

Macintosh Computers Improve Productivity at Cray Computer Corporation

Cray Computer Corporation is designing and building a supercomputer based on gallium-arsenide chip technology. This new machine—the Cray 3 will run at a clock speed of 2 nanoseconds—is two times faster than the silicon-based Cray 2 supercomputer. To speed up that design process, the Information Systems and Hardware Engineering departments at the company's Colorado Springs development facility, decided to exchange their MS-DOS systems for a platform with faster microprocessors and an easy-to-use interface for developing applications.

The engineers at Cray use Macintosh computers to design supercomputers.

Cray Computer Corporation has 250 Apple Macintosh computers. Every Macintosh can access the building's Ethernet backbone, either through an Ethernet bridge or directly, using an Apple EtherTalk interface card, or a Kinetics Etherport card.

Almost everyone in the company has a Macintosh on his or her desk, and the Macintosh is used for everything from general office productivity to a HyperCard-based executive information system accessing the Hewlett-Packard HP 3000 for accounting and human resources data, HP 3000 terminal emulation, and engineering functions such as logic design, testing and simulation. According to Jerry Stevens, Information Systems specialist, "Macintosh computers have improved productivity, reduced training requirements throughout the organization, and facilitated development of end-user applications."

In addition to the Macintosh computers, the Ethernet network includes Sun file servers and workstations, MS-DOS machines, HP 3000 and HP 9000 minicomputers, and Cray 2 supercomputers. Users can access Hewlett-Packard plotters or do HP terminal emulation through Shiva Net Serial devices. In addition, dedicated NetSerial, connected directly into the company's telephone system, is used for electronic messaging.

Using Apple's HyperCard software, Stevens recently developed an executive information system (EIS) that charts information on headcount, inventory, and expenses versus budgets that is updated daily on an HP 3000. The program calls the HP minicomputer every morning at 1:30 and requests the latest figures. It takes only about one minute for the information to be downloaded from the HP to the Macintosh and into HyperCard. HyperCard then creates bar charts and graphs from the information and places a copy on the AppleShare file server in the folders of

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everyone who is cleared for it. This enables managers to view up-to-date information first thing in the morning.

“I don’t know how I would have written our EIS using something other than the Macintosh,” says Stevens. He wrote the EIS in three months, fitting it between other tasks, and credits the Macintosh personal computer and HyperCard with the short development time. “At first, I thought I would have to use a variety of software products to get the job done, but I was able to write the whole system using only HyperCard. The system we developed is user friendly, it’s packed with information, and it gets really specific. The system is a lot better, and its development was a lot easier than anyone expected it could be.”