LIABILITY FOR PRODUCT INCOMPATIBILITY

What does it mean to claim that one product is compatible with another?

There are at least three meanings:

(1)   ***The product works with (is interoperable with) another product.*** For example, a word-processing program might be advertised as MS-DOS compatible if it runs under MS-DOS. It might be advertised as LOTUS 1-2-3 compatible if it can read and write files in Lotus's native file format.

(2)   ***The product works just like (emulates) another product.*** For example, many printers were advertised as LaserJet II-compatible. Many mice were allegedly Microsoft-compatible. One program might be said to emulate another if the same commands yield the same results in both cases (think of the spreadsheet war between Borland and Lotus).

(3)   ***The product lives up to a well-specified standard that is independent of any particular product.*** For example, a printer might be PostScript compatible. A modem might be V.34 compatible. A graphics program might be JPEG-compatible (meaning that it reads and writes JPEG files).

I'll treat these three types of claims separately later, but I also just use the word "compatible" in several places in this paper. In those places, I am including all three types in my discussion.

Suppose that Brand X Inc. ships a product, Product X, that it advertises as compatible with RealWare Corp.'s product, RealThing. And Suppose that Product X is not compatible with RealThing. Lots of people stand to lose time and money because of this, for example:

- A company that competes with Brand X loses market share because people buy Product X instead of the competitor's product because they think that Product X is RealThing-compatible. This is the situation that we see claimed in *Princeton Graphics v. NEC Home Electronics* (1990, discussed below).

- RealWare loses market share because people buy Brand X thinking that Product X is RealThing-compatible. Additionally, if Product X has problems and customers think that those problems are typical of RealThing-compatible products, then RealWare loses customer goodwill for problems that don't exist in its products. This is the situation that we see claimed in the case of *Creative Labs, Inc. v. Cyrix Corp.* (1997a, 1997b, affirmed 1998) and in the case of *Compaq Computer, Corp. v. Procom Technology* (1995).

- The reseller (retailer or VAR) who sold the product faces complaints, troubleshooting and other technical support costs, refunds, and potentially lawsuits from dissatisfied customers. This is the situation that we see claimed in the case of *Step-Saver Data Systems, Inc. v. Wyse Technology and The Software Link, Inc.,* (1991, discussed below).

- The end customer buys Product X and now has to waste time troubleshooting the difficulties between Product X and the rest of her (software and/or hardware) system. This is often expensive. For example, it takes in-house help desks 3 to 18 times as long to resolve a multi-vendor problem as a problem that can be pinned to a specific piece of software or hardware (Oxton, 1997; Schreiber, 1997). Private individuals, who don't have help desks with experienced staff, often give up and throw products away instead of trying to make them work with their other products.

These cases, and some statutes on deceptive trade practices, suggest some standards that we should keep in mind when developing or marketing products that are allegedly "compatible." You'll note that three of the four cases here are hardware cases (or, more precisely, embedded software cases). I think that's just the luck of the draw. My bet is that the same standards will be applied to all other types of software--we just haven't had the right lawsuits yet.

Princeton Graphics v. NEC

When IBM came out with the PS/2 computer, it established a new graphics standard, VGA. Princeton Graphics and NEC both manufactured EGA-compatible monitors. EGA involves a resolution of 640 pixels across by 350 scan lines vertically, refreshing (repainting) the screen 60 times per second (60 Hz), while VGA involves a resolution of 640 by 480, refreshing the screen at 70 Hz. Another standard in use at that time, PGA, involves 640 by 480 at a refresh rate of 60 Hz.

In 1987, NEC issued a press release claiming that afer "extensive testing" the MultiSync monitor had been determined to be "fully compatible" with VGA (*Princeton Graphics v. NEC*, p. 1260). But if you switched between EGA and VGA resolution, the screen would roll, apparently because the NEC MultiSync misinterpreted the VGA signals as PGA (wrong vertical refresh rate). You could stop the roll when you switched into VGA mode by adjusting the vertical hold knob on the monitor, but when you switched back to EGA, you had to adjust the vertical hold back. (Some programs were designed on the assumption that the display was EGA while later programs supported or required VGA. Back in 1987-89, depending on your system's software mix, you might switch back and forth from VGA to EGA several times in a day.)

The court ruled that (p. 1262):

> **"When a clearly defined standard, like IBM's VGA standard, exists and is widely accepted within the industry, a 'compatible' product must meet that standard or at least perform in a manner equivalent to the standard's requirements."**

However (p. 1262), the court said that when there is no well-known standard in the industry, "'compatible' essentially is understood to mean 'works with' or the ability of one device 'to function with' another."

The court ruled that NEC had falsely advertised its compatibility and held NEC liable to Princeton Graphics.

