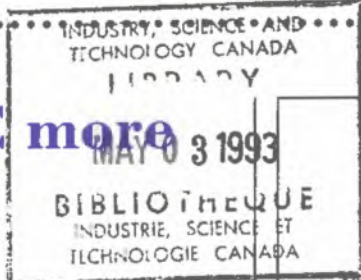


INTERFACE

MARCH/APRIL 1993

ISTC Information Management Newsletter

CODE
B K J T
 #
M-A/93/2



Technology making ISTC more accessible to clients

Technology to make ISTC information resources conveniently and directly available to Canadian businesses is being investigated in several projects currently under way, says Tom Morris, Manager, Ottawa Business Service Centre.

An increased emphasis on accessibility is part of the response to Minister Wilson's request that his portfolio focus on making its services easier for clients to understand and to use. "For example, the Improved Business Access (IBA) pilot project, builds on the development work of ISTC's Business Service Centres to use new technology to provide more accurate, relevant and focused information to clients," explains Tom. Over the past two years, services using text retrieval software, compact disk products and client tracking software have been implemented by BSCs.

The IBA pilot project is using new technology, such as improved data bases and automated fax services, to ensure that people who call the department get service by the "second bounce" — that

their requests are either answered directly or that they are referred to someone who can. The project is being run by the Manitoba Regional Office in Winnipeg.

NAME THAT 'TOON
 Send us your ideas for a caption for this cartoon.
 Last issue's winning caption is on page 2.

The BSCs are carefully monitoring the progress of the IBA pilot project in Winnipeg as well as related work being done in Edmonton and Halifax. "Given severe resource constraints, it is essential that we take advantage of new and innovative uses of technology, such as the types being used in the pilot projects, if we are to continue to meet the expectations of our clients," says Tom.

continued on page 3



From left: Tom Morris, John Desborough and Glyn Moore meet to discuss progress of business access projects.

Inside this issue	Potpourri	2
	Specialized skill	3
	Standards project	4
	Employees retire	4
	Data dictionaries	5
	Security handbooks	5
	Laptop thefts	6
	E-mail to NRC	6
	School network	6
	Walk-In centre	7
	CANARIE	7
DOS	7	
Windows	8	

Worth Repeating

“ Not even computers will replace committees, because committees buy computers. ”

~ Edward Shepherd Mead in the *Wall Street Journal*

POTpourri

IMB is conducting a pilot project to evaluate approaches to electronic document management.

Policies designed for handling paper documents may no longer be adequate in an increasingly electronic environment, explains Pierre Poirier, Senior Project Advisor in IMB. The branch is one of several looking at issues ranging from the necessity of making paper storage copies of electronic documents to file naming conventions.

The pilot project will be completed in June and a report will be submitted to the Information Management Advisory Committee (IMAC).

The Aboriginal Economic Programs Sector and Administrative Services Branch are also studying document management.

IMAC has approved the addition of more than 30 data bases to the ACCESS ISTC text retrieval system. These data bases include the Market Intelligence Reports, the Technology Outreach Program (TOP), the Library Card File, the Free Trade Agreement, the North American Free Trade Agreement and the Tourism TRDC Library (card-catalogue equivalent). The new data will be available by June 1993.

IMB's Jim Commins and Serge Pronovost have visited all the regional offices to introduce ACCESS ISTC and train users on the system.

The Netware Support Encyclopædia (NSE) is now available through the Corporate Services Menu.

The NSE is an electronic source of technical network information. It includes data that will be of interest to technical support staff, such as technical bulletins, updates and product information. There is more than 120Mb of data on NSE, which is updated monthly.

For more information, contact Luc Biard by e-mail or call him at (613) 954-4602.

The WordPerfect Corporation is now allowing dual-language licensing for the English-Canadian and French-Canadian versions of its products.

As a result, the department can load a second-language version of WordPerfect onto any machine for which the first-language rights have already been purchased. This represents a considerable saving for the department because it now only has to buy the disk and manuals for the second language, not the licensing rights. The licensing rights make up the largest portion of the purchase price for computer software.

