

Army Takes Aim At The Millennium Bug

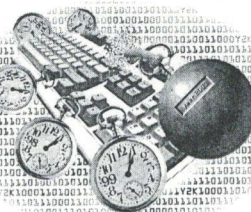
BY MAJOR TIMOTHY C. GREEN, CD, PENG.

The Millennium Bug either is or is not a tremendous problem depending on who is speaking. There has been increasing doom and gloom in the press about the devastating effects that Y2K will have on society. There have also been dissenting views saying that Y2K will be a minor inconvenience at most, and that the dire predictions have been greatly exaggerated. The real answer probably lies between the two extremes but varies from one organization to another. Without a very close look at the specifics, one cannot be too sure.

Land Force Western Area (LFWA), of which the headquarters is in Edmonton, covers all the Army between Vancouver Island and Thunder Bay. This includes 13,000 civilians and soldiers. It also includes weapons systems of all complexities, buildings, vehicles of many different types, software, office automation systems and networks as well as other items that are potentially Y2K-affected. To determine that every possible item in LFWA is Y2K compliant and fix those that are not would be a massive undertaking, and time is

Canada. Most of the rest of LFWA assets remains a local responsibility. Computer and communication networks and building control systems are of particular concern.

The first step in the TCP program here was to sensitize everyone to Y2K impacts and make an inventory of equipment that is potentially affected. A group of outside consultants assisted in this process and rolled the results up nationally. Since there may be common types of equipment with common solutions in widely separated locations, having a



central view of the inventory cuts down duplication in effort in testing for Y2K effects and developing solutions. At the local level, commanders made a decision at this point what is very important (what must be fixed first) and what is less important (what can wait until later).

Operational Readiness
Simultaneously with the TCP, the Operational Readiness Program (ORP) took place. The CF has a number of well defined missions. From these, experienced staff chose those missions that were absolutely critical, and developed scenarios from them. Instead of being driven by the hardware or software perspective, the ORP is driven by these critical scenarios. Again, with assistance from outside consultants, staff from units worked chronologically through the scenarios identifying all potentially affected systems that were involved. If all the systems so identified are or can be made Y2K-compliant, then we can be (fairly) confident that we can in fact accomplish those critical missions.

COMPUTER AND COMMUNICATION NETWORKS AND BUILDING CONTROL SYSTEMS ARE OF PARTICULAR CONCERN.

If the TCP is the horizontal component of the Canadian Forces' Y2K problem, then the ORP is the vertical component. The points where these two initiatives cross are the software and hardware that are indeed the highest priority and should be done first. The overlapping nature of the two programs helps to ensure that nothing gets missed.

For example, the TCP looked at cargo vehicles, at the gas pumps used to fuel them, at the environmental controls in the buildings where they are stored and maintained, and at the computer system

used to dispatch and schedule repairs. The ORP and the scenario of the Great Calgary Ice Storm of January 2000 confirmed that the vehicles, gas pumps, buildings, and computers are indeed critical. But they indicated that the just-in-time delivery of fuel from outside suppliers is also critical, as are the electrical and natural gas utilities for the building, and the telephone system for passing information.

What's Next?

The TCP and ORP identified and prioritized items for future work. In some cases, the Y2K fitness of a certain system may not be known and will require considerable research to clarify. For systems that are not Y2K OK, we can fix or replace them. In some cases, an alternative procedure or workaround might be the most expedient, at least in the short term. Once problems are fixed, then we will test systems and certify them under operational conditions.

Even once critical systems are fixed and we believe that we can continue with our critical missions, we will still plan for the contingencies that the fix did not work, or for items outside our control that don't work as promised. Only once this is done, do we start on systems that are not considered critical.

Lessons Learned

We have learned some valuable lessons in the conduct of the Y2K programs in LFWA so far.

First, Y2K covers a wide range of technical and operational areas.



The Canadian Forces' Y2K Technical Compliance and Operational Readiness Programs looked not only at hardware, such as combat vehicles, weapons systems and central mainframe computer programs, but also reviewed critical scenarios to identify how all potentially affected systems could be impacted by the millennium bug.

(CANADIAN FORCES FILE PHOTOS.)

It is not strictly a computer problem, for example, and thus cannot simply be delegated to the local computer expert to fix. The program has to be driven and supported by the highest levels of management who must be willing to make high-level decisions on relative importance of items, and allocate the resources or change procedures to compensate.

Secondly, if it's difficult to ensure the Y2K fitness over the

from a different perspective. This can be very useful in identifying potentially affected equipment and external dependencies, and in developing contingency plans. ✧

Major Tim Green's duties include heading up the Land Force Western Area's (LFWA) Y2K Program. He is stationed at LFWA Headquarters in Edmonton and can be reached at g6a@planet.eon.net

Editor's Note

The PEGG is interested in publishing additional information on the "millennium bug". If you are aware of other sources of information on this topic, particularly as they relate to engineers and geoscientists, please forward your suggestions to The PEGG by mail (15th Floor, Scotia Place, Tower One, 10060 Jasper AV NW, Edmonton AB T5J 4A2), fax (403-425-1722) or by E-mail (nflakstad@pegga.com). Jim Marke, P.Eng., of Stuckey Construction (Red Deer) Ltd., has kindly included earlier references in this series and other useful sites as clickable links on a non-commercial Y2K gateway at <http://www.albertaweb.com/y2k.html>

IT IS NOT STRICTLY A COMPUTER PROBLEM AND THUS CANNOT SIMPLY BE DELEGATED TO THE LOCAL COMPUTER EXPERT TO FIX.

things you do control, it's even more difficult to identify, influence or even have some confidence in things outside your control. External agencies and suppliers may or may not be able to continue existing relationships depending on how successfully they are pursuing their own Y2K programs.

Thirdly, outsider assistance may provide valuable assistance if only to look at systems and procedures

THE APPROACH TO Y2K FOR THE WHOLE OF THE CANADIAN FORCES IS ONE OF CENTRALIZED PLANNING AND COORDINATION, AND DECENTRALIZED EXECUTION.

getting short. How is LFWA attacking the Y2K problem?

The approach to Y2K for the whole of the Canadian Forces (i.e. the Army, Navy, and Airforce) is one of centralized planning and coordination, and decentralized execution. National Defence Headquarters drives a very vigorous Y2K program throughout the whole Canadian Forces, but it's the people closer to the front that know the equipment and can accurately evaluate the operational impact of Y2K on any specific system. For LFWA, this means two main components of the Y2K program.

Technical Compliance

The first part of the Y2K program is the Technical Compliance Program (TCP). For this, each unit or organization that has life-cycle management responsibility for some system (i.e. the one who bought it, keeps it running throughout its life, and eventually disposes of it) must look after the Y2K evaluation and remediation of it. For fleets of combat vehicles, weapons systems, or central mainframe computer programs, this means specialized groups in National Defence Headquarters who do this as a matter of course since the same equipment or systems are found in many units in



Every Picture Tells a Story

CGSL is a leader in the rapidly-developing world of Geographic Information Systems (GIS). We are an experienced team of geomatics specialists, providing government and private industry with professional mapping and GIS services, including:

- GIS Consulting
- Ortho Photo Mosaics
- Photogrammetry
- GPS Positioning and Geographic Data Collection
- Remote Sensing
- Digital Terrain Modeling
- Mapping Services

Call us today, and see your world from a new perspective.

403.245.9795

or call toll free: 1.800.325.9795
Website: www.cgsl.com

CGSL



CANADIAN GEOMATIC SOLUTIONS LTD.
GIS • PHOTOGAMMETRY • MAPPING