



FAT Patent Means Hardware Dollars For Microsoft

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The U.S. Patent and Trademark Office's decision to uphold Microsoft's patent on FAT file technology may compel consumer-electronics manufacturers to reopen licensing negotiations with Microsoft. But who's picking up the check?

Although the USPTO upheld Microsoft's patent on Wednesday, the company has actively owned and sought to license the technology since 2003. Recently, however, the FAT patent has existed in somewhat of a legal limbo since the Public Patent Foundation challenged it in Sept. 2004.

The FAT patent ruling will have two effects: one, to possibly threaten the use of free operating systems like some Linux derivatives that can be coded to access FAT files; and two, as a stick to encourage hardware companies to license Microsoft's FAT technology.

A wide swath of companies may consider themselves subject to Microsoft's FAT File System Technology License, which seeks royalties of 25 cents per unit sold, plus \$250,000 per company for firms which manufacture flash memory cards.

However, Microsoft may also may be tacitly accepting the presence of smaller FAT drives. The president of the CompactFlash Association, which rejected a licensing overture from Microsoft, said in an interview that Microsoft had only approached the organization about licensing FAT32, the most recent 32-bit version of the file system with support for over 2.2 gigabytes of data.

Officials from PUBPAT, which contested Microsoft's patent on the grounds that previous works invalidated the patent, also said Thursday that they intend to keep on fighting.

"The patent office's decision has no preclusive effect on a court, and there are indeed cases where the patent office made a decision in a re-examination supporting a patent and a court later looked at the same exact issue, disagreed with the PTO, and found the patent invalid," said Dan Ravicher, PUBPAT's executive director and founder.

While PUBPAT weighs a new challenge, companies also potentially affected by the FAT patent include digital still image and video camera manufacturers, hard-disk and flash-based MP3 players, printers, electronic musical instruments, and even makers of electronic picture frames that display user photographs stored in flash memory or a hard disk.

According to industry sources, some companies attempted to place their own licensing programs on hold while the USPTO investigated PUBPAT's claims. However, a Microsoft spokeswoman said that licensing negotiations have continued unabated. Examples of firms that have licensed the FAT technology include MP3 player manufacturer Creative Technology; flash drive maker Lexar Media; Pentax, a camera manufacturer; Rockwell; and Seiko Epson.

"Some parties have licensed this technology through the reexamination process, and Microsoft anticipates that business will continue as usual with this program," the Microsoft spokeswoman said.

The File Allocation Table (FAT) file system was originally developed by Microsoft's Bill Gates. According to Microsoft, the technology was then adapted for an operating system developed by Intel, and bought back by Microsoft as the underpinnings for MS-DOS. In 1988 and then in 1996, 16- and

32-bit versions of FAT were developed, known as FAT16 and FAT32. Most Windows XP installations either use FAT32 or the New Technology File System (NTFS), first introduced with Windows 2000.

Who pays?

But what's surprisingly unclear in the FAT licensing debate, is in the words of analyst Tom Coughlin, "who's left holding the bag".

"[FAT]'s going to be on the storage [drive], but it's not the storage's fault it's there," Coughlin said, who runs the Coughlin Associates consulting firm. "I suspect that the targets are going to be the guys who build the microprocessors as well as the system."

Seagate, which manufactures a small amount of flash drives in addition to the consumer and PC hard drives the company is known for, formats all of its CompactFlash Photo Drives and external portable and "pushbutton" drives with the FAT32 file format, according to Colleen Henley, a Seagate spokeswoman. Internal hard drives that the company sells to consumer-electronics companies vary, with some companies requiring a preformat and disk image, while others prefer to do it themselves, she said.

However, Bob Goligoski, a spokesman for SanDisk, a leading manufacturer of flash drives, said that two product managers he had asked didn't know whether its drives came preformatted. He later declined to comment on whether or not SanDisk had licensed the FAT technology, on the advice of corporate counsel. In 2003, however, SanDisk expressed interest in licensing the FAT technology, flash analyst Jim Handy of Semico Research noted.

Representatives from flash disk makers Apacer, Crucial Technology, and M-Systems also declined to comment, as did a spokeswoman from iRiver, which manufactures a portable MP3 and player. Officials from Apple, Archos, and several other CE makers, including Sony, could not be reached for comment.

"What's not really clear who is who pays the license," Semico's Handy said. "I've talked to a few card companies, and a lot of those just gave me a pat phrase about how it wouldn't change anything that they're doing."

Microsoft did approach the CompactFlash Association, an industry consortium of companies using the CompactFlash technology, said Bill Frank, the company's director.

"We had discussions with Microsoft about putting FAT into our standard," Frank said.

"They basically sent us a license agreement which said that we could use FAT as long as all members in the CompactFlash Association turned over all IP they owned to Microsoft," Frank said. "We can't get companies to do that; it's pretty stupid. But that was on FAT32. We haven't had anything going on for FAT."

Microsoft has been offering licenses for FAT32 to companies, but never anything associated with FAT16, Frank said. "They may be referring to FAT32 -- it's required to use FAT32 if trying to address over 2.2 gigs," he said. "Everything has moved in that direction. If you can't get over 2 gigs you've got problems."

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