THE YEAR 2000 MILLENNIUM BUG

Impact of the Millennium Bug on the Value of Businesses

December 31, 1999 in the Western Calendar
Tevet 22, 5760 in the Jewish Calendar
November 25, 1999 in the Chinese Calendar
Ramadan 23 1420 in the Moslem Calendar
2752 Years since the Founding Of Rome

is

One Deadline Business Cannot Afford To Miss

And Means
Lots of Work for Lawyers

There Are Only 641 Days To Go

"This time we cannot afford to be late. This has a whole different set of circumstances from anything we've dealt with before: 'Worldwide, businesses and governments aren't displaying the sense of urgency that this situation demands."

> "NASA discovered last year that almost two-thirds of 61 personal computers at a research centre near Cleveland didn't have the right stuff. And, the Nuclear Regulatory Commission found that 600 Pentiums failed the Year 2000 test."
> *Peter De Jager, The Year 2000 Information Centre*

The Year 2000 Millennium Bug

Precis

This paper deals with the impact on the Value of a Business of the Data Processing time bomb known as the "Millennium Bug". This is likely to affect nearly all businesses and governments throughout the world. After discussing "Executive Denial" of the problem and the actions lawyers may take in these circumstances, it then refers to "Management and Accounting Issues" and the "Attitude of Securities Regulations". The next sections cover Costs, as well as the Impact on the Economy, Industries, Banks, and Businesses. These are followed by "Ten Sets of Questions for Valuators" and finally the "Impact on the Value of a Business".

Previous Millennia

There are only two precedents.
- The Thousandth Anniversary of the Legendary Founding of the City of Rome
- The Year 1000

The thousandth anniversary of Rome took place in 248 AD. The dawn of a new age in which Rome would be freed from the "barbarian menace" was celebrated with pageants and prayers. Free wheat, barley and beans were distributed to the crowds. The Emperor Decius was so pleased that he decided to mark the achievement by unleashing the first empire-wide persecution of Christians.

The practice of numbering years consecutively throughout the Christian era, which was only introduced in the sixth century, was not yet universal a thousand years ago. In early 998, unlike today, most of the world had no idea that a millennium was drawing to its end. A monk reported that "the World Order was disturbed by various troubles" as the earth "with one accord shook off the tatters of Antiquity", while the Abbott of Fleury preached a sermon in Paris that predicted the coming of the Antichrist in the year 1000.
- One view of the millennium bug is that the antichrist (computer version) has finally arrived.
- Others might say that El Nino is "disturbing the world order with various troubles."
- Everyone here today is suffering from PMT (pre-millennial tension)
- Most Canadian firms are sitting on a data processing time bomb

A survey of 2000 firms regarding the Year 2000 made by Statistics Canada in December 1997 showed that:
- 90% were aware of technical problems that could arise
- 92% of larger firms were addressing the issue in some way
- 48% of them had formal plans to do so
- 57% of larger firms were AT RISK
- 60% of smaller firms were taking NO ACTION
- 13% of the sample are examining the preparedness of partners, suppliers and customers
- 82% of those aware of the problem, believe they have NO POTENTIAL LIABILITY

"I would say right now we're at a very low level of preparedness. "
Jean Monty, Chairman, Task Force 2000

Just like 80% of all software projects, those dealing with the Millennium Bug are bound to be

LATE AND OVER BUDGET.

Governments As Well

The Federal Government does not have things under control. There will be up to $1 billion of work for approved contractors from the following departments on the Year 2000 critical list.

