

# COMPUTERWORLD

## Millions of Obsolete PCs Enter Waste Stream

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By Kim S. Nash

People swamp Web sites that offer free computers, but Paul Kirk couldn't give away 800 Pentium PCs last fall.

Computer disposal firms declined to take the machines, saying they were already loaded with castoffs that weren't year 2000-compliant. Charities and schools said 133 MHz was too slow for them.

Finally, Kirk, information technology manager at United Companies Financial Corp. in Baton Rouge, La., was able to sell about 400 PCs to employees for \$5 each. The rest went to recyclers that dismantled them and sold the scrap copper, gold and glass.

There's an overlooked byproduct of Moore's Law: more garbage.

Companies that upgrade hardware every three years face an increasingly critical problem: what to do with tired, old computers.

Only 39% of 102 IT managers surveyed by Computerworld said they have a consistent, companywide policy for dealing with retired hardware.

"People continue to ignore the situation. It's bad all around," said Frances O'Brien, an analyst at Gartner Group Inc. in Stamford, Conn.

Think about the volume: More than 20 million PCs became obsolete in 1998 - but just 14% of those were recycled or donated, according to the latest figures from the National Safety Council, an environmental watchdog group in Washington.

Gartner says 114 million PCs were sold last year, and another 133 million will be sold this year. And they'll all need a final resting place in a few years.

### **Costly Storage**

Without a plan in place, PC disposal is a scramble for IT departments. Many companies actually end up spending money on machines that are no longer worth anything, either by paying recyclers to haul them away or by warehousing them for lack of a better idea.

For example, while Kirk was trying to shed his retired PCs, the machines sat for six months in building space that United Companies normally rents out for \$17.50 per sq. ft.

"The rate of obsolescence in computer and electronics industries is so incredible that you have vast quantities of waste entering the waste stream, and the infrastructure to deal with that hasn't developed," said John Hanson, executive director of the Recycling Council of Ontario in Toronto.

Meanwhile, some recyclers - which buy used gear to resell or dismantle for scrap - are so flush that they're turning away business.

Roughly 17% of users in the Computerworld survey admitted to throwing PCs out with the trash (see chart). Yet when computers sit in landfills, environmentalists say, poisonous chemicals such as lead and

cadmium escape into the air, soil and water.

Hardware disposal is now "a lot more pressing for us," said Joe Burrus, desktop coordinator at Apache Corp., an oil company in Houston. "It would be nice to get three years out of a good desktop, but it's just not working out that way."

Burrus and his staff recently spent several weeks erasing hard drives and finding nonprofits to take 250 Compaq Computer Corp. Pentiums that were no longer usable by Apache after its Y2k remediation. An upgrade to Microsoft Corp.'s Windows 2000 late this year will produce another 150 used Compaqs to deal with, he said. Burrus plans to donate them but doesn't know exactly where they will go. The task of finding proper homes for retired equipment often falls to environmentally conscious IT staffers.

Ruesch International Inc. Chief Technology Officer Ron Szoc and his staff recently ushered 150 used PCs to local shelters and children's homes.

Still, Ruesch, a finance firm in Washington, ends up junking some machines. "No one wants a 286. You can't run (the latest) Windows on it," Szoc said. "It's like an empty tin can. You need to throw it away." He figured the company has tossed 10 or 15 such boxes.

Part of the problem is no one group wants to take responsibility for hardware disposal.

Many user companies and analysts say PC companies should take back retired hardware. Indeed, some do - but only for their very biggest customers and only if a deal is made at the time of purchase or lease. Garbage collection companies say PC makers should use safer, nontoxic materials during manufacturing. PC companies generally say that local governments should set up facilities for the safe disposal of computer junk.

But computers are a mix of varied, and sometimes toxic, materials. That makes recycling difficult and time-consuming, because someone has to separate the parts, said Gary Kelman, an officer at the National Association of Environmental Professionals in South Portland, Maine.

### **Toxic Seepage**

"What you don't want to do is incinerate (whole PCs)," Kelman said, because that releases mercury, cadmium, lead and other toxic chemicals into the air.

Dumping computers into landfills isn't any better. "Lead and solder could slowly get into groundwater," he said.

That's not necessarily so, countered Jason Rose, assistant operations manager at Idaho Waste Systems Inc. in Boise.

Computers do end up in Idaho Waste landfills, but the company guards against poisonous seepage, Rose said. "There's a liner system in there and a collection system to keep anything from migrating away from the landfill into water," he said.

The U.S. Environmental Protection Agency classifies computers as hazardous but hasn't aggressively enforced disposal regulations.

Europe, however, is taking a tougher stand. The U.S. exports \$40.6 billion in high-tech gear to Europe annually, and the European Commission thinks the industry could act more responsibly.

The EC wants to force PC makers to take back used equipment, at least in Europe. The so-called directive on Waste from Electronics and Electrical Equipment (WEEE) would also require PC companies to phase out harmful materials in manufacturing by 2004.

Some hardware companies are already moving in that direction but only in certain plants and only for

some toxins.

A vote on WEEE is expected this month, and PC companies are vigorously fighting it.

Through various trade groups, including the American Electronics Association (AEA), PC firms say the cost of taking back all of their old products and revamping their manufacturing processes would be too onerous and a barrier to trade. The AEA has urged U.S. Trade Representative Charlene Barshefsky to object to the proposals, which she has done.

The AEA says PCs aren't really harmful in practical terms. "It's not like people are opening the things up and eating (what's inside). It's the degree of exposure that's important," said Jennifer Guhl, a lobbyist at the AEA in Washington.

While the state of Massachusetts decreed April 1 that monitors must be recycled, the federal government isn't expected to enact anything similar to WEEE, experts agreed.

Lacking guidance from regulators or the waste industry, corporate IT managers are on their own.

Analysts such as Gartner's O'Brien urge users to figure disposal into their total cost of ownership estimates and, more important, devise formal PC retirement policies before buying the machines.

"You've got to start taking responsibility for this," she said.