The Millennium Bug, Part II: Separating Fact from Fiction

Michael Devitt

Last month, I wrote an article about a computer glitch called the "millennium bug," also known as the "year 2000 problem" or "Y2K" (see the January 1, 1998 issue of *DC*). Since that time, I have received numerous calls and e-mails from chiropractors and others asking about the problems the millennium bug may pose. Will it crash my computer? Do I have to buy new software? Just how will it affect me? To help put some of these fears to rest, let's revisit the millennium bug and explore some of the common myths that surround the situation.

Myth #1: There Is No Millennium Bug.

In an interview with Computer World magazine last year, David Starr, the chief information officer at Reader's Digest, called the year 2000 problem "the biggest fraud perpetrated by consultants on the business community since re-engineering."[1] He's not alone in that thinking; many skeptics claim the Y2K problem is merely a hoax created by information services departments to expand their budgets and upgrade their computer systems.

The Reality: Of Course There's a Millennium Bug!

Admittedly, many consultants and pessimists have overstated the complexity of the problem and the financial damage it may cause. The fact remains, however, that it is a real problem and that it does need to be fixed. Most organizations are discovering that getting organized to attack the Y2K problem is the most time-consuming part. Raymond Long, who oversees millennium bug operations for the Federal Aviation Administration, admits, "The biggest problem is that we don't know how big the problem is."[2]

Still, there are some organizations that have yet to begin work on the millennium bug. For instance, a representative at the Bank of America told of attending a Y2K conference late last year and meeting the head of information systems (IS) for a state department of motor vehicles. The IS manager had never heard of the millennium bug and had no idea whether or not to be concerned.[3]

Thanks to the amount of coverage the millennium bug has received, the chances of such a situation as the one mentioned above occurring are highly unlikely. Nevertheless, if you're worried about the problem, the best thing to do is ask questions. If your bank hasn't begun to assess the millennium bug, you may want to consider transferring your accounts. I'd recommend you also make inquiries with your utility, phone, and credit card companies, or anyone else who sends you a bill on a regular basis.

Myth #2: Someone Will Devise a "Magic Bullet" to Fix the Problem.

Some software companies are already trying to sell quick solutions to the millennium bug. These manufacturers claim that their programs will automatically find every instance of a date field in a given program, and then change it accordingly.

The Reality: No One Tool Will Fix the Problem

If there's one thing that the optimists and the prophets of doom agree on, it's that there is no way a single tool can solve all of the millennium bug's problems on a given system. There are several reasons for this belief. First of all, while programs written in the COBOL language are the biggest offenders with the Y2K problem, they are by no means the only ones. Every application in every programming language must be checked for two-digit dates. It's simply impossible for any one tool to accomplish this task.

In addition, when some older programs were written, programmers sometimes did not label date fields logically if at all. If a date field is not labeled, an automated tool cannot catch that field and change it. Furthermore, some date fields that are labeled are not formatted in the same way. Does the day come before the month or after? Is the year entered first or last in the field? Cases like these make it necessary for human logic to play a part.

In many situations, it will still be necessary for computer programmers to get their hands dirty with the program codes that they'll be changing. As Nick Magri of the Securities Industry Automation Corporation says, "We are using outside packages that scan the code and tell you where it thinks you're using a date. But even after it finds everything, we still have to go through it line by line to be sure."[3]

Myth #3: The Beginning of the Century Will Bring About a Technological Apocalypse

Depending on who you listen to, the millennium could be the beginning of the end of modern society. Among the gloomier accounts being foretold, the stock market will crash; banks will close as people withdraw their money; airplanes will fall from the sky; elevators and ATMs will malfunction; and the nation's entire energy and transportation systems will grind to a halt.

Even those with some knowledge in the field can be fooled by what they hear. A survey conducted on the comp.software.year-2000 newsgroup asked 39 programmers, each with an average of 17 years experience, to rate to potential weight of the millennium bug on a scale from 1 (no problem at all) to 5 (total economic collapse). The average response: a frightening 3.96.[3]

The Reality: The Millennium Bug Will Have Little Impact on the Nation's Vital Systems

Yes, the Y2K bug is a real problem, is widespread, and needs to be fixed. However, most of the country's crucial organizations expect to have the critical portions of their systems repaired or replaced in time.