A new on-line bulletin board that could expose ISTC contracts to a wider audience is being piloted by the Administrative Services Branch (ASB).

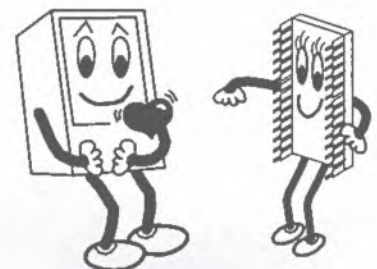
Suppliers interested in bidding on federal contracts valued at more than \$25 000 are now using the Open Bidding Service (OBS) to identify opportunities and to request bid packages. This electronic bulletin board is being maintained and operated by a private firm under contract with Supply and Services Canada. The program's objective is to make it easier for suppliers to learn about federal government departments' contract needs and should result in more competitive bids.

ASB has issued two RFPs on behalf of ITRO using OBS. Once the selection process is complete, Contracts and Professional Services Directorate will evaluate the process and costs.

If the pilot proves successful and enough interest is expressed, ASB will then investigate entering into a departmental contract with the supplier of OBS.

For more information, contact the Contracts and Professional Services Directorate, Administrative Services Branch at (613) 954-2714. ▲

Contest winner!



Congratulations to the staff of Unit B, Operations, Human Resources Branch, for their winning caption.

"I'll hold you in my 'memory' forever."

continued from page 1

The Corporate Planning and Evaluation Directorate worked directly with the Winnipeg office to plan the evaluation of the IBA pilot project and is involved in evaluation activities currently taking place. "We are beginning to get preliminary results from the Winnipeg project that could be of value to other business access projects," says Glyn Moore, Senior Evaluation Manager.

Other examples of projects that embody this new philosophy of better access for clients are the National Business Information Network (NBIN) and the International Market Intelligence and Market Information Network. The department is also investigating ways to make ACCESS ISTC text retrieval services available to the public.

NBIN is a concept that ISTC has been working on for three years to provide business-related information over a "one-stop", user-friendly network. "The hard part about implementing this strategy has been convincing the public and private sector information providers who are our potential partners that the system would be valuable to clients," says John Desborough of the Entrepreneurship and Small Business Office. "Now that everyone is looking at one-stop access to information and services, the concept of using NBIN as a common information infrastructure has taken off."

One example of an electronic information infrastructure considered under NBIN is the International Market Intelligence and Market Information Network. This project involves the collective efforts of Minister Wilson's portfolio, including External Affairs and International Trade Canada, Statistics Canada and Investment Canada, to make better international economic information available to Canadians. ▲



Bernie Michaud ensures corporate data base is up and running.

Specialized skill essential for maintaining corporate data base

Bernie Michaud is one of several highly specialized contract employees whose efforts keep essential information systems functioning on ISTC's mainframe; his work ensures that the corporate data base is up and running everyday.

The corporate data base is essential for several mission-related programs, including BOSS (Business Opportunities Sourcing System) and RAMS, the department's financial system. Bernie's constant attention to technical details ensures that the tremendous amount of ISTC information stored on the mainframe is available to departmental and external clients.

Bernie, who has extensive expertise in IBM mainframe computers, looks after the day-to-day operations of the corporate data base. "Bernie is one of the main people responsible for the continued availability of the data base," says Roy McSheffrey of IMB.

Bernie also confirms that all corporate data is backed up and can be restored in case of computer failure or disaster.

Another of his regular tasks is testing and installing updated versions of ADABAS, the software that manages the data base. "New versions and 'fixes' to correct small problems are constantly coming in and they have to be set up in a test environment and thoroughly checked before going department-wide," explains Roy. ▲

Phase II of standards project under way

The second phase of a project to examine ISTC's information management standards is now under way.

A departmental working group comprised of users met for the first time on 11 February to begin reviewing preliminary recommendations made by a group from within IMB. The departmental working group is preparing recommendations for corporate standards and a

work plan for their development and implementation for submission to IMAC.

The IMB group has been cataloguing existing standards and developing recommendations since last summer.