Compaq v. Procom

Compaq made the Proliant line of network servers and a line of hot-pluggable hard drives for use with Proliant servers. Compaq sold the Compaq Insight Manager (CIM) program, which monitors (among other things) the performance of the server's hard drives. The CIM could generate 'prefailure warnings' to the user, indicating that a hard drive will soon fail. If the performance of the drive was worse than certain settings determined by Compaq, Compaq would replace the drive (if it was under warranty) even though it had not yet failed. The threshold values (performance criterion values) differed for different hard drives. Compaq stored the threshold values on a special partition on the disk.

Procom made Proliant-compatible drives and bought them from Seagate, the same supplier as Compaq.It also stored threshold values on a special partition that the CIM program could find. However Procom's threshold values differed from Compaq's, for the same drives.

Compaq sued Procom alleging (among other things) that Procom was falsely advertising its drives as fully compatible with Compaq's drives. The claim was false because Procom's prefailure warnings would be given to customers at different times than Compaq's for comparable drives. Thus, their performance was not identical.

The court relied on the determination in *Princeton Graphics v. NEC*, that when there is no well-known standard in the industry, a looser definition ("works with") is in order. Here, there was no standard for prefailure values. Compaq had blended its assessment of technical risk and business risk in its determination of parameters for prefailure warnings. (Remember, when a warranty-holding customer gets a prefailure warning, he is entitled to a new drive. This is expensive. It creates a tradeoff between the value of warning customers early and the cost of replacing drives prematurely.) Procom came up with its own prefailure values, to be used in the same way as Compaq's. The numbers were different from Compaq's but in the absence of a standard, the court didn't know whether Procom or Compaq was using the better set of numbers or whether the differences would matter in practice. Therefore the court ruled that the drives were not incompatible.

Creative Labs v. Cyrix

Creative Labs makes SoundBlaster sound cards. Cyrix makes microprocessors, including the Media GX, which is capable of producing sounds without the assistance of a sound card. The audio component of the Media GX is called XpressAUDIO. Cyrix advertised XpressAudio as "compatible with Sound Blaster."

Creative Labs tested a Compaq Presario 2100 computer (which uses the Media GX) and found that it was sound-incompatible with 16 of 200 games tested (8%). Creative Labs then filed a false advertising suit against Cyrix. As did Princeton Graphics and Compaq in their cases (above), Creative Labs filed suit under the Lanham Act (Section 43(a); United States Code, Title 15, Section 1125(a)). The court said (1997a, p. 1874)

> "The elements of a Lanham Act false advertising claim are: (1) a false statement of fact by the defendant in a commercial advertisement about its own or another's product; (2) the statement actually deceived or has the tendency to deceive a substantial segment of its audience; (3) the deception is material, in that it is likely to influence the purchasing decision; (4) the defendant caused its false statement to enter interstate commerce; and (5) the plaintiff has been or is likely to be injured as a result of the false statement, either by direct diversion of sales from itself to defendant or by a lessening of the goodwill associated with its products."

Cyrix retested these games and said that its product failed with only 10 of them. It worked with the other 6 when the computer was "properly configured" (p. 1875). Of these 200 games, then, the failure rate was 5%. Cyrix claimed that it had other data indicating a failure rate of only 2%.

The court responded (p. 1875) that "Even if the failure rate of games placed on computers with XpressAUDIO is closer to 2% than 8%, the evidence indicates that some games that function with Sound Blaster do not function with XpressAUDIO." Therefore, they are (evidently) not compatible.

The three Creative Labs decisions that have issued so far have involved motions for injunctions—court orders that Cyrix should (among other things) quit advertising compatibility until and unless Creative Labs loses its case at trial. Therefore, the court's reasoning and conclusions do not (they can't, at this point in the litigation) constitute a legally binding determination that the Cyrix processor is incompatible with the Sound Blaster. However, they are clear signals on how the court will rule when it is given the chance. This court's summary of the law came directly from *Princeton Graphics v. NEC*: when a standard has been defined (here, Sound Blaster compatible), the allegedly compatible product must meet that standard (*see* p. 1874-1875).

Step-Saver Data Systems v. Wyse and The Software Link

Step-Saver was a value added reseller who put together systems for dentists and doctors and lawyers. From November, 1986 to March, 1987, it sold 142 systems that treated the IBM AT computer as a multi-user machine. The software that enabled multi-user capability was The Software Link's (TSL's) Multilink Advanced, an operating system that was advertised as MS-DOS compatible. Additionally, "Step-Saver requested information from TSL concerning this new version of the program, and allegedly was assured by sales representatives that the new version was compatible with ninety percent of the programs available "off-the-shelf" for computers using MS-DOS." (*Step-Saver* p. 95)

Note that The Software Link didn't claim 100% compatibility, and therefore the strict *Princeton Graphics v. NEC* standard could not apply. Instead, this court defined compatibility ("practical compatibility" as opposed to "complete compatibility") as (p. 106):

> "Two products are compatible, within the standards of the computer industry, if they work together almost every time in almost every possible situation."

