

Patent Law

Prof. Roger Ford
Monday, April 13, 2015
Class 22 – Remedies: Damages

Recap

Recap

- Remedies background
- Permanent injunctions
- Temporary injunctions



Today's agenda

Today's agenda

- Damages framework
- Lost profits
- Reasonable royalty



**Damages
framework**

What's at stake

Chart 2c. Top ten largest initial adjudicated damages awards: 1995–2012

Year	Plaintiff	Defendant	Technology	Award (in MM)
2009	Centocor Ortho Biotech Inc.	Abbott Laboratories	Arthritis drugs	\$1,848
2007	Lucent Technologies Inc.	Microsoft Corp.	MP3 technology	\$1,538
2012	Carnegie Mellon University	Marvell Technology Group	Noise reduction technology on integrated circuits for disk drives	\$1,169
2012	Apple Inc.	Samsung Electronics Co.	Smartphone software	\$1,049
2012	Monsanto Company	E.I. Dupont De Nemours and Company	Genetically modified soybean seeds	\$1,000
2010	Mirror Worlds LLC	Apple Inc.	Operating system	\$626
2011	Bruce N. Saffran M.D.	Johnson & Johnson	Drug-eluting stents	\$593
2003	Eolas Technologies Inc.	Microsoft Corp.	Internet browser	\$521
2008	Bruce N. Saffran M.D.	Boston Scientific Corp.	Drug-eluting stents	\$432
2009	Uniloc USA Inc.	Microsoft Corp.	Software activation technology	\$388

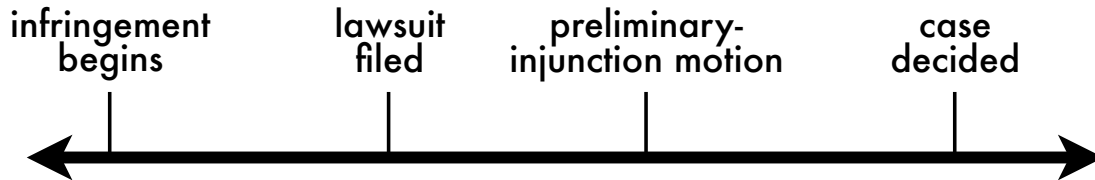
Source: 2013 PwC Patent Litigation Study

What's at stake

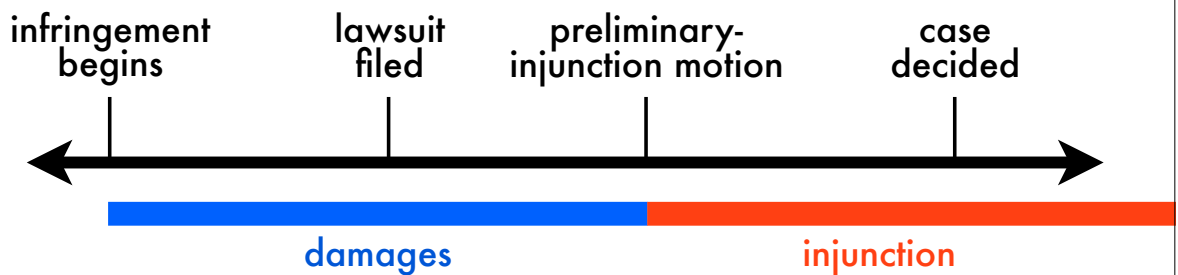
- “It is important to note that the awards reflected in Chart 2c are those identified during initial adjudication; **most of these awards have since been vacated, remanded, or reduced**, while some remain in the appellate process. In fact, by mid-2013, two of the three blockbusters from 2012 were significantly reduced or settled, with the other still pending appeals.”

