VIEWPOINT

The Power Play

By Nick Tredennick

The collaboration to set the future of all computing was born a year and a half ago. Apple, IBM, and Motorola announced what I call the PowerPlay. The objective: Apple and IBM want higher margins. Since this deal was announced, I have been wondering where it's going (other than: "We are on or slightly ahead of schedule"). I have finally begun to see that it's not so much "Where is this deal going?" as it is "What opportunities does it open?"

The Stakes

When the IBM PC was introduced, IBM *was* the personal computer market. Shortly after the introduction of the IBM PC, IBM began losing market share to PC-clone makers. IBM-compatible PCs make up nearly 90% of annual unit shipments in the personal computer market; Apple Macintosh makes up about 12%. But the IBM-compatible market is so fragmented that *Apple* is neck-and-neck with IBM for number one in market share of personal computers.

IBM wants to sell proprietary systems because proprietary systems mean bigger profits; Apple sells proprietary systems. Apple wants RISC and Apple wants credibility in enterprise computing; IBM has RISC and IBM has enormous credibility in enterprise computing. The makings of a deal! IBM throws in its Power architecture and Apple throws in its proprietary software. As for Motorola, since it was busy shooting itself in the foot with its confused strategy for the 680x0 and the 881x0 microprocessor chips, what harm could it do by throwing in with Apple and IBM and adding the PowerPC architecture to its repertoire? Besides, if IBM and Apple make a deal for the PowerPC architecture, what choice does Motorola have? Apple is its biggest CPU customer; Motorola has to follow its customer into the swamp.

The Mac installed base is about 10 million systems. Those 10 million users will be faced with the decision to migrate from the 680x0-based Mac some time in the next five years or so. The stakes: the Mac installed base and potential new Mac unit volumes, plus a possible percentage of the installed base (~100 million) and new unit volumes of the 80x86-based personal computers.

The Market

I divide the personal computer market into two segments: personal computers owned by enterprises (large companies) and personal computers owned by small companies or by individuals. Enterprises have been around for a while and have accumulated a number of large, expensive computing systems and a large body of custom software and data. Enterprises care about preserving investments in these "legacy systems" and they care about connectivity (i.e., connecting any new computers they buy to the computers they already have). Individuals and small companies typically own only personal computers: their personal computers *are* their legacy systems.

Strategy and Tactics

The strategy: Apple and IBM want to control the hardware and the software to establish a proprietary market position. A proprietary market position would allow Apple and IBM to control margins (profits) on the sale of personal computers.

The tactics: if Apple and IBM want to maintain high margins on the sale of personal computers, enterprises (i.e., large companies) are their best prospective customers. Apple and IBM have the resources to build and sell a client/server strategy. Client/server is a great story for enterprise computing. The client/server strategy says you run old applications on servers driving separate windows on a personal computer. In their story for enterprises, Apple and IBM will probably emphasize seamless migration, connectivity, client/server, and preservation of the investment in legacy systems. Apple and IBM will also have to have a story for individuals and small companies. In their story for individuals and small companies, Apple and IBM will probably emphasize seamless migration, RISC technology and performance, price/performance, and low cost through direct sales.

Analysis

Apple and IBM have a vision for the future in distributed computing and seamless connectivity. It's great for "enterprise computing" and I'm sure Apple and IBM will do well with large corporations. No one from the IBM-compatible world can offer the enterprises any plan to compete with the story Apple and IBM will have for their PowerPC-based systems.

Corporate computing cares about "legacy systems." Corporations have zillions of dollars invested in a legacy of old code, old databases, and old computers. Being able to carry the legacy forward is much more important than saving a few dollars on a computer system. Performance and price/performance of the computer system are inconsequential beside the cost of moving the database or rewriting all the applications. IBM and Apple can offer enterprises a migration path to the future *because* they control both the software and the hardware for the PowerPC-based systems. It makes economic sense for the

enterprises and it makes profits for Apple and IBM.

But the legacy systems for small companies and individuals don't connect to personal computers—they *are* personal computers. Small companies and individuals care about absolute price and about price/performance. The Apple/IBM story may be about low prices and high price/performance, but high margins are inconsistent with low prices and with high price/performance—Apple and IBM can't have both. This creates an opportunity for Microsoft.