Currently, the federal government has given no indication that any of their computer systems will fail on January 1, 2000. Sally Katzen, director of the Office of Management and Budget for President Clinton, she oversees the millennium bug problem for 24 different federal agencies and doesn't foresee any problems occurring at the turn of the century. "We have a high degree of confidence that the important services and benefits will continue through and after the new millennium," says Katzen. "It is my expectation that when we wake up on January 1 in the year 2000, the millennium bug will have been a nonevent."[3]

Many utility companies are also beginning to tackle the problem head on. Pacific Gas & Electric has been working on the millennium bug since 1995 and expects to have its programs fixed by the end of this year. If the bug were left untouched, problems might occur with billing systems, compliance schedules and maintenance schedules. But since Pacific Gas already has a team assembled to correct the problem, nobody from the utility expects the bug to have an effect on

power.

The area making the most progress in combating the millennium bug is the financial sector. Financial programs are far more likely to use dates in calculations than other software packages. And since most everyone in the financial industry is aware of how interdependent their organizations are, many financial institutions are under both internal and external pressure to fix the problem. As Bob Lynne of Bank of America said, "We're making every effort to see that our business partners -- banks and financial services companies -- are aware of the problem, know what they will do and know how their systems will work with our systems."[3]

Myth #4: Your Personal Computer Won't Work Anymore

It has been reported by some sources that up to 90 percent of the world's existing computers will simply cease to function at the start of the new millennium. Meanwhile, others predict that when the clock strikes January 1, 2000, many PCs will be confused with the new date and reset their internal clocks to some arbitrary date, like January 1, 1980.

The Reality: Very Few Computers Will Crash

Most computers will have no problems whatsoever with the new date. For instance, all Macintosh computers are designed to be accurate until at least the year 2040. The latest models are designed to last another 28,000 years before such a problem arises.

As for DOS and Windows-based computers, most of the PCs manufactured today won't have a problem. However, some older machines may have trouble recognizing the year 2000 due to problems with the CMOS and the BIOS.

The CMOS is the hardware component that keeps track of the date and time on some PCs when the machine is turned off. The BIOS provides the basic instructions for controlling a system's hardware and other functions. Working together, the two programs help fill in dates where they're needed, such as your computer's clock or desktop calendar.

Often, the CMOS has space for two-digit dates only, so when you start your computer the CMOS might send two-digit date information to the BIOS. Although most new BIOS setups will automatically make the correction from 00 to 2000, some could misinterpret it as 1900 and send this incorrect date to the operating system. DOS, the basic operating system used in most PCs, doesn't even recognize the year 1900, so if the BIOS feeds it that date, it will simply reset the machine to some arbitrary number.

There is some good news. If this problem occurs, it should be easy to fix. Using the DOS date command, all you'll need to do is reset the date to include the four-digit year 2000. DOS will tell the BIOS what century it is, and the computer will store it properly from then on, no matter how many times you reboot your machine. For those of you who upgrade your operating system to Windows 98, you won't even have to worry about that problem, as the upgrade will automatically detect and fix the millennium bug.

Myth #5: Your Personal Computer's Software Won't Work Anymore

Most of the fuss surrounding the millennium bug has centered around mainframe computers that use the COBOL language. Some users believe that once the millennium rolls around, many of their personal computer's applications will also stop functioning. Even if the computer's hardware and operating system are ok, financial programs, accounting applications and spreadsheet software

may not work, or they won't let users enter the correct date information.

The Reality: The Latest Versions of Most Software Programs Will Work Just Fine

Pay special attention to "latest" and "most" in that headline.

According to an article from News.com[3], software vendors have already stated that some early versions of their accounting and financial software packages -- such as the early versions of AccountMate Professional, Simply Accounting, and the early DOS versions of Lotus 1-2-3, Quicken and Peachtree -- will not work in the year 2000 and beyond.

As for chiropractic software, we have not yet heard of any problems relating to the millennium bug. However, for your convenience, we have listed the names of the most common chiropractic software manufacturers, as well as their products, phone numbers and e-mail addresses, so that you can contact them for more information personally.