Source: 2013 PwC Patent Litigation Study

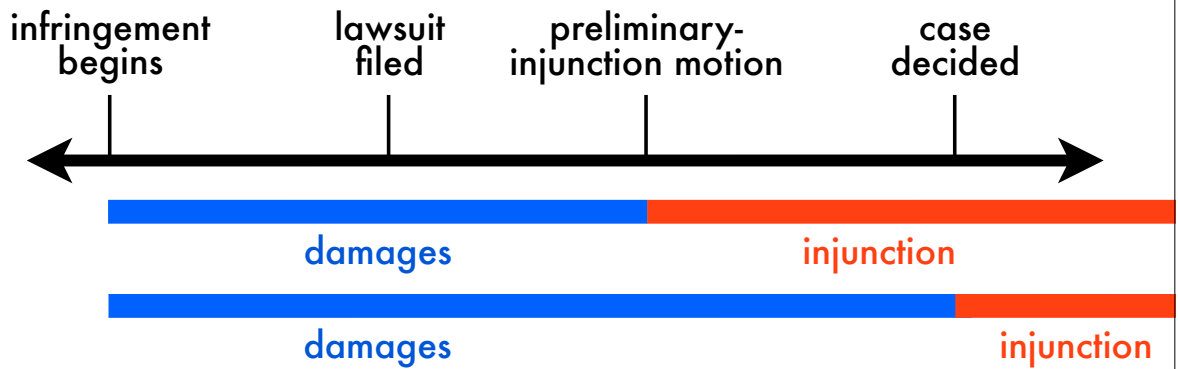
Damages framework



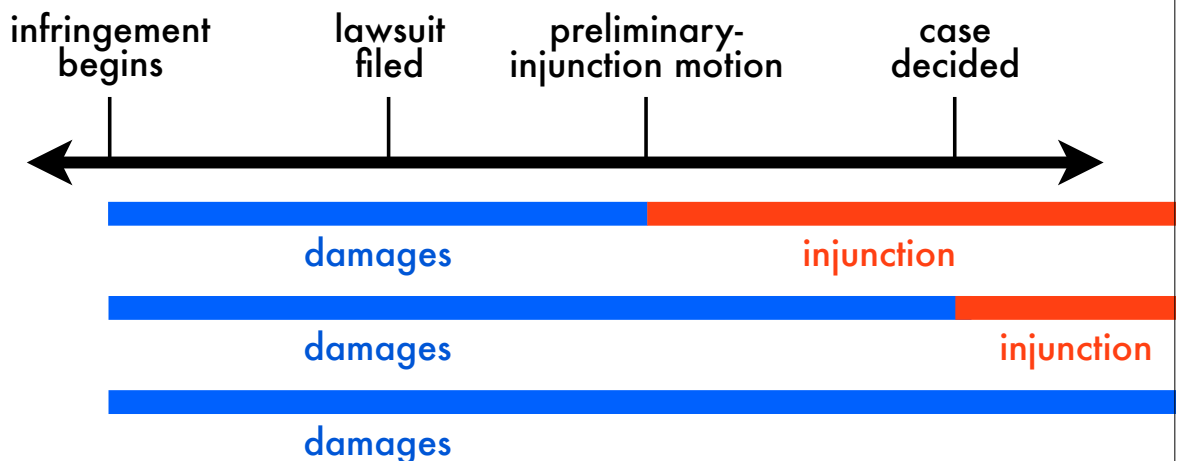
Damages framework



Damages framework



Damages framework



35 U.S.C. § 284 — Damages (post-AIA)

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.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. Increased damages under this paragraph shall not apply to provisional rights under section 154 (d).

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.

Damages framework

- Two measures of damages
 - Lost profits
 - Reasonable royalty
- The basic principle:
 - Damages are to compensate the patent holder, not punish the infringer
- The fundamental question:
 - What would have happened if the defendant never infringed the patent?

Damages framework

→ What could have happened if the defendant never infringed the patent?