The goal of the project is to identify the standards required to support the department's information management needs and to develop a plan to put these standards in place. The project does not extend to the actual development and implementation of those standards.

The following categories of standards are being examined: information management planning; system development and maintenance; application development and maintenance; data management; software; hardware; telecommunications; security; text management; and graphics. ▲



The Departmental Standards Working Group from left, front row — Richard Guttormson, IMB; Peter Cook, Policy; Jacques Roy, Quebec regional office; Bill Burns, Financial and Program Systems FPA.
Back row — Dave Thomson, Planning and Central Services, ITRO/CGSI; François Massé, Nova Scotia regional office; Michel Bégin, IMB.

Long-serving IMB Employees Retire

With a combined total of more than a century of public service, three IMB employees, Paul Gray, Ken Tremblay and Glen MacNeil, retired at the end of March.

Paul began his career more than 33 years ago at the Department of Supply and Services. He came to the Computer Services Branch of Industry, Trade and Commerce (ITC) in 1975 and has served his clients in the data management area ever since, through reorganizations of branch and department. In recent years, Paul's expertise and advice on trade statistics have been invaluable to staff in

the industry sector branches, where he will be sorely missed.

Glen and Ken, both ComCentre employees, each began his service 35 years ago with the Canadian Armed Forces. The two first met in 1969 in Saigon when they were posted to southeast Asia. Upon discharge, Glen and Ken put their communications experience in the military to good use with External Affairs before transferring to ITC.

Over the years that they have worked in telecommunications, Glen and Ken have seen great changes. They recall how, in the past, every telex had to be individually typed and, at times, hand ciphered. This slow process sometimes

caused backlogs of messages to accumulate for 10 to 12 days before transmission...a far cry from the swift delivery made possible by today's optical scanners, computers and high-speed facsimile machines.

Although Paul, Ken and Glen all look forward to this new stage of their lives, they will be missed by all their fellow workers who wish them long and happy retirements. ▲

Data dictionaries — a resource worth exploring

A data dictionary is a data base that contains information about the data and processes used by an organization, much the way a dictionary contains information about the spelling, meaning and origin of words. Project, standard, system, software, program, report, file and data element are examples of different types of objects that data dictionaries describe — “Social Insurance Number” is an example of a data element object. Each object’s definition contains several different characteristics, such as name, description and length.

Possible users of data dictionaries include people who are creating computerized processes and are having difficulty naming and describing a piece of data, or defining what data should look like. A data dictionary is also useful for those seeking to find out if a software package or a computer system that performs a certain function already exists.

By allowing a user to establish references among different pieces of information, a data dictionary makes it easier to answer questions that might otherwise involve complex and time-consuming analysis. For example, a project leader might want to know which programs, reports and files would be affected if the length of the social insurance number were to change from nine to 10 digits. In this case, a search of the dictionary data base would yield a list of all the affected objects used by various groups within the department.

Data dictionaries, data directories and data encyclopædia are all very similar. The difference among them is that each concerns a specific environment at a specific point in time. Because there was a need at ISTC for a centralized approach for different kinds of data (e.g. business information), a combined data base, called a repository, was created. Studies are now under way to determine the precise roles of the different dictionaries and repositories in use.

The main ISTC repository, which contains all corporate definitions (and is used to support the integrated data environment), is called the Information Resource Dictionary (IRD). The IRD acts not only as a dictionary, but also as a thesaurus, a code generator, a facility for impact analysis, and a keyword search and query facility. The information in the IRD can be used to create precise and unique data definitions and to minimize data redundancy. If used in a chronological fashion during planning and systems development, the IRD and associated dictionaries can save time and money.

As ISTC moves into a client/server environment, with its wider distribution of shared computing, the IRD and other data dictionaries will become even more important for the management of shared data and processes. ▲

Informatics security handbooks praised

ISTC’s informatics security handbooks have been getting enthusiastic reviews from other government departments and agencies.

Copies of the three handbooks were sent to information management organizations throughout government late last year. Since then, letters of congratulation have been coming in from agencies and departments ranging from the RCMP to the Canadian Museum of Nature. Six