demand features.
VirnetX’s damages expert based his damages opinion on three theories, including a reasonable royalty calculated using a 1 percent rate and a base of the entire cost of Apple’s mobile devices, ranging from $199 for the iPod to $649 for the iPhone. Apple’s appeal challenged the district court’s jury instruction on damages:

In determining a royalty base, you should not use the value of the entire apparatus or product unless either: (1) the patented feature creates the basis for the customers’ demand for the product, or the patented feature substantially creates the value of the other component parts of the product; or (2) the product in question constitutes the smallest saleable unit containing the patented feature.[18]

Apple contended that the instruction incorrectly suggested that the patentee could avoid apportionment by using the SSPU as the royalty base.

Ruling as an unusual two-judge panel, due to the retirement of Chief Judge Rader following oral argument, Chief Judge Prost and Judge Chen ruled that a “patentee’s obligation to apportion damages only to the patented features does not end with the identification of the smallest salable unit if that unit still contains significant unpatented features”: [19]

To be sure, we have previously permitted patentees to base royalties on the “smallest salable patent-practicing unit.” However, the 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. . . . [T]he 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.[20]

Stated simply, even if the royalty analysis is based on an SSPU, apportionment generally will be required unless the patentee establishes that the patented technology is the basis for customer demand of the SSPU.

**Strategies For Complying With VirnetX**

The *VirnetX* decision will likely have an immediate impact on proof of damages in many cases.
First, the Federal Circuit will likely continue to scrutinize damage awards involving commercial products containing many features and technologies. 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.

Second, litigants will need to develop methods to calculate the value attributable to the patented technology compared to other component features. Use of survey data, comparisons to similar components lacking the relevant technology, or even new analytical strategies should be explored. The VirnetX court conceded that allocation efforts will not be perfect, noting that it has “never required absolute precision in this task; on the contrary, it is well understood that this process may involve some degree of approximation and uncertainty.”

Third, experts may consider emphasizing Georgia-Pacific factor No. 13 in their reasonable royalty analysis. That factor directs the fact finder to consider “[t]he portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.” In essence, the factor requires an allocation of profit based on the patented and unpatented features of the accused product and other aspects of the defendant’s operations. If an expert establishes allocation as an integral part of the royalty rate determination, the analysis may achieve the Federal Circuit’s goal.

Fourth, in some cases, experts may consider damage models that do not use a royalty rate, such as lump sum or per-unit royalties. The Federal Circuit has endorsed damages theories based on historical licensing, or hypothetical negotiations resulting in lump sum payments not tied to a particular royalty rate or base. Although those approaches present their own analytical hurdles, they may provide a viable alternative in cases where allocation is impracticable.

Litigants should remember that under VirnetX, as under Garretson, a patentee may satisfy the allocation requirement by establishing that the patented technology creates the basis for customer demand of a component, assembly, or other salable embodiment. In some cases, analysis of customer demand, rather than allocation issues, may dictate the selection of an appropriate royalty base.

Finally, the VirnetX decision reinforces the importance of the district court judge as a “gatekeeper” to damages testimony, ensuring “that all expert testimony is rooted in firm
As a gatekeeper, the trial court may play an increasingly important role in determining the appropriate royalty base through interlocutory motion practice during the pre-trial stages of the litigation.


[17] U.S. Patent No. 6,502,135, 7,418,504, 7,490,151, and 7,921,211, all assigned to VirnetX.


[19] *Id.* at 32.

[20] *Id.* at 28-29.


[22] *Id.* at 29-30.