Damages framework

- What could have happened if the defendant never infringed the patent?
- Patent holder would have had a monopoly and made lots of money
 - Patent holder and defendant would have agreed to a reasonable royalty
 - Defendant would have made something else
 - Defendant would have been out of the market, but other competitors would have filled in the gaps

Damages framework

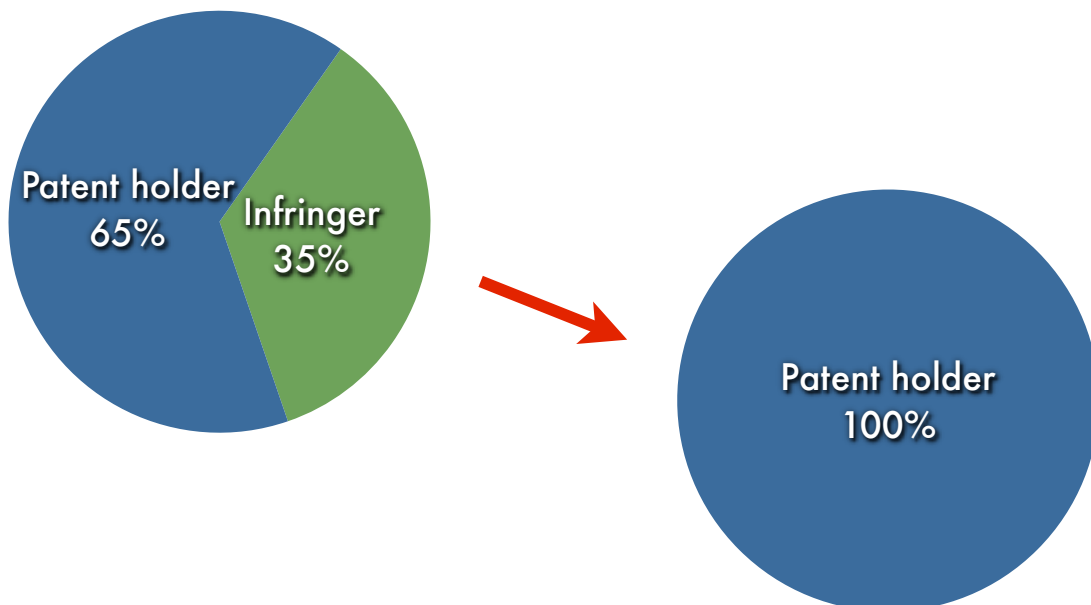
- Typically, patent holders prefer lost-profit damages to a reasonable royalty
 - Absent infringement, patent holder has option to license or not
 - Patent holder will refuse to license if they expect marginal profits from monopoly to exceed a royalty
- In many cases between competitors, then, the central damages dispute is whether the plaintiff can get lost profits or not

Lost profits

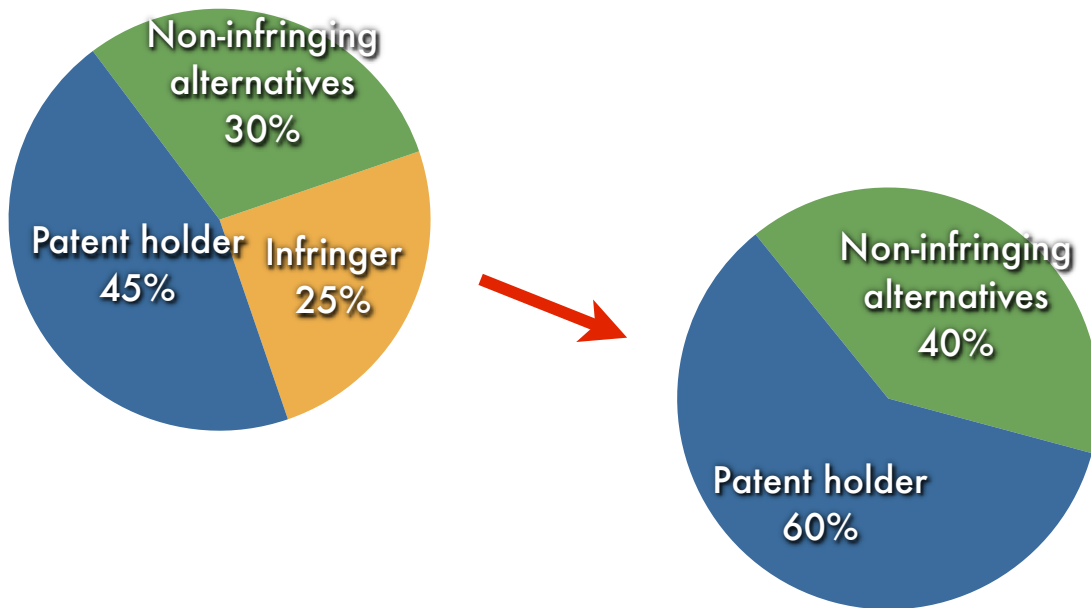
Lost-profits theory

- Patent holder's theory:
- If the infringer hadn't sold illegal infringing articles, I would have made more sales and profits