Manufacturer	Product	Phone #	E-mail address
Addison Health Systems	The WritePad	(800) 496-2001	N/A
Arkan Software	Schedule and Appointment Maker	(501) 925-7700	arkansoftware-arkansasusa.com
Claken Software	DC PowerNotes	(800) 835-3217	claken-apci.net
DB Consultants	AS/PC ASPCWIN	(610) 847-5065	dondbc-dbconsultants.com
EON Systems, Inc.	The Practice	(800) 955-6448	eonsys-serv.net
Solution E-Z Bis, Inc.	EZVIEW, Entry	(800) 445-7816	info-ezbis.com
Level System (ELS)	TravelPad		
Hixson Healthcare	Auto-Doc	(800) 381-3001	sales-auto-doc.com
Individual Software	Anytime Deluxe	(800) 822-3522	pswart-individualsoftware.com
Instant Access Imaging	Clinical Solutions, Imaging Solutions, Notes Solutions, X-Ray Solutions	(913) 859-0440	iaiiac-ix.netcom.com
K&K Systems Corp.	Practice Made Perfect	(516) 462-5585	kksystems-ph.com
Life Systems Inc.	ChiroPad, ChiroPlus+	(800) 543-3001	sales-chiropad.com
Office MacEssentials	AccountMaster -- Chiropractic	(800) 658-3899	macessen-daknet.com
Med-Data Systems, Inc.	The Computest Programs	(609) 751-8080	meddata-wave.lm.com

Medisoft Accounting	Medisoft Advanced, Medisoft Patient	(800) 333-4747	N/A
Microfour, Inc.	DCEZ	(800) 235-1856	m4jlb-msn.com
MPN Software Systems	Eclipse	(800) 966-1462	sales-hna-inc.com
Physicians Software Notes Express	Notes Express	(800) 542-4476	notesexpress-proaxis.com
Perpetual Software Corp.	Inception	(800) 241-8944	perp-mindspring.com
Physician Computer Network	PCN Health Network	(201) 490-3152	infoline-pcn.com
Phoenix Health Corp.	Phoenix Patient Records, Phoenix Appointment Scheduling	(410) 277-8900	mark-phoenixhealthcorp.com
PracticeWare	Chiro Printware	(800) 781-9121	N/A
ProGroup Sales	ProGroup Software	(800) 767-3117	N/A
Quick Notes, Inc.	Quick Notes	(954) 370-9700	sales-qnotes.com
Raintree	Raintree Systems	(800) 333-1033	www.raintreeinc.com
RX Proof -- Caires	RXProof	(808) 538-0211	rcaires-juno.com
Chiropractic Clinic Safeguard Interactive	netTape	(412) 415-5200	info-sgii.com
Software Innovations	Ordertrak	(617) 862-1846	dbrosen-compuserve.com
SpectraSoft, Inc.	SpectraSoft	(800) 889-0450	info-ssoft.com
SumTime Software	SumTime	(504) 949-6463	sumtime-sumtime.com
Tess Data System, Inc.	Tess Manager, Tess System Three	(281) 440-6943	N/A
Transworld Systems Inc.	CDIS (Collection Data Input Systems)	(707) 584-4225	marieg-transworldsystems.com
Time Value Corp.	Document Plus	(800) 642-0600	N/A
Tracker Software Inc.	Tracker 2, Tracker Contact 97	(800) 925-9950	sales-tracksoft.com
Trillium Technology, Inc.	Chiropractic Appointments	(800) 722-6872	N/A

ProScribe

As always, we welcome your comments. If you have any questions regarding the millennium bug or the programs mentioned in this article, plase contact me at the phone number or e-mail address listed below.

References

1. Scheier RL. IS chief: Year 2000 a fraud. Computer World, July 7, 1997.
2. Eight myths about the millennium bug. Available from C/Net News ([url=http://www.news.com]http://www.news.com[/url]).
3. Ibid.

Michael Devitt
Huntington Beach, California
Tel: (714) 960-6577
Fax: (714) 536-1482
Editorial-DCMedia.com

FEBRUARY 1998