IBM Opens Mac Licensing—for Others

Mac OS License Available Without Restriction to Chip Purchasers

by Michael Slater

Recognizing that the Macintosh is central to growth in the PowerPC market, IBM has secured a license to the Mac OS with an unlimited right to sublicense it to any PowerPC chip purchaser. The license, which has already been signed and is effective immediately, is an IBM corporate agreement and would enable the IBM PC Company to build Macintosh systems. IBM Microelectronics Division is the driving force behind the agreement, however, and the PC company has not announced any intent to build systems.

IBM plans to make a major investment in enabling OEMs to readily enter the Macintosh market. No details have been announced, but the company intends to provide all the support needed for customers to adapt the Mac OS for various hardware designs. IBM will provide binary masters for the disk-resident software and OS documentation; licensees will be able to buy the Mac OS ROM directly from Apple's suppliers. (The ROM is required for System 7.5.x but is expected to be eliminated when Copland ships.)

IBM's license follows on the heels of Motorola's announcement that it has obtained the right to sublicense the Mac OS to its motherboard customers *(see* **1003MSB.PDF** *)*. The IBM license goes further, however, by allowing the company to sublicense the OS to any chip purchaser. Companies sublicensed by IBM would need another source for the Mac OS license if they were to buy chips from Motorola, since the license is connected to the chip purchase. This is an untenable position for Motorola, which is likely to renegotiate its Mac OS license to obtain terms identical to IBM's.

Breaking Free of Apple's Restrictions

The Motorola and IBM sublicensing agreements are, in part, a symptom of the chip suppliers' frustration with the slow pace of Apple's licensing and the restrictions that hampered deals from being closed. Apple understandably has mixed feelings about enabling competitors, but Motorola and IBM have no such ambivalence and are likely to be much more aggressive in signing up licensees. IBM can sublicense the Mac OS without restriction.

In the early days of Mac OS licensing, Apple limited the number of its licensees because of the difficulty of supporting many companies building systems that had to closely mimic many aspects of Apple's proprietary hardware design to maintain compatibility. Although the company said it would not limit licensees based on the competitive threat they represented, numerous sources indicate that, at least through late 1995, Apple continued to offer licensing terms that were so restrictive as to alienate prospective licensees.

Apple insists that its licenses carry no geographic, market, distribution, or price restrictions. While this may now be true, it appears not to have been true in the past, despite Apple's claims. Apple concedes it has chosen not to grant licenses for its hardware designs in situations where its component suppliers would not have been able to meet the licensee's volume requirements—a problem that may persist for some time.

It will take some time for Apple to gain credibility for the openness of its licensing, but the Motorola and IBM licenses provide proof that it is changing. Assuming Apple is indeed offering unrestricted licenses, the primary benefit of the Motorola and IBM licenses will be to increase the support bandwidth available for licensees, as well as the sales and infrastructure-building efforts.

Platform Due in Fall—But No OS until Spring

Mac OS licensees today remain doubly limited by the fact that the current version of the operating system is tightly integrated with Apple's hardware designs. Not only does this make Apple's ASIC suppliers a bottleneck, it also severely limits the ability of OEMs to differentiate their designs.

While an OEM could get a Mac OS license from IBM today, it would have to get a hardware design and ASIC license from Apple. Apple is productizing a low-end hardware design to create what it calls the Mac OS Licensing Design, which is intended to bridge the gap until designs based on the PowerPC Platform (PPCP, formerly called the common hardware reference platform, or CHRP) are cost-reduced to meet low-cost system requirements. Literal Mac clones are the only hardware option available until both hardware and software for the PPCP are ready.

A chip set implementing the PPCP design is due later this year from VLSI Technology. The chip set, called Gold Eagle, includes a system controller, ISA bridge, and peripherals chip;

VLSI will also provide Mac drivers for its graphics chips. Firmworks will provide boot ROMs and support customization of the boot code.

Unfortunately, it now appears the hardware will be ready before the software. Apple recently disclosed that the first version of Mac OS to support the PPCP, a derivative of the current 7.5.3 release, may not be available until March 1997. Apple demonstrated Mac OS running on a PPCP prototype last January, but the company claims that the final release of the OS to support this platform must wait for Apple to complete its PPCP hardware designs. Apple and its partners are seeking ways to pull in this schedule. Copland, now not due until some unspecified time in 1997, will eliminate the Mac ROM and offer more flexibility for OEMs.

IBM is working with Apple and Motorola to create a family of reference designs but has not announced any specifics. Given the delays in Mac OS support for PPCP, IBM is likely to also get involved in licensing Mac clone designs. IBM is focused on doing whatever it takes to enable more Mac system makers and may be able to find ways to address some of the component availability problems as well.

Reversing the Perceived Mac Decline

Because of the failure of the PowerPC microprocessors to provide a significant performance lead over Intel—or come close to Alpha's performance—the Windows NT market will be very hard to penetrate. With the small size of the Unix market and the near-demise of OS/2 for PowerPC, Mac OS is the only operating system that can carry the architecture forward in the near term. These systems can be sold on the benefit of the Mac OS itself; performance is reasonably competitive with Intel, though not an advantage.

If IBM is able to sign up significant Mac OS licensees, it could help reverse the Mac's shrinking market share, and even more important, the perception of the Mac as a platform in decline. In just the few weeks since the program began, IBM has signed two mid-size Taiwanese PC makers who intend to license the Mac OS. The impact such companies will have, however, remains to be seen, but at least it sends a message that Mac cloning is beginning in earnest.

It is unfortunate that the IBM PC Company apparently remains unwilling to support the Mac. This is one system maker over which one would think IBM executives would have some influence, and no other endorsement of the Mac would be as potent a boost for PowerPC. IBM Microelectronics clearly has recognized the importance of the Macintosh to the success of PowerPC. The IBM PC Company has an enormous x86-based business to protect, however, and this presumably is the reason for its resistance. Fortunately, the success of the Mac market is not dependent on IBM providing systems; the Macintosh is an established market today and offers ready opportunities for new suppliers. Ⓜ