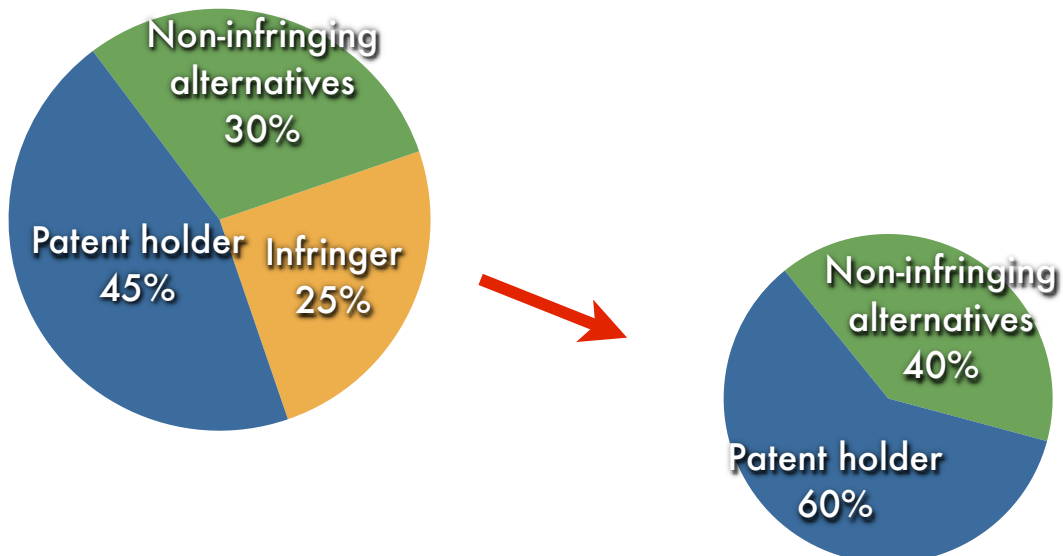
Lost-profits theory



Lost-profits theory



Lost-profits theory



Lost-profits theory

→ Reality:

- If the infringer hadn't sold illegal infringing articles, some customers would buy from patent holder – but some wouldn't
- Some would buy from others
- Some would no longer buy at all

Panduit factors

→ *Panduit Corp. v Stahl Bros. Fibre Works, Inc.* (6th Cir. 1978):

- Demand for the patented product
- Absence of noninfringing substitutes
- Patent holder's manufacturing and marketing capability
- Amount of profits that would have been made

Panduit factors

→ Demand for the patented product?

Panduit factors

- Demand for the patented product?
- Patent holder can only make additional profits if there would have been additional sales

Panduit factors

- Absence of noninfringing substitutes?

Panduit factors

- Absence of noninfringing substitutes?
 - If there were noninfringing substitutes, then consumers may have switched to those instead of the patent holder's product

Panduit factors

- Patent holder's manufacturing and marketing capability?