- Canadian Food Inspection Agency
- Canadian Security Intelligence Agency
- Citizenship & Immigration
- Communications Security Establishment
- Correctional Service
- Defence
- Finance
- Environment Canada
- Fisheries & Oceans
- Foreign Affairs
- Health Canada
- Human Resources
- Indian Affairs
- Natural Resources
- Justice
- Public Works
- Revenue Canada
- Transport
- Veterans Affairs

Programmers in Denial

Computing Canada magazine, December 22, 1997

Executives in Denial

Computing Canada magazine, December 22, 1997

Many CEOs Are "Internots"

- An Internot is a closet Luddite.
- They represent about 40% of business leaders and are still in denial.
- They think that the Year 2000 problem is HYPE or a way for consultants to make money.
- Lots of them believe their business is safe.
- Even if their firm has no problems they may be on the Titanic, due to other's failure to comply; they won't realize it until they discover they are knee-deep in water.

Things a Lawyer Can Do for an Internot Client

- Educate him as to the scope and complexity of the problem.
- Have the auditor describe the impact on the Company's sales and profits of the Company if nothing is done.
- Ask him to find out what competitors are spending on the issue.
- Talk to members of Management or others in the Company that understand the issue and have them lobby him.
- Send newspaper articles that quote Year 2000 experts to him.
- Deliver a letter to all the Directors and Officers warning them about the legal issues and potential lawsuits if major losses are incurred due to failure to attend to the Millennium Bug.
- Gain his commitment as executive sponsor of the Year 2000 Compliance Project.

Based on "Twelve Steps to Recovery by Executives in Denial About the Year 2000 Issue," Sandi Smith, The CPA Letter, November 1997.

One Solution

I recently received an invitation from the U.S. to the Taipan Millennium Society Ball. This contained the following statement:

> "A number of members have voiced their concerns about the timing: They wouldn't want to be caught some place far away from home when the date fields in the air traffic control programs switch to "00"."

That's why the Ball will be held in November 1999!

How Did the Millennium Bug Happen?

In the early days of computing, when memory and storage was expensive and input was through 80 column punched cards, a necessary but problematic standard for date recording evolved.

The century value was dropped saving two columns and several bytes for every one of the numerous dates in most programmes. Programme logic was built around an implied value of 19XX.

This works fine until a date in the next century is encountered. In the 1960s, 1970s, and even 1980s most programmers believed that the then current systems would be replaced long before the Year 2000. Sometimes it was even 196X!

Nearly Everybody is Still Using These Legacy Systems

The 19XX approach has been used not only in Software, but in a lot of Hardware such as BIOS and other items using many Programmable Logic Chips.

If the problem code or chip is not corrected for the Year 2000, the Logic assumes a year value of "1900" when processing any data. This incorrect assumption will either:
- cause the programme to crash, or
- quietly corrupt databases with errors.

The problem has already started to show up for people with credit cards expiring in 2000. Many merchant systems in the U.S. and some in Canada will not approve such a card; this happened to me with my TD VISA card in Maine in January 1998.

Visa states that over 90% of its merchants now have Year 2000 compliance systems. However, the declining numbers that don't are enough to make it annoying.

The Potential for Disaster is Considerable

- Systems may CRASH
- Sorting may be INCORRECT
- Aging of balances may be MEANINGLESS
- Calculations may be INACCURATE
- Databases may be CORRUPTED
- Backups may be OMITTED

The Millennium Bug Creates Major Problems for Many Business Processes

- Automated cheque processing
- Accounts receivable collection
- Electronic Data Interchange
- Budgeting & Forecasting Programs
- Security systems
- Fax machines
- Process control
- Databases

Management and Accounting Issues

- Is a "going concern assumption" still valid?
- How are the Year 2000 costs to be recorded?
- What Government reporting is required?
- Have the Securities Regulators' requirements being met?
- Can any Lender required "Statement of Compliance" be supplied?
- Is there any possible Personal liability of the Directors for negligence?

Position of Securities Regulators

Canada

In January 1998, The Canadian Securities Administrators issued a notice requiring Management of public companies to tell their shareholders:

- What they have done to identify the extent of Year 2000-related problems within the Company.
- What has been done to identify the extent of such problems with their suppliers, customers, lenders and borrowers.
- The details of their Plan to deal with the millennium bug, including: identifying which systems will be replaced and which will be modified, a timetable for repair and testing, and current and expected costs.
- The Plan's progress, including how closely activities are sticking to the schedule.
- Any factors that could prevent the Company from successfully completing its Plan, consequences of such failure and nature of any contingency plans.

