Exit Strategies for RISC Desktops

RISC Workstation Makers Seek Shelter From Intel/NT Assault

None of the RISC workstation vendors will admit it publicly, but all are positioning themselves to succeed in a world where Intel processors have taken over the final vestiges of the desktop RISC market. Even Apple, the last bastion of the RISC PC, has indicated that it, too, can survive without RISC. While RISC desktops will continue to generate significant revenues and profits for at least the next few years, their decline is inevitable.

The exit strategies for these vendors come in two varieties: assimilation or retreat. The first to be assimilated, and so far the most successful, was Hewlett-Packard. In 1994, in a stunning conversion to the dark side, HP announced plans to convert its workstations and other products from PA-RISC to a new architecture, now known as IA-64, to be jointly developed with Intel. Merced, the first IA-64 chip, is due in 1999, and, within two or three years thereafter, HP should be completely out of the RISC business.

Not content to wait that long, HP has launched a line of workstations based on Intel's Pentium Pro processor and Microsoft's Windows NT operating system. The computer giant now sells these systems side by side with its RISC/Unix workstations, offering its customers a choice of platforms. Although most continue to purchase the PA-RISC systems, HP's x86 workstation sales are growing rapidly. With its much improved performance, Merced will certainly accelerate this trend.

Two other leading makers of RISC workstations, IBM and Digital, have adopted similar x86 strategies. Like HP, both companies have large PC businesses and have combined PC and workstation technologies to create the new systems. Digital is a particularly avid proponent of NT, which runs on both its x86 and Alpha systems. IBM, like HP, offers customers a choice of x86/NT or RISC/Unix workstations.

Neither IBM nor Digital has suggested that it will abandon its RISC workstations in the future, but having launched products based on Intel processors, they most likely will sell Merced-based workstations once that chip becomes available. We expect Merced to offer both integer and floating-point performance competitive with that of the fastest RISC chips of the day. In fact, given PowerPC's laggard performance position, a Merced workstation is likely to outperform any RISC-based workstation IBM can offer. The companies will undoubtedly offer both lines for a while, but if its customers are allowed to make a choice, we expect most will eventually move to Merced.

One problem with this scenario is the operating system. Merced will support both Windows NT and 64-bit versions of Unix from HP (HP-UX) and SCO (Gemini 64). Workstation users comfortable with NT could easily move to Merced, but those relying on proprietary versions of Unix from IBM or Digital may have more difficulty switching to Gemini 64, assuming IBM or Digital even offers it. By the time Merced appears, however, we expect NT will be widely accepted as a workstation operating system.

Sun and Silicon Graphics (SGI) do not have PC businesses to leverage and have taken a strong position against Windows NT. Instead of being assimilated into the Intel world, both are likely to retreat gradually into smaller and smaller niches of the desktop workstation market. To compensate, both vendors have launched server initiatives.

Over the past few years, Sun, the leading vendor of RISC workstations, has converted itself into a server company; workstations now contribute less than half the company's revenue and a smaller percentage of its profits. CEO Scott McNealy's public emphasis is now on servers and "thin clients" (NCs); he only grudgingly admits that Sun also sells "fat clients" (workstations). If the NC business grows as planned, the company will be able to do without its workstation business, if necessary.

Of all the RISC workstation makers, SGI is best positioned to stay in this business, offering better graphics performance than any Intel-based system, but this niche is a fairly small one. SGI's focus is now on high-end graphics systems, servers, and supercomputers. Its purchase of Cray Research, along with its internal developments, has made it the dominant vendor in supercomputing. SGI's roadmap for its future MIPS processors (see MPR 5/12/97, p. 14) emphasizes these chips' role in servers, not workstations.

Apple recently confirmed that its future operating system, known as Rhapsody, will run on x86 systems as well as on PowerPC. Presumably, Rhapsody will be ported to Merced as well. Like IBM and Digital, Apple has no explicit plans to abandon its RISC architecture, but by supporting both RISC and Merced, it will allow its customers to choose.

Neither Apple nor the RISC workstation vendors plans to be caught unawares by the Intel/Microsoft juggernaut. The RISC vendors are likely to survive; their RISC products may not. The exits are clearly marked. M

Linley Gwennap