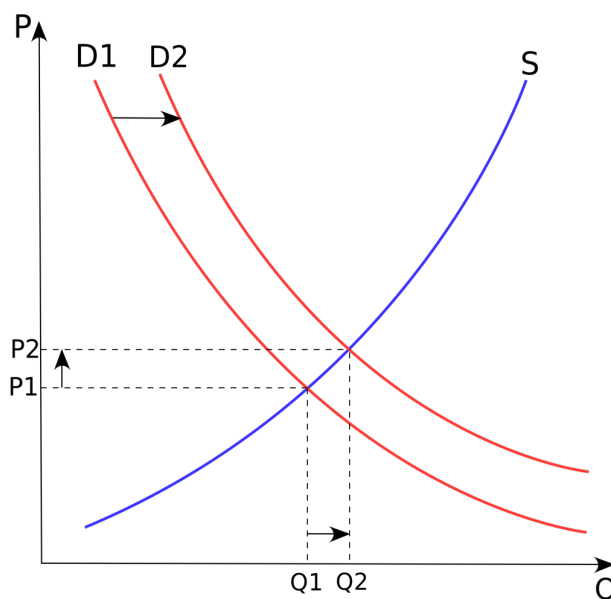
Panduit factors

- Patent holder's manufacturing and marketing capability?
 - Patent holder would not have made additional sales if it couldn't have fulfilled the orders

Panduit factors

- Amount of profits that would have been made?
- Economics is hard!
 - Patent holder could have raised prices if the infringer wasn't in the market...
 - ...but then fewer people would have bought the product

Panduit factors



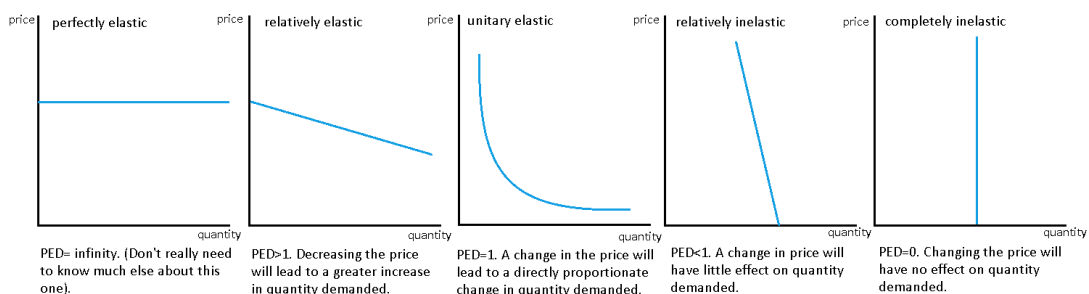
Panduit factors

→ Elasticity of demand:

- How much demand would be lost from the patented product for every dollar increase in its price?
- Candy; cars; Windows computers: high price elasticity of demand
- Unique drugs; gasoline: low price elasticity of demand

Panduit factors

Elasticities of Demand



United States Patent [19]
Armbruster et al.

[11] **3,849,194**
[45] Nov. 19, 1974

[54] **LOW D.E. STARCH CONVERSION PRODUCTS**

Wallerstein Company, Data Sheet, No. 242, (Jan., 1965).

[75] Inventors: **Frederick C. Armbruster; Earl R. Kool**, both of La Grange, Ill.

Primary Examiner—Lionel M. Shapiro
Attorney, Agent, or Firm—Albert P. Halluin; Frank E. Robbins

[73] Assignee: **CPC International Inc.**, Englewood Cliffs, N.J.

[22] Filed: **Sept. 17, 1971**

[57] **ABSTRACT**

[21] Appl. No.: **181,566**

Related U.S. Application Data

[63] Continuation of Ser. No. 602,563, Dec. 19, 1966, abandoned.

[52] U.S. Cl. **127/29, 195/31 R**

[51] Int. Cl. **C12b 1/00, C13k 1/06**

[58] **Field of Search** **195/31 R; 127/29**

[56] **References Cited**

OTHER PUBLICATIONS
Wallerstein Company, Technical Bulletin, No. 236, (Apr. 1964).

The present invention provides a process for preparing low D.E. waxy starch hydrolysates and low D.E. waxy starch conversion syrup products which are both liquid and solid. Waxy starch is treated with bacterial alpha amylase at a temperature above 85°C to liquify the waxy starch, then cool the liquified waxy starch to about 80°C, then convert the liquified waxy starch with bacterial alpha amylase to a D.E. from about 5 to about 25. By concentration from the resulting hydrolysate, a non-hazing syrup is obtained. Non-hygroscopic water-soluble solids are also obtained by further drying to a moisture content of less than about 15 percent.

