

# Chaos May Ring in Millennium

Y2K from Preceding Page

was due 99 years ago.

• Unemployment benefits might not be calculated correctly as soon as January, 1999.

Furthermore, the year 2000 is a leap year, which might seem obvious to the average person but could prove problematic for computer programs. Years that are multiples of four, of course, are leap years. But years ending in "00" typically are not — unless they're even multiples of 400. So the year 2000 is the exception to the exception.

Even before the leap year exception, the Sept. 9, 1999, glitch arrives. That date, 9/9/99, sometimes holds special meaning in computer programs, sometimes indicating to save certain data or to erase it after a certain expiration date. On Sept. 9 of next year, all it should mean is, well, Sept. 9, 1999, but programs might treat it differently — and possibly erase data.

Such unusual dates make it especially difficult to find all potential date problems in a computer program.

"Companies are spending millions of dollars just for survival sake," said Dan Greenberg, president of The Allegiance Group in Woodbury, a computer consulting firm. "It's really a unique problem. It's all man-made, and it was all foreseeable."

## Resources in Shorter Supply

Now, as the deadline approaches, technical staff to fix the problem are drying up. And waiting to order software after mid-1999 may leave companies in a lurch. "There will be a huge demand for resources; vendors are going to be swamped with requests by June I'm sure," Greenberg said.

Of course, nothing will matter if the electricity doesn't work on Long Island, but utilities assure the public that they are in the thick of addressing the bug.

KeySpan Energy Corp. will spend about \$33 million to ready the vital systems which include operating its five power plants, reading meters and billing customers, running the transmission lines and other areas.

The company has almost completed a full survey of its systems and is about 60 percent done with fixing identified problems, said Joe Ares, project manager for year 2000. About half of the work is being handled by outside programmers and the rest by internal people familiar with KeySpan's systems, Ares added. State regulators are requiring all utilities to be ready as of July 1, 1999.

"We feel that the public should have no problem with their electric and gas," Ares said. In addition, the rollover to the new year will happen in the winter and on a weekend, which are both traditionally periods of slower demand for electricity, he noted. That will give the company some time to address any problems it may have missed. Melville-based IMI Systems, whose services include year-2000 remediation, has been scouting for employees at job fairs, on the Internet and through employee referrals and trade associations. "We are always looking for new and improved ways to find the right people," said Nancie Hickok, vice president of recruiting.

Bell Atlantic Corp. illustrates why the Y2K bug is eating up technical workers.

The company, which supplies local telephone ser-

vice to 41 million phone lines from Maine to Virginia, had to painstakingly examine 350 elements of its network, which in turn had 135,000 pieces that needed to be evaluated. Officials then queried manufacturers of those parts to see whether they will keep functioning.

Bell Atlantic then tested each system on its own.

The company found that about 10 percent of its systems needed to be replaced or reprogrammed, said Skip Patterson, executive director of the telephone company's year 2000 program office. Now, Bell Atlantic is in the process of installing upgrades and re-testing them with other pieces of the network as well as other telephone companies' networks.

The company cannot conduct "live" tests, so it has created about a dozen laboratories that simulate the types of calls, data transfers and other telecommunications in the real world. Bell Atlantic, whose phone systems would fail without a year 2000 fix, will spend up to \$550 million over two years. That's more than the

annual revenues of most of Long Island's public companies.

Bell Atlantic plans to have two-thirds of its systems upgraded by the end of this year and the entire network ready by June 30.

Melville-based General Semiconductor Inc. has spent two years on its Y2K project — one year alone planning a changeover to the software that runs its mainframe system, said Tom Lamendola, director of strategic programs.

"We took it very seriously," he said. "We want to make sure that there's no impact to our customers."

General Semiconductor, which makes diodes, voltage suppressors and other "discrete" semiconductors that help control electrical power, has spent close to \$10 million in getting all its systems ready. The main task involved replacing its old software that runs order entry, inventory, shipping and other functions to a system that would handle year 2000 dates.

For many businesses, the Y2K problem is creating, of all things, mounds of paperwork as they ask suppliers for surveys, letters, certificates or other assurances that products will work.

Four out of five chief executives responding to the Newsday-Hofstra survey said they are requiring all or some of their vendors to be year 2000 compliant. Nearly nine out of 10 said all or some of their clients are demanding compliance.

Information technology manager Barry Gross at Melville-based Comtech Telecommunications Corp. is inundated with letters from vendors, regulators and others asking about Comtech's readiness.

The company has evaluated the 10 software packages, some 100 computers and four servers that run the company. None of the antennas, amplifiers and other equipment Comtech sells relies on dates, Gross said. The telephone systems aren't ready, but the company has already planned to upgrade them next year.

ARvee Systems Inc. in Bohemia has also been bombarded. "Everybody and their brother is asking us for year 2000 certification," said Michael Gencarelli, president of the software developer.

Clients and vendors are worried because computers are so intertwined or dependent on other systems. A computer that misidentifies 00 as 1900 or some other date can easily transmit faulty data to another company's software that is able to recognize the year 2000.



Newsday Photo / Julia Gaines  
Michael Gencarelli of ARvee Systems.

## Chances for Failure

Among industries, each with distinct characteristics and problems, the risk of problems from computer failures due to the Year 2000 issue varies. Industries are placed in four risk categories, based on the likelihood of failure of at least one system that is critical to the operations of companies in those industries.

	Likelihood for Failure
<b>Category 1:</b> Insurance, Investment Services, Banking, Pharmaceuticals, Computer Manufacturing	15%
<b>Category 2:</b> Heavy Equipment, Aerospace, Medical Equipment, Software, Semiconductor, Telecom, Retail, Discrete Manufacturing (goods made in set amounts rather than continuous production), Publishing, Biotechnology, Consulting	33%
<b>Category 3:</b> Chemical Processing, Transportation, Power, Natural Gas, Water, Oil, Law Practices, Medical Practices, Construction, Transportation, Pulp and Paper, Ocean Shipping, Hospitality, Broadcast News, Television, Law Enforcement	50%
<b>Category 4:</b> Education, Health care, Government Agencies, Farming and Agriculture, Food Processing, City and Town Municipal Services	66%

SOURCE: The Gartner Group

Newsday / Linda McKenney

One of ARvee's clients, a limousine company, had been calculating past-due fees because it was reading credit-card expiration dates of 2002 as 1902. But the problem was not in the billing software ARvee provided; the client's computer was set up for two-digit year format rather than four-digit years.

"It took seconds to fix it once you figured out what it was," Gencarelli said.

A lesser-known problem comes in the computerized devices, also known as embedded systems. These have chips embedded in them, or systems, that sometimes just do one function such as open and close valves electronically. An estimated 1 percent to 4 percent of the instructions that run the chips won't work, but the trick is finding out which ones.

Given the cornucopia of possible problems, what kind of chaos looms? No one can predict for sure. Doomsday cults and survivalists who are hoarding food and preparing for disaster have grabbed headlines, but many of the outspoken leaders on the year 2000 problem consider such attitudes on the fringes.

Local chief executives seem to agree. While nearly half of the 56 executives who responded to the Newsday-Hofstra survey said the flaw is somewhat serious or very serious for their company, executives expected little impact on operations.

Fifty-one out of 61 respondents to the Newsday-Hofstra survey said the bug won't seriously affect operations or would be no problem at all. Forty-five of

Please see Y2K on Page C12