The Toronto Stock Exchange requires this information to be included in Annual Reports of Companies listed on it that are mailed between April 1 and December 1, 1998. The Vancouver and Alberta stock exchanges are implementing similar rules. Companies that refuse to comply with the TSE rules could be delisted and face fines of up to $1 million.

United States

According to "Deloitte & Touche Review - July 7, 1997, the U.S. Securities and Exchange Commission has concluded that its "current disclosure rules (such as those required in the Management's Discussion and Analysis and Description of Business sections of annual and quarterly reports) should supply sufficient information about the impact of "Year 2000 processing problems" on public companies' operation and costs.

Disclosure in MD&A - An Example

In 1996, Equifax expensed about one cent per share to modify computer software for compliance with Year 2000 as required by the FASB Emerging Issues Task Force Issue No. 96-14. Year 2000

expenses will continue to impact results in 1997 (approximately $.04 to $.05 per share) and 1998, as Equifax plans to be Year 2000-compliant in advance of the millennium. The amount and timing of these expenses may vary as current estimates are refined.
http://www.equifax.com/investor/ar96/docs/forward.html
(current link: http://apps.shareholder.com/sec/viewerContent.aspx?companyid=ABEA-32806R&docid=1263687)

The Domino Effect

Every business is part of a web of inter-relationships. First with customers, then with suppliers, lenders, insurers, utilities, and so on. Many of these dependencies are not as big or as obvious as a supply chain or banking relationship. However, having blind faith and assuming that each of the services you depend on, such as your building's security system or the office PBX, may have disastrous consequences.

None of these dependencies appear in the millions of lines of computer software code that are being scanned, fixed, replaced and tested. To understand the risks, the business must undertake a "Year 2000 Dependency Review". This investigates the firm's reliance on every supplier, whether for a product, a business process, a technology component, or the physical environment.

From the investigation, the Company should develop a model which will display exactly how each of its system depends on other entities in the organization, as well as those outside it. This should link business processes with every software program and item of operational equipment. Most Year 2000 methodologies do not adequately address this issue as they concentrate on the essential solving of the software problems.

Many businesses are also part of a complex "Delivery System" comprising Suppliers, Manufacturers, Distributors, and Retailers. These will be as strong as their weakest link

What will it Cost?

The Gartner Group, a respected US computer information firm, estimates:
- The total cost of enhancing systems worldwide to process Year 2000 data will be between US $400 billion and US $600 billion.

To put this in perspective, it is about the cost of the Vietnam War. Statistics Canada estimates $12 billion for Canada.
- Between 60% and 90% of all computer applications are affected.
- The cost of the COBOL code, the most common computer language for Legacy Systems is from US $0.50 up US $2.00 a line.

The Year 2000 Millennium Bug

The Bank of Montreal is reported to be spending $125 million (US $0.95 a line) to fix its 98 million lines of computer code.

- The cost per line of Client/Server code from US $2.00 up to US $4.50 a line.
- The maximum a programmer can renovate is 100,000 lines of COBOL code in a year.
- A factory team, with proper tools, can handle up to a million lines a quarter.
- In the U.S., consulting fees and the price to correct a line of code are expected to increase by about a third between the first and last quarters of 1998, and by a similar amount in 1999.
- Companies can "finish the job" 30% to 50% faster if the CEO "owns" the problem.

Not Only Accounting Systems are Susceptible

Information Week, December 8, 1997, quoted Brian Wengentroth, a VP of Booz, Allen & Hamilton, ON a large U.S. oil company that recently installed an SAP Accounting System and thus "assumed that they did not have a problem."

While the Company was testing some of the equipment in its refineries, engineers inadvertently discovered a host of new problems. "Thousands of terminals that control the [flow] of oil have old chips with a Year 2000 problem."