14 Claims, No Drawings

U.S. Patent No. 3,849,194

→ **"Low D.E.
Starch
Conversion
Products"**

United States Patent [19]
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[56] **References Cited**

OTHER PUBLICATIONS
Wallerstein Company, Technical Bulletin, No. 236, (Apr. 1964).

We claim:

1. A process for producing a waxy starch hydrolysate which comprises treating in a first step an aqueous slurry of waxy starch with a bacterial alpha-amylase enzyme at a temperature above about 85°C. to liquefy the waxy starch and to provide an aqueous solution containing a liquefied waxy starch, then subsequently in a second step, at reduced temperatures below about 85°C, treating said liquefied waxy starch with a bacterial alpha-amylase enzyme to saccharify the waxy starch and to achieve a waxy starch hydrolysate having a dextrose equivalent value from about 5 to about 25, stopping the saccharification reaction and recovering the waxy starch hydrolysate so produced.

U.S. Patent No. 3,849,194

Grain Processing

- Product: Lo-Dex 10, a maltodextrin food additive
 - Produced by four methods
 - Processes I, II, and III infringed
 - Process IV did not infringe
 - Customers did not care about the differences

Grain Processing

- Grain Processing: we lost sales due to the infringing product
- Court: what would have happened absent the infringement?

Grain Processing

- Let's look to the *Panduit* factors!
- Demand for the patented product
 - Absence of noninfringing substitutes
 - Patent holder's manufacturing and marketing capability
 - Amount of profits that would have been made

Grain Processing

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Grain Processing

- Court: a noninfringing substitute may be available even if it's not currently being used
 - American Maize switched to Process IV in two weeks – “practically instantaneous”
 - American Maize “did not have to ‘invent around’ the patent”

Grain Processing

- But what about the fact that Process IV cost more?

Grain Processing

- But what about the fact that Process IV cost more?
 - Process IV was “not prohibitively expensive”
 - Profit margins were high enough to absorb the 2.3% cost increase
 - Probably this would have mattered in a license negotiation

Lost-profit complications

- Price erosion: In competition, prices will fall
- Lost sales: Higher monopoly prices will drive some customers out of the market
- Returns to scale: Monopoly producer will have higher volume and thus get better returns to scale
- Promotional expenses: In competition, promotion will be more expensive
- Accelerated market entry: If a competitor infringes, it will gain know-how that will help after the patent expires

Reasonable royalty

Reasonable-royalty theory

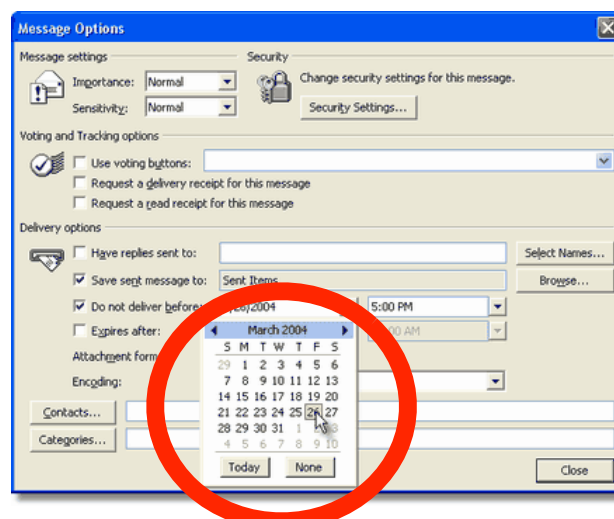
- Often the fallback to lost profits
- When does a royalty make sense?

Reasonable-royalty theory

- Often the fallback to lost profits
- When does a royalty make sense?
 - When the defendant could easily have switched to a noninfringing alternative, and so would only have agreed to a royalty
 - When the plaintiff couldn't or wouldn't have made any sales

Lucent v. Microsoft

- Tech: date picker in Outlook



Lucent v. Microsoft

- Hypothetical negotiation: what royalty would the parties have agreed to before the infringement?
- Why no lost profits here?