The Opportunity

I have a small company—it's definitely not an "enterprise." We aren't large and we don't have a large-company sugar-daddy. So we don't have workstations or large computers. Our "legacy systems" are Macs and PCs. The technical people have IBM-compatible PCs and the administrative people have Macs. (The technical people wanted PCs over Macs and the administrative people couldn't cope with the PCs. The administrative people didn't *want* Macs *or* PCs, but they could cope with the Mac.)

I bought 16-MHz Mac IIcx's and 25- and 33-MHz 386-based clone PCs about three years ago. I paid about twice as much for the (proprietary market position) Macs and I got about half the performance of the PCs (16-MHz 68020-based Macs *vs.* 33-MHz 80386-based PCs). Last year, I upgraded the PCs to 33-MHz 486s by replacing the entire motherboard for about $700 per PC. We probably more than doubled the performance of all the PCs (since we got better integer performance, on-chip cache, off-chip cache, on-chip floating-point, and sometimes a faster clock—all as part of the upgrade). We're still running the same Macs. A year from now, when the price falls enough, I expect we'll upgrade with 486DX2-66 OverDrive chips for another substantial boost in performance (for a lot less than $700 per PC). We'll still be running the same Macs. A year or two after that, when the price falls enough, we'll upgrade to Pentium motherboards and will double our performance again. We may still be running the same Macs. And so on.

Meanwhile, Apple and IBM are going to produce PowerPC-based systems "on or slightly ahead of schedule." Apple will support the 680x0-based Macintosh and PowerPC-based systems. Sure they will! I thought they were going to support the Apple II. I'm not going to bet they will continue to support the Mac. The machine they support might be *called* a Mac, but it won't *be* a Mac. Apple and IBM will have a great story for individuals and for small companies:

"Here's an easy path from your old Mac to our new, super-fast, reasonably-priced, RISC-based PowerPC system. It's still a Macintosh, it's just based on RISC instead of the old CISC technology. It will read your old data and it will run all your old software faster—and with no changes (through seamless emulation). Most of the time in applications is spent inside calls to the Mac Toolbox, and the Toolbox is written in native PowerPC code. Outside the Toolbox we use seamless emulation written for the super-fast PowerPC. As you upgrade to programs written for the new technology, your new Mac will deliver the amazing performance available in the RISC-based PowerPC processor."

But the story and reality may differ. Apple and IBM will offer PowerPC-based systems from a proprietary market position. That means I pay a lot and I don't get as much. And once I'm locked into the PowerPC, I continue to pay a lot to upgrade, or I use the old hardware longer, since I can't afford to upgrade. Absolute price and price/performance are the most important considerations for me.

If I'm going to consider migrating from the Mac to a PowerPC-based system (even if it's still called a Mac), I may as well consider migrating from the Mac to the *PC*. With the PC, I can count on better price/performance and cheap and regular upgrades, as long as I stay a generation behind the leading edge (e.g., buy the 486DX2-66 after the Pentium is introduced). Lack of a simple migration path prevents me from going from the Mac to the PC. *And there's the opportunity!* If Apple and IBM can have a great story for us, so can Microsoft. IBM and Apple want us to move to (proprietary market position) PowerPC-based systems and they will have a great story and the software to support that migration path.

I think there's an opportunity for Microsoft to offer a great story and the software to support a migration path to the PC. I'm not talking about how easy it *is* to move from a 680x0-based system to a PowerPC- or 80x86-based system, I'm talking about how easy it *sounds* (i.e., how good the story is). We all expect reality to be a little tougher than the story. It will be harder, it will take longer, and it will cost more—it doesn't really matter whether you are moving to a PowerPC-based system or an 80x86-based system.

Conclusion

Apple and IBM will temporarily get a larger share of personal computer sales to enterprises. Apple and IBM will get a smaller share of personal computer sales to individuals and small companies. But I suspect that enterprises have a much smaller share of the personal computer market than individuals and small companies. Microsoft and the IBM-compatible personal computer will capture a giant chunk of the Apple Mac segment of the personal computer market—provided Microsoft has a great story for migrating from the Mac to the PC. It only has to be a great story, not a great reality. ♦