"The chips all need replacing, but the new chips won't fit on the old motherboards," Wengenrogth notes. "And the new motherboards don't fit the old valves, so all the valves have to be replaced, too." If the Company doesn't solve these problems, it soon won't be able to deliver oil to its customers.

Other potential trouble areas include: phone systems which may crash due to "bad BIOS date" problems; voice mail systems with inaccurate time recording and failed backups; Universal power supplies; laboratory equipment; N/C (numeric control) machine tools, and so on.

The 1999 Problem

As well as the Year 2000 Problem, there is also the Year 1999 Problem. For over 40 years, programmers have commonly used "99" as an indication of "end of run". This means that a computer reading such a date, might interpret it as an instruction to shut down the particular program. Most companies operate on a calendar fiscal year, but many companies, such as retailers, have already started fiscal years ending in 1999. Some of these will undoubtedly suffer from the 1999 Problem.

However, the major risk will come in July 1998, when most of the US states start their fiscal year ending June 30, 1999. It is almost inevitable that some States will suffer a well-publicized computer shutdown as a result of the 1999 Problem.

The Year 2000 Millennium Bug

Impact on the Economy

Computer World Canada magazine, January 16, 1998, reported:

> "The failure of end user organizations to deal with the looming Year 2000 crisis will induce a worldwide recession starting about 18 months from now, warns the Millennium Investment Corp. of Chicago."

The firm predicts a general disruption in the ability of businesses to conduct day-to-day operations by 1999, both because some companies do not have sufficient time and resources to become compliant and because even those firms which achieve compliance must interoperate with less-diligent partners, suppliers and customers.

Dennis Grabow, Founder & CEO of Millennium stated:

> "This will be the most significant wealth transfer event of the twentieth century. It is bigger than the airplane, electricity, the computer itself, even globalization because it is all going to happen in the next two years."

> "The Year 2000 Problem is going to precipitate a great deal of Merger and Acquisition activity and a lot of industry restructuring. Companies which move fast towards compliance will be in a strong competitive position to consolidate their industry."

Sherry Cooper, Chief Economist, Nesbitt Burns Inc., commented:
> "It's really a time bomb, the size of the problem is mind boggling. My biggest concerns are the airlines and air traffic movements in general, especially in smaller markets around the world."

The Business Week View

In its issue of March 2, 1998, BUSINESS WEEK set out the results of an analysis of the effect on the US Economy of the Millennium Bug, prepared for it by Standard & Poor's, DRI. This stated that the US growth rate in 1999 will be 0.3 percentage points lower than expected as companies divert resources to fix the problem. It could also cut half percentage point off the growth in 2000 and early 2001; that would give it the same impact as the expected economic damage from the turmoil in East Asia.

Not only do they expect growth to be reduced, but, starting in 1999, that inflation will be higher and productivity gains lower as every company that uses computers has to divert money and skilled staff into dealing with the problem.

The Year 2000 Millennium Bug

The magazine uses the analogy of a town threatened by a rising river. Most of the able bodied people, no matter what their job, are needed to fill and stack sand bags, while economic activity in the rest of the town slows down. To deal with the Millennium Bug, experienced programmers and computer science PhDs are forced to undertake absolutely essential but economically unproductive labour.

The BUSINESS WEEK/DRI estimates assume that 85% of all software programs will be fixed or replaced by December 31, 1999. The magazine admits that this may be optimistic as a December 1997 survey indicated that two out of three large US companies did not yet have detailed plans to address the Year 2000 problem.

We believe that the magazine is indeed optimistic as the US, especially the financial institutions, appear to be not in as good a position as Canada, where, at the same time, 48% of larger firms had formal plans to deal with the problem.

Edward Yardeni, Chief Economist at Deutsche Morgan Grenfell Inc., an investment bank, is quoted as seeing a 40% chance of a sharp downturn.

> "One way that could happen is if there's a major failure in the government's computer systems. Each week, the federal government sends out $32 billion in Social Security and payroll checks and payments for such mundane items as rent. Even a short delay could be a major shock to the economy."

On Feb. 6, 1998, the Defense Dept.'s Inspector General issued a report saying that the military has no assurance that it is purchasing Year 2000-compliant products, "which may seriously hamper the ability of DOD to perform its administrative and warfighting mission requirements."

Other US agencies with problems are the Internal Revenue Service, which is struggling to meet the deadline, as is the Health Care Financing Administration which handles the enormous flow of Medicare and Medicaid funds. In the worst case, the tax system and the Medicare payment system will experience severe disruptions in 2000, halting the delivery of refund and reimbursement checks.

Internationally, one of the most important US government organizations is the Federal Aviation Administration, which is responsible for serving 55% of the world's air traffic; its authority stretches from the mid-Atlantic to 800 miles east of Tokyo and south to Panama. It is far behind schedule as it struggles to update its computers and the software for the Millennium Bug, according to the US General Accounting Office. "At its current pace it will not make it in time."

IBM, who supplied many of the FAA computers, has told the GAO, it no longer has the skills or tools to evaluate the code in some of the FAA's computers managing the high altitude traffic, some of which are 25 years old. The agency has more than 23 million lines of code in 50 computer languages distributed among 250 different systems.

Impact on Industries

In its "1998 Outlook on Global Business Environment and Industry Trends," A.T. Kerney, the international consulting firm, warns that, "The Year 2000 computer problem will hit with the force of an earthquake, and when it is over some companies won't be standing."

> It predicts: "Some companies will cease to operate rather than make a substantial investment to immunize their systems against the Year 2000. We shall soon see just how dependent our lives have become on computing."
>
> "But the shakeout will present an opportunity for companies whose computer systems survive the Year 2000 test. They will become stronger by acquiring products, customers and employees from businesses that lacked the will or resources to fix their systems in time."
>
> In the book, "The Global Economic Impact of the Year 2000 Software Problem", Casper Jones estimates that "five to seven percent of medium sized businesses will go bankrupt as a result of Year 2000 problems."
> *"The CPA Letter", November 1997*

Impact on Banks

The Canadian Banks appear to be relatively good shape with respect to the Millennium Bug and we believe all of them will be compliant by October 31, 1999, their pre-millennium year ends. However, banking is a worldwide, interconnected industry and the situation elsewhere is nowhere near as good. According to an extensive survey in late 1997, by Grant Thornton, Certified Public Accountants, US community banks plan to spend an average of US $7,000 each to deal with the Bug. Only 44% of those responding had tested their vaults and other time sensitive security systems. Some of these will likely either lock out employees or spring open on New Year's Day 2000.

The Smaller US banks typically outsource check processing and other computer dependent operations and are assuming that their suppliers will handle the problem. If they don't get the problem corrected, the banks will be in trouble with the regulators; some will be forced to fold and others will be merged with little or no goodwill return to the shareholders. George R. Juncker, Vice President, Federal Reserve Bank of New York, says, "Various sources predict that from 5% to

20% of US banks will fail as a direct result of the Millennium Bug. Some just won't be open for business."

Another danger to the North American financial systems lies in their dealings with European and Asian banks, which are far behind in resolving the problem. In Europe, most banks are focussing on the enormous task of converting their computer programs to handle the Euro, a common currency that will be in force in most EU countries from January 1, 1999. Capers Jones of Software Productivity Research estimates that Western Europe will achieve Year 2000 compliance for less than 65% of the applications that need repair.

The situation in Asia may be even worse since banks in many of those countries are more preoccupied with surviving than worrying about the Millennium Bug. Philip Kozloff, a city bank executive, warns, "The Year 2000 could trigger a whole new round of country debt negotiations." As well, failure to comply by foreign banks is likely to have a serious effect on world trade.

Run on Some Banks?