Lucent v. Microsoft

- Hypothetical negotiation: what royalty would the parties have agreed to before the infringement?
- Why no lost profits here?
 - Lucent made no competing product
 - Microsoft could easily have designed around the patent

Georgia-Pacific factors

→ *Georgia-Pacific Corp. v. US Plywood Corp.* (SDNY 1970):

- 1. Royalties received by patent holder
- 2. Royalties paid by licensee for similar patents
- 3. Nature and scope of the license
- 4. Patent holder's licensing practices and policies
- 5. Commercial relationship between parties
- 6. Effect of patent on patent holder's products
- 7. Duration of the patent term and license term
- 8. Profitability and success of patent product

Georgia-Pacific factors

→ *Georgia-Pacific Corp. v. US Plywood Corp.* (SDNY 1970):

- 9. Advantages of patent product over others
- 10. Nature of patented invention
- 11. Extent to which infringer used patented invention
- 12. Portion of profit or selling price customarily allowed for use of the invention
- 13. Portion of profit attributable to the invention
- 14. Opinion testimony of qualified experts
- 15. Outcome from hypothetical negotiation

Lucent v. Microsoft

→ Lump-sum license v. running royalty

- Lump-sum: easier to track; puts risk of under-performing product on licensee
- Running royalty: harder to track; puts risk of out-performing product on licensee

Lucent v. Microsoft

→ Problems with the verdict:

- Other licenses not comparable
- Other licenses not proved relevant
- License for a tiny feature can't be based on the full value of Outlook
- Microsoft would never have agreed to a \$350 million lump sum in advance, for a tiny feature

Lucent v. Microsoft

- Four lump-sum licenses:
 - \$290MM Dell/IBM
 - \$80MM Microsoft/HP
 - \$93MM Microsoft/Apple
 - \$100MM Microsoft/Inprise
- Problems:
 - Multiple patents
 - Cross licenses
 - Inadequate explanation of patents

Lucent v. Microsoft

- Entire-market-value rule
 - Patent holder can't use the entire market value of the infringing product as the royalty base unless it can show that the patented feature is the **basis for consumer demand**
 - Royalty base: amount multiplied by the royalty rate

Lucent v. Microsoft

→ Entire-market-value rule

- Here, Lucent's expert violated this rule by increasing his royalty rate from 1% to 8% once the base was reduced

Lucent v. Microsoft

→ Example 1:

- Entire product is a Windows PC costing \$1000
- Court orders 1% royalty
- So the royalty on each PC is $\$1000 \times 1\% = \10

Lucent v. Microsoft

→ Example 2:

- Entire product is a Windows PC costing \$1000
- But the patented component is a \$10 video card
- Court orders 5% royalty
- So the royalty on each PC is $\$10 \times 5\% = \0.50

Lucent v. Microsoft

→ Example 3:

- Entire product is a Windows PC costing \$1000, or maybe Outlook costing \$50
- But the patented component is a tiny feature
- Court orders 5% royalty
- So the royalty on each PC is $\$????? \times 5\% = \$?????$

Lucent v. Microsoft

- Problem: The royalty is variable, so the base doesn't matter that much, economically
 - It'd be fine to start with the value of the computer if the royalty was, say, 0.01% (10¢ for a \$1000 computer)
 - But in practice royalties are often in a narrow band of ~0.25% to 5%

After Lucent

- This case was a turning point in damages, where courts began closely scrutinizing jurors' verdicts
 - Starting to see what evidence is insufficient
 - But it's less clear what evidence will be sufficient

After *Lucent*

- Courts are beginning to exercise their gatekeeper function and scrutinize licenses:
- *ResQNet.com v. Lansa* (Fed. Cir. 2010): “The majority of the licenses on which ResQNet relied in this case are problematic for the same reasons that doomed the damage award in *Lucent*.”
 - *Wordtech Sys. v. Integrated Networks* (Fed. Cir. 2010): “We explained in *Lucent* that lump-sum licenses are generally more useful than running-royalty licenses for proving a hypothetical lump sum.... Of Wordtech’s thirteen licenses, only two were lump-sum agreements.”



Next time

Next time

- Remedies: increased damages and attorney fees