The *Step-Saver* case is famous for a different ruling. Step-Saver bought IBM AT computers, loaded them with the Multilink Advanced operating system, some Wyse terminals, and a bunch of other software. When customers returned the system as defective (allegedly because of compatibility problems when used as a multi-user machine), Step-Saver didn't just have a returned operating system. It also had to deal with a now-used set of software and hardware, and it wanted reimbursement from The Software Link (TSL) for all of its losses, not just refunds for the returned copies of the operating system. To achieve this result, it sued TSL for breach of warranty and for misrepresentation. TSL responded that a license had come with each copy of the product, that the license disclaimed all warranties, express and implied and had limited remedies to a refund of the cost of the product, that this license was a binding contract between Step-Saver and TSL and therefore, TSL said, Step-Saver wasn't entitled to repayment for its losses. This license was essentially the same as the "license agreements" that you find inside the box when you buy software or that appear on the screen when you install software (having already paid for it).

The court threw out the post-sale license, saying that you just can't disclaim warranties after the sale is complete. Step-Saver was entitled to the benefit of whatever warranties were made and whatever losses it suffered.

The attempt to add Article 2B to the Uniform Commercial Code is partially a reaction to this decision and the cases that have followed it. For more information on that aspect of Step-Saver, and more on the history of post-sale licenses and post-sale disclaimers, see Kaner & Pels (1998) Chapter 7 and the Appendix. Under current law, no court has approved a post-sale (hidden in the box until after the sale) disclaimer of warranties, not for software and not for any other products. These disclaimers look pretty and legalistic and impressive on the paper, but they are not likely to hold up in court.

End User Class Action Suits

Customers can't sue under the Lanham Act but they *can* sue for breach of contract, for fraud, and for deceptive trade practices (DTP). I'm not aware of DTP lawsuits that have focused specifically on compatibility, but there is an increasing amount of DTP litigation against software companies. I am aware of small groups of lawyers that are training each other in the details of how to handle DTP cases against software and computer hardware companies. Consumers can bring class action suits under DTP statutes, and they can typically get their attorneys' fees from the defending publisher *if* they win their case.

The details of the statutes vary from state to state, but the banned acts are similar. Here are some examples from the California Civil Code Section 1770(a). The following are unlawful:

1770(a)(1)   Passing off goods or services as those of another.

1770(a)(2)   Misrepresenting the source, sponsorship, approval, or certification of goods or services.

1770(a)(5)   Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities which they do not have or that a person has a sponsorship, approval, status, affiliation, or connection which he or she does not have.

1770(a)(7)   Representing that goods or services are of a particular standard, quality, or grade, or that goods are of a particular style or model, if they are of another.

1770(a)(8)   Disparaging the goods, services, or business of another by false or misleading representation of fact.

Consumers (or any large group of customers) can also sue as a class for breach of contract or fraud (intentional deception).

In Sum

The court cases that we've seen so far don't cover every possible situation. There haven't been enough of them yet, and the issues are somewhat complex. But I think that the courts have laid out a continuum that we should pay attention to.

- If we are emulating or interoperating with a product that is poorly defined, the court will probably cut us some slack when we advertise "compatible."

- If we are emulating or interoperating with a product that is well defined, or if we are advertising that we meet a well defined industry standard, then we will probably be held to it. When the product is well defined, "compatible" means compatible. Not "sort of" compatible. Not "take two workarounds and call me in the morning" compatible. Just plain old genuine compatibility.

Failures of compatibility have plagued software and hardware buyers. They're tired of it. The recent successes in the Creative Labs v. Cyrix case and the recent successes in several deceptive practices cases will spur interest among more lawyers. We are likely to see more successful legal actions against the publishers, manufacturers and retailers of not-quite-compatible products.

By carefully testing your company's claims of compatibility against the products that you're supposed to be compatible with, you can help your company avoid slipping into an expensive, unanticipated compatibility-related lawsuit.

References

Creative Labs, Inc. v. Cyrix Corp. (1997a) United States Patents Quarterly, 2nd Series, *volume 42,* p. 1872 (United States District Court, Northern District of California).

Creative Labs, Inc. v. Cyrix Corp. (1997b) United States Patents Quarterly, 2nd Series, *volume 43,* p. 1778 (United States District Court, Northern District of California).

Creative Labs, Inc. v. Cyrix Corp. (1998) 1998 U.S. Appellate Library LEXIS #6470 (United States Court of Appeals for the Ninth Circuit).

Kaner, C. & D. Pels (1998) *Bad Software: What To Do When Software Fails.* John Wiley & Sons.

Oxton (1997, March) "Multivendor support challenges", *Software Services Conference East, Nashville,* TN.

Princeton Graphics v. NEC Home Electronics (1990) Federal Supplement, *volume 732,* p. 1258 (United States District Court, Southern District of New York).

Schreiber, R. (1997, March), "How the Internet Changes (Almost) Everything," presented at the Association for Support Professionals' *Internet Support Forum*, San Jose, CA.

Step-Saver Data Systems, Inc. v. Wyse Technology and The Software Link, Inc., (1991) Federal Reporter, 2nd Series, *volume 939*, p. 91 (United States Court of Appeals, 3rd Circuit).