Some extreme commentators believe that in 1999 depositors all over the world will believe that the bank's computers are likely to either shut down or "go haywire" on January 1, 2000, and pull their money out of the banks and mutual funds and other financial institutions; the ultimate run on the banks.

We do not think this will happen if the authorities take action and inform the world that they will force the non-compliant institutions to be taken over before M-Day

Misery of a Thousand Cuts

- Although the Millennium Bug will district Management from its daily routines, the decisions regarding compliance will, more than anything else, affect the shareholders' wealth in the future.
- Both a company's supply and customer chains will have to be re-evaluated in the light of Year 2000 compliance. Starting in Q4 1988, companies should begin switching to compliant business partners.
- Businesses must plan for substantial compliance costs, increased litigation risks and reduced insurance coverages, as well as a major reduction in growth and possibly a recession in 1999.
- In the Year 2000, we're all still going to be here, but life's not going to be as simple and wonderful as it is today.
- All governments will remain in place, but their activities may be temporarily reduced; as their ability to collect taxes and make payments will slow down. Multiplied by the

enormous number of organizations at the Federal, Provincial, State and Municipal levels, there is going to be a major impact on all economies.

- There will be lots of opportunities; there are going to be disruptions, but the people who are ready will benefit.

Every Business Will Bear Either:

- the costs of becoming compliant, or
- a loss of business from failing to be so.

The Up Side

Dealing with the Year 2000 problem, can be a catalyst for changes in Information Technology Departments and force many of them to deal with problems that they would otherwise have ignored.

Philip McLellan, Assistant Deputy Minister, Public Works & Government Services, Canada, was quoted by Computerworld Canada, October 24, 1997:

"If ever IS needed an argument for why it is important to have a common architecture and infrastructure within an organization year 2000 certainly emphasizes that benefit."

"Almost as beneficial is the fact that, by undertaking a Y2K cleanup, organizations have the opportunity to inventory their applications and "prune out" things that have lingered in IT systems, but may not be used anymore."

"In our case, we weeded out 117 applications. The reason that sounds large is we inherited four organizations only four years ago and clearly there was a lot of overlap and duplication. If you can come out of the year 2000 with a clean inventory, then at least you have a starting point for keeping and maintaining it up-to-date."

"Such inventory assessment helps to identify ownership and determine who is responsible for what. Year 2000 cleanup forces that issue."

"The effort to correct Y2K problems means engaging vendors in the conversion and providing an opportunity to test the waters on contracting or outsourcing certain IT/IS functions on a permanent basis."

"The vendor now has some built-in knowledge of your systems. It's not start up and you don't have to go through that training ramp as a result of lack of understanding."

Is Your Client Really Compliant?

Never make any assumptions about technology. Many vendors are not totally honest about their products, particularly as to their degree of Year 2000 Compliance. Programmers are highly creative and tend to take short cuts as they please. Unless management has somebody standing looking over their shoulders, there is no guarantee that the logic of any system is compliant even though the architecture may be planned to be so.

For example, even Access 2.0 from Microsoft is not fully compliant. If a user enters a two-digit year, the program automatically puts in a "19" prefix; however, if the user enters a four-digit year there is no problem.

Even if every item of software and hardware is Year 2000 compliant, the integrated system may not be so because there are a number of different ways of expressing dates. After all, Canada, the United States and Europe all use different methods. Day-month-year is Canadian, month-day-year in America, and year-month-day for Europe.

Ten Sets of Questions for Valuators

1. Has the company completed a comprehensive analysis of its Year 2000 vulnerabilities?
   - Is the organization aware?
   - Is the CEO supportive?
   - When will an inventory of all systems, activities, processes and technologies, both financial & operational be ready?
     - Have analyses been prepared of the Year 2000 compliance capabilities of all software vendors?
     - Have all "Sources & Flows of Data" been traced?
     - What are the business risks and their impact?
     - What are the technical risks and their impact?
   - Is there a Strategic Plan with detailed activities, milestones & deadlines?
     - Is the Infrastructure assessment adequate?
     - Are their detailed application work plans?
2. Has the budget and people necessary to deal with the problem being allocated for:
   - Renovation
   - Replacement
   - Work arounds
   - Phase-out
   - Infrastructure & Support
   - Finding, reviewing, revising and rewritten Source Code and software documentation
     - Work plans
     - Selection and purchase of tools

- o Code analysis & modification
- o Software upgrades
- o Unit testing
- o System validation & testing
- o Integration & Acceptance testing
- o Final Implementation
- o Verify compliance
- Connectivity and Data Interchanges

3. Have the problems of the systems been sorted in order of importance?

For which programs is the Millennium Bug?

- **Fatal**: the program completely fails to function once calculations involve dates in the new Millennium. These systems must be fixed or the business will fail to function.
- **Critical**: the program continues to operate, but some functions produce incorrect results. If these are not replaced by January 1, 2000, then the business can still continue until the solution has been completed.
- **Manageable**: the program will continue to work but it produces certain errors and inaccuracies. If necessary, the solution may be deferred.
- **Marginal**: the program continues to function without errors although it may be inconvenient for the users.

In choosing the order in which programs are to be converted or adapted, have these factors been considered as well as:

- the program's importance for continued operations
- the time frame in which it works
- the size of the program
- the resources required
- the danger of failure
- the time and resources required
  - o the need to be completed by December 31, 1998
- the key dates for order and purchasing systems
  - o the items to be postponed and fixed in 2000?

4. Are there adequate contingency plans and backup options for?

- Contract implementation
- Replacement systems
- Outsourcing

5. How effectively are the Company's business partners addressing their own vulnerabilities?

- Sole source vendors
- Major suppliers
- Distributors
- Dealers

- Foreign agents
- Key customers
- Subsidiaries
- Affiliates
- Joint ventures

6. Liabilities & Insurance
   - What are the Company's legal liabilities?
   - Are there any moral obligations?
   - Is there adequate insurance?
   - Does the fine print of the policy give the needed coverage?
   - If not, is it available? At what cost?

7. Has the situation been properly disclosed to:
   - Chief Information Officer
   - CEO
   - Other Management
   - Finance Committee
   - Board of Directors
   - Auditors
   - Bankers
   - Bondholders
   - Distributors/Dealers
   - Employees
   - Insurers
   - Lawyers
   - Major Customers
   - Shareholders

8. What are the Contingency Plans for?
   - Bankers
   - Customers
   - Operations

9. How vulnerable is the physical plant?
   - Elevators
   - Heating & Air Conditioning
   - Security
   - Vaults
   - Other systems containing embedded chips

10. Will the needed Public Services be ready?
- Air Traffic Control
- Military Forces
- Gas & Electricity
- Telephone
- Transit

Ten Reasons to Avoid the Millennium Bug

10 You want to surprise your stockholders.
9 Government will pass legislation to roll back the clock to 1900.
8 You're not the boss, you only work here.
7 Maintenance is for wimps....real managers create new systems.
6 You believe this is a plot by consultants to create a problem where none exists.
5 January 1, 2000, falls on a Saturday, and Monday's holiday - you'll have lots of time over the weekend.
4 When the time comes, you'll pay someone to do it.
3 You can afford to be without deposits (or loans for a year or two.
2 You bought a "magic bullet" from a software company.
1 You've got lots of time - it's only March 1998.

Impacts on the Value of a Business

- One-time costs of compliance
- Reduction in Sustainable Net Income
- Potential losses if other members of "The System" fail
- Possibility of not meeting December 31, 1999 deadline

Impact if this happens
- Interruptions of existing relationships
- Possibility of a recession
- Need to maintain bank support
- Potential litigation and other liabilities
- Available insurance coverage
- Increased Risks
- Higher Interest Rates
- Lower Capitalization Rates