

"(iii) to require an employee to request compensatory time off in lieu of monetary overtime compensation as a condition of employment or as a condition of employment rights or benefits;

"(iv) to qualify the availability of work for which monetary overtime compensation is required upon the request of an employee for, or acceptance of, compensatory time off in lieu of monetary overtime compensation; or

"(v) to deny an employee the right to use, or coerce an employee to use, earned compensatory time off in violation of this subsection.

"(C) An agreement or understanding that is entered".

AMENDMENT NO. 365.

Beginning on page 3, strike lines 15 through 23 and insert the following:

"(B) In this subsection:

"(i) The term 'employee' does not include—

"(I) an employee of a public agency;

"(II) an employee who is a part-time employee;

"(III) an employee who is a temporary employee; and

"(IV) an employee who is a seasonal employee.

"(ii) The term 'employer' does not include—

"(I) a public agency; and

"(II) an employee in the garment industry.

"(iii) The term 'employer in the garment industry' means an employer who is involved in the manufacture of apparel.

"(iv) The term 'part-time employee' means an employee whose regular workweek for the employer involved is less than 35 hours per week.

"(v) The term 'seasonal employee' means an employee in—

"(I) the construction industry;

"(II) agricultural employment (as defined by section 3(3) of the Migrant and Seasonal Agricultural Worker Protection Act (29 U.S.C. 1802(3))); or

"(III) any other industry that the Secretary by regulation determines is a seasonal industry.

"(vi) The term 'temporary employee' means an employee who is employed by an employer for a season or other term of less than 12 months, or is otherwise treated by the employer as not a permanent employee of the employer."

AMENDMENT NO. 366

On page 10, strike lines 4 through 7 and insert the following:

"(10) In a case in which an employee uses accrued compensatory time off under this subsection, the accrued compensatory time off used shall be considered as hours worked during the applicable workweek or other work period for the purposes of overtime compensation and calculation of entitlement to employment benefits.

"(11)(A) The term 'compensatory time off' means the hours during which an employee is not working and for which the employee is compensated in accordance with this subsection in lieu of monetary overtime compensation.

"(B) The term 'monetary overtime compensation' means the compensation required by subsection (a)."

AMENDMENT NO. 367

Beginning on page 9, strike line 19 and all that follows through page 10, line 3 and insert the following:

"(9)(A) An employee shall be permitted by an employer to use any compensatory time off provided under paragraph (2)—

"(i) for any reason that qualifies for leave under—

"(I) section 102(a) of the Family and Medical Leave Act of 1993 (29 U.S.C. 2612(a)), irrespective of whether the employer is covered, or the employee is eligible, under such Act; or

"(II) an applicable State law that provides greater family or medical leave rights than does the Family and Medical Leave Act of 1993 (29 U.S.C. 2601 et seq.);

"(ii) for any reason after providing notice to the employer not later than 2 weeks prior to the date on which the compensatory time off is to be used, except that an employee may not be permitted to use compensatory time off under this clause if the use of the compensatory time off will cause substantial and grievous injury to the operations of the employer; or

"(iii) for any reason after providing notice to the employer later than 2 weeks prior to the date on which the compensatory time off is to be used, except that an employee may not be permitted to use compensatory time off under this clause if the use of the compensatory time off will unduly disrupt the operations of the employer."

NOTICES OF HEARINGS

SUBCOMMITTEE ON CHILDREN AND FAMILIES

Mr. JEFFORDS. Mr. President, I would like to announce for information of the Senate and the public that a hearing of the Senate Committee on Labor and Human Resources, Subcommittee on Children and Families will be held on Thursday, June 5, 1997, at 9:30 a.m., in SD-430 of the Senate Dirksen Building. The subject of the hearing is "Pre-to-3: Policy Implications of Child Brain Development." For further information, please call the committee, 202/224-5375.

SUBCOMMITTEE ON AGING

Mr. JEFFORDS. Mr. President, I would like to announce for information of the Senate and the public that a hearing of the Senate Committee on Labor and Human Resources, Subcommittee on Aging will be held on Thursday, June 5, 1997, at 2:30 p.m., in SD-430 of the Senate Dirksen Building. The subject of the hearing is "Challenges of Alzheimer's Disease: The Biomedical Research That Will Carry Us into the 21st Century." For further information, please call the committee, 202/224-5375.

COMMITTEE ON SMALL BUSINESS

Mr. BOND. Mr. President, I wish to announce that the Committee on Small Business will hold a hearing entitled "Oversight of SBA's Microloan Program." The hearing will be held on June 12, 1997, beginning at 9:30 a.m. in room 428A of the Russell Senate Office Building.

For further information, please contact Paul Cooksey at 224-5175.

AUTHORITY FOR COMMITTEES TO MEET

COMMITTEE ON FINANCE

Mr. HELMS. Mr. President, the Finance Committee requests unanimous consent to hold a hearing on the Need for Renewal of the Fast Track Trade Negotiating Authority on Tuesday, June 3, 1997, beginning at 10 a.m. in SD-215, Dirksen Senate Office Building.

The PRESIDING OFFICER. Without objection, it is so ordered.

COMMITTEE ON FOREIGN RELATIONS

Mr. HELMS. Mr. President, I ask unanimous consent that the Committee on Foreign Relations be authorized to meet during the session of the Senate on Tuesday, June 3, 1997, at 10 a.m. to hold a hearing.

The PRESIDING OFFICER. Without objection, it is so ordered.

COMMITTEE ON GOVERNMENTAL AFFAIRS

Mr. HELMS. Mr. President, I ask unanimous consent on behalf of the Governmental Affairs Committee to meet on Tuesday, June 3, 1997, at 1:30 p.m. for a hearing on the Department of Commerce's Technology Grant Programs.

The PRESIDING OFFICER. Without objection, it is so ordered.

SUBCOMMITTEE ON COMMUNICATIONS

Mr. HELMS. Mr. President, I ask unanimous consent that the Communications Subcommittee of the Senate Committee on Commerce, Science, and Transportation be authorized to meet on June 3, 1997, at 9:30 a.m. on Second Generation Internet.

The PRESIDING OFFICER. Without objection, it is so ordered.

SUBCOMMITTEE ON COMMUNICATIONS

Mr. HELMS. Mr. President, I ask unanimous consent that the Communications Subcommittee of the Senate Committee on Commerce, Science, and Transportation be authorized to meet on June 3, 1997, at 2:30 p.m. on Universal Service.

The PRESIDING OFFICER. Without objection, it is so ordered.

ADDITIONAL STATEMENTS

ON ALL SHORES

• Mr. MOYNIHAN. Mr. President, on my recent trip to Israel, I read an illustrative article in the Financial Times of London. It seems financial experts in England have come to a conclusion many financial institutions in the United States have failed, thus far, to reach. Namely, that it is too late to solve the year 2000 computer problem completely, and that it is hopeless to rely on a "silver bullet" to solve the problem. Instead, officials in the United Kingdom have concluded that the world economy faces a very time-consuming, labor-intensive project—the scope of which is unparalleled in modern history.

Upon my return to the United States, I found that Newsweek had just published an important article that will increase awareness, I hope, to the point of action. Thus, I remind my colleagues of my bill (S. 22) to set up a commission responsible for ensuring that all executive agencies are compliant by 2000. I hope my colleagues recognize—as the British have begun to do—what we now face and what we must do to ensure the proper functioning not only of our Government, but of the economy.

I ask that the Newsweek cover story, "The Day the World Shuts Down" and the Financial Times of London's story, "Millennium Bomb Ticks Away" be printed in the RECORD.

The material follows:

THE DAY THE WORLD SHUTS DOWN

Drink deep from your champagne glasses as the ball drops in Times Square to usher in the year 2000. Whether you imbibe or not, the hangover may begin immediately. The power may go out. Or the credit card you pull out to pay for dinner may no longer be valid. If you try an ATM to get cash, that may not work, either. Or the elevator that took you up to the party ballroom may be stuck on the ground floor. Or the parking garage you drove into earlier in the evening may charge you more than your yearly salary. Or your car might not start. Or the traffic lights might be on the blink. Or, when you get home, the phones may not work. The mail may show up, but your magazine subscriptions will have stopped, your government check may not arrive, your insurance policies may have expired.

Or you may be out of a job. When you show up for work after the holiday, the factory or office building might be locked up, with a handwritten sign taped to the wall: OUT OF BUSINESS DUE TO COMPUTER ERROR.

Could it really happen? Could the most anticipated New Year's Eve party in our lifetimes really usher in a digital nightmare when our wired-up-the-wazoo civilization grinds to a halt? Incredibly, according to computer experts, corporate information officers, congressional leaders and basically anyone who's given the matter a fair hearing, the answer is yes, yes, 2,000 times yes! Yes—unless we successfully complete the most ambitious and costly technology project in history, one where the payoff comes not in amassing riches or extending Web access, but securing raw survival.

What's the problem? It's called, variously, the Year 2000 Problem, Y2K or the Millennium Bug. It represents the ultimate indignity: the world laid low by two lousy digits. The trouble is rooted in a seemingly trivial space-saving programming trick—dropping the first two numbers of the date, abbreviating, say, the year 1951 to "51." This digital relic from the days when every byte of computer storage was precious was supposed to have been long gone by now, but the practice became standard. While any idiot familiar with the situation could figure out that the world's computers were on a collision course with the millennium, no one wanted to be the one to bring it up to management. And, really, which executive would welcome a message from nerddom that a few million bucks would be required to fix some obscure problem that wouldn't show up for several years?

So only now, as the centurial countdown begins, are we learning that the digit-dropping trick has changed from clever to catastrophic. Because virtually all the mainframe computers that keep the world humming are riddled with software that refuses to recognize that when 1999 runs out, the year 2000 follows. When that date arrives, the computers are going to get very confused. (PCs aren't as affected; sidebar.) So that seemingly innocuous trick now affects everything from ATMs to weapons systems. Virtually every government, state and municipality, as well as every large, midsize and small business in the world, is going to have to deal with this—in fact, if they haven't started already it's just about too late. Fixing the problem requires painstaking work. The bill for all this? Gartner Group estimates it could go as high as \$600

billion. That amount could easily fund a year's worth of all U.S. educational costs, preschool through grad school. It's Bill Gates times 30!

That tab doesn't include the litigation that will inevitably follow the system failures. "You can make some very reasonable extrapolations about litigation that take you over \$1 trillion, and those are very conservative estimates," says Dean Morehous, a San Francisco lawyer. (Conservative or not, this is more than three times the yearly cost of all civil litigation in the United States.)

Come on, you say. *Two measly digits? Can't we just unleash some sort of robo-program on all that computer code and clean it up?* Well, no. Forget about a silver bullet. It seems that in most mainframe programs, the date appears more often than "M*A*S*H" reruns on television—about once every 50 lines of code. Typically, it's hard to find those particular lines, because the original programs, often written in the ancient COBOL computer language, are quirky and undocumented. After all that analysis, you have to figure out how to rewrite the lines to correctly process the date. Only then comes the most time-consuming step: testing the rewritten program. It's a torturous process, but an absolutely necessary one. Because if we don't swat the millennium Bug, we'll have troubles everywhere.

Electricity. When the Hawaiian Electric utility in Honolulu ran tests on its system to see if it would be affected by the Y2K Bug, "basically, it just stopped working," says systems analyst Wendell Ito. If the problem had gone unaddressed, not only would some customers have potentially lost power, but others could have got their juice at a higher frequency, in which case, "the clocks would go faster, and some things could blow up," explains Ito. (Hawaiian Electric revamped the software and now claims to be ready for the year 2000.) Another concern is nuclear power; the Nuclear Regulatory Commission says that the Bug might affect "security control, radiation monitoring . . . and accumulated burn-up programs [which involve calculations to estimate the hazard posed by radioactive fuel]."

Communications. "If no one dealt with the year 2000 Bug, the [phone] network would not operate properly," says Eric Sumner Jr., a Lucent chief technology officer. He's not talking about dial tones, but things like billing (watch out for 100-year charges). Certain commercial operations that run phone systems by computer could also go silent if the software isn't fixed.

Medicine. Besides the expected mess in billing systems, insurance claims and patient records, hospitals and doctors have to worry about embedded chips—microprocessors inside all sorts of devices that sometimes have date-sensitive controls. The year 2000 won't make pacemakers stop dead, but it could affect the data readouts it reports to physicians.

Weapons. Newsweek has obtained an internal Pentagon study listing the Y2K impact on weapons and battlefield technologies. In their current state, "a year 2000 problem exists" in several key military technologies and they will require upgrading or adjustments. One intelligence system reverts to the year 1900, another reboots to 1969. The report confidently states that as far as nuclear devices like Trident missiles are concerned, "there are no major obstacles which will prevent them from being totally Year 2000 compliant by Jan. 1999."

Money. Banks and other financial institutions generally will go bonkers if they don't fix the year 2000 problem. The Senate Banking Committee is even worried that vertiginous computers might automatically erase the last 99 years worth of bank records.

Some Y2K consultants are advising consumers to make sure they don't enter the 1999 holiday without obtaining hard-copy evidence of their assets. According to Jack Webb of HONOR Technologies, Inc., ATMs won't work without fixes.

Food. In Britain computers at the Marks & Spencer company have already mistakenly ordered the destruction of tons of corned beef, believing they were more than 100 years old.

Air-Traffic Control. "We're still in the assessment stage, determining how big the problem is," says Dennis DeGaetano of the Federal Aviation Administration. One possible danger is computer lockup: while planes well keep moving at 12:01 a.m. on Jan. 1, 2000, the screens monitoring them, if not upgraded, might lock. Or the computers might know where the planes were, but mix them up with flights recorded at the same time on a previous day. ("You can bet we're going to fix it," says DeGaetano.)

Factories. Ford Motor Co. reports that if the Bug isn't fixed, its buildings could literally shut down—the factories have security systems linked to the year. "Obviously, if you don't fix it, your business will stop in the year 2000," says Ford's David Principato. Even if a manufacturing company aggressively solves its own problem, though, it might be flummoxed by a supplier who delivers widgets in the wrong century.

Just About Everything Else. Larry Martin, CEO of Data Dimensions, warns that if not adjusted, "on Jan. 1, 2000, a lot of elevators could be dropping to the bottom of buildings," heading to the basement for inspections they believe are overdue. Similarly, automobiles have as many as 100 chips; if they are calendar-challenged, experts say, forget about driving. Computerized sprinkler systems could initiate icy midwinter drenchings.

Like leaves rustling before a tornado, there have already been harbingers of a bureaucratic meltdown. At a state prison, a computer glitch misread the release date of prisoners and freed them prematurely. In Kansas, a 104-year-old woman was given a notice to enter kindergarten. Visa has had to recall some credit cards with expiration dates three years hence—the machines reading them thought they had expired in the McKinley administration.

The \$600 billion question is whether we'll fix the Bug in time. The good news is that the computer industry is finally responding to the challenge. For months now, squadrons of digital Jeremiahs have been addressing tech conferences with tales of impending apocalypse. The most sought-after is Peter de Jager, a bearded Canadian who scares the pants off audiences on a near-daily basis. "If we shout from the rooftops, they accuse us of hype," he complains. "But if we whisper in an alley, no one will listen." Last week in Boston de Jager demonstrated the rooftop approach: "If you're not changing code by November of this year," he warned, "you will not get this thing done on time—it's that simple. We still don't get it."

But we're starting to. Most major corporations now have year 2000 task forces, with full-time workers funded by multimillion-dollar budgets, to fix a problem that their bosses finally understand. They're aided by an army of consultants and specialized companies. Some, like Data Dimensions, offer full Y2K service, providing tools, programmers and guidance. Others, like Peitus, sell special software to help find offending code and, sometimes, even convert it. (The final, most arduous stage, testing, still defies automation.) These firms are the new darlings of Wall Street. But buyer beware—consultants are coming out of the woodwork to exploit the desperation of late-coming companies.

Someone might promise a phalanx of brilliant programmers to fix the Bug, but "for all you know, it could be 10 people in a garage doing it by hand," says Ted Swoyer, a Peritus exec. Still, the creation of a Y2K-fixing infrastructure is encouraging.

It's not uncommon to find gung-ho efforts like the one at Merrill Lynch: an 80-person Y2K division working in shifts, 24 hours a day, seven days a week. It'll cost the company \$200 million, a sum that could hire Michael Eisner and fire Mike Ovitz. "Our return on investment is zero," says senior VP Howard Sorgen. "This will just enable us to stay in business."

So maybe we're not in for a full-scale disaster. Let us assume—oh God let it be true—that those in charge of life-sustaining applications and services will keep their promises to fix what needs fixing. The costs and liabilities of not doing so are too huge not to. (On the other hand, when did you last see a huge software project that met its deadline and worked perfectly? Just asking.) Still, there will almost certainly be severe dislocations because of the mind-boggling enormity of the problem.

Even the most diligent companies don't have total confidence they can fix everything. Consider BankBoston, the 15th largest commercial bank in the United States. Early in 1995, the company realized that "it was a problem that could bring an institution to its knees," says David Iacino, who heads the bank's Team 2000. To stop a meltdown, BankBoston has to probe 60 million lines of code, the harder BankBoston works at solving the problem—it now has 40 people working full time on it—the more complicated it seems. "Every day, when we see something new we haven't thought about, we get additional angst," said Iacino.

Of the 200 BankBoston applications that need revamping, only a handful have been completed so far. BankBoston is now separating the essential work from the non-critical, and if the Bug causes less dire problems, like the heavy vault doors swinging open on New Year's Eve, it'll just cope: "Vaults are physical things," says Iacino. "If push comes to shove, we can put a guard in front."

Now, if BankBoston, which started early and has been driving hard, is already thinking triage, what is going to happen to institutions that are still negotiating in the face of a nonnegotiable deadline? The Gartner Group is estimating that half of all businesses are going to fall short. "There's still a large number of folks out there who haven't started," says Matt Hotle, Gartner's research director.

As businesses finally come to terms with the inevitable, it's going to be panic time. In about a year, expect most of the commercial world to be totally obsessed with the Bug. "Pretty soon we have to just flat stop doing other work," says Leo Verheul of California's Department of Motor Vehicles.

But no amount of money or resources will postpone the year 2000. It will arrive on time, even if all too many computers fail to recognize its presence.

"It's staggering to start doing mind games on what percentage of companies will go out of business," says Gartner's Hotle. "What is the impact to the economy of 1 percent going out of business?" Or maybe more: Y2K expert Capers Jones predicts that more than 5 percent of all businesses will go bust. This would throw hundreds of thousands of people into the unemployment lines—applying for checks that may or may not come, depending on whether the government has successfully solved its Y2K problem.

What is the U.S. government doing? Not enough. "It's ironic that this administration that prides itself on being so high tech is not

really facing up to the potential disaster that is down the road a little bit," says Sen. Fred Thompson. If Y2K indeed becomes a calamity, it may well be the vice president who suffers—imagine Al Gore's spending the entire election campaign explaining why he didn't foresee the crisis. (Gore declined to speak to NEWSWEEK on Y2K problem).

Here's the recipe for a federal breakdown: not enough time and not enough money. While the Office of Management and Budget claims the problem can be fixed for \$2.3 billion, most experts think it will take \$30 billion. Rep. Stephen Horn held hearings last year to see if the federal agencies were taking steps "to prevent a possible computer disaster," and was flabbergasted at the lack of preparedness. His committee assigned each department a letter grade. A few, notably Social Security, were given A's. (The SSA has been working on the problem for eight years and now has it 65 percent licked; at that rate it will almost make the deadline.) Those with no plan in place—NASA, the Veterans Administration—got D's. Special dishonor was given to places where inaction could be critical, yet complacency still ruled, like the departments of Labor, Energy and Transportation.

State governments are also up against the 2000 wall. California, for instance, finished its inventory last December and found that more than half of its 2,600 computer systems required fixes. Of those, 450 systems are considered "mission critical," says the state's chief information officer John Thomas Flynn. These include computers that control toll bridges, traffic lights, lottery payments, prisoner releases, welfare checks, tax collection and the handling of toxic chemicals.

As bad as it seems in the United States, the rest of the world is lagging far behind in fixing the problem. Britain has recently awakened to the crisis—a survey late last year showed that 90 percent of board directors knew of it—but the head of Britain's Taskforce 2000, Robin Guenier, worries that only a fraction really understand what's required. "I'm not saying we're doomed, but if we are not doing better in six months, I really will be worried," he says. He expects the cost to top \$50 billion. On the Continent, things are much worse; most of the information-processing energy is devoted to the Euro-currency, and observers fear that when countries like Germany and France finally tackle 2000, it might be too late.

Russia seems complacent. Recently Mikhail Gorbachev met with Representative Horn in Washington, expressing concern about how far behind Russia is in dealing with the Bug; Gorbachev raised its possible impact on the country's nuclear safeguards.

The list can go on, and on and on. "It's like an iceberg," says Leon Kappelman, an academic and Y2K consultant. "I would certainly be uncomfortable if Wall Street were to close for a few days, but I can live with that. But what if the water system starts sending water out before it's safe? Or a chemical plant goes nuts? Anybody who tells you 'Oh, it's OK' without knowing that it's been tested is in denial."

It's tough out there on the front lines of Y2K. And in less than a thousand days, it might be tough everywhere. "There are two kinds of people," says Nigel Martin-Jones of Data Dimensions. "Those who aren't working on it and aren't worried, and those who are working on it and are terrified."

Tick, tick, tick, tick, tick.

MILLENNIUM BOMB TICKS AWAY

(By Alan Cane)

Staff at a Scottish bank, curious to know what effect the millennium date change would have on their systems, turned the

clock on their mainframe computer forward to a minute before the turn of the century—and watched.

At first, the system continued to process financial records as before. Then, as time ticked on, the bankers realised that the figures made no sense. It took some time for older staff to realise what was happening. The machine had assumed it was working in 1900 and was calculating in pounds, shillings and pence, the denominations replaced by the present decimal system in 1971.

(Do not try that this at home. Your personal computer might crash or destroy information held in programs which rely on dates.)

The "millennium bomb" is the consequence of the computer specialist's habit of storing the year in a date as two, rather than four, digits—97 rather than 1997. It was a way of saving space when computer memory was expensive. Few programmers expected systems written many years before the millennium to be in use after it.

The result? "Never in human history have we shot ourselves in the feet so badly," says Mr. Brad Collier, a director of Millennium UK, a consultancy which specialises in the problem.

Nobody who has investigated the problem has any doubt that it is serious and complex and will touch the lives of virtually everyone. In the UK, the normally unemotional National Audit Office, the public spending watchdog, has warned that unless government systems are modified in time, salaries might not be paid, invoices might not be issued, collection of taxes could be put at risk, defence systems could malfunction and inaccurate hospital records could be created.

While the government is taking urgent steps to ensure that its systems will work after 2000, the NAO detected some indications that its programme was slipping behind schedule. Computers and software fresh out of the box today are as likely to fail a 2000 compliance test as older systems, so ingrained is the habit—which persists—of writing the year as two digits.

Then there is the problem of "embedded processors". These are silicon chips which control everything from traffic lights and medical equipment to power stations and electronically guided weapons. They may or may not be affected by the date change—the lack of information is a serious hindrance.

If hospital radiation equipment were affected, for example, it might deliver inaccurate doses or close down completely. Sir Robert Horton, the chairman of Railtrack, the company responsible for the UK's railway infrastructure, told a seminar this year that embedded systems could affect lifts, access controls, switchboards and facsimile machines.

Mr. Robin Guenier, head of TaskForce 2000, the unit set up by the government to raise awareness of the problem, says it is already too late to solve the problem in its entirety. But he counsels against despair or panic.

Yet it is important to realise that while fixing the millennium bomb is not technically difficult, it is tedious, time-consuming and detailed.

As a first step, it is sensible to protect your job by asking your employers what steps they have taken to deal with the problem. The next step is to protect your savings and investments by asking these same questions of your financial services companies—banks, pension funds, brokers and so on. Only if they show no signs of understanding what you mean should you take extreme steps, such as withdrawing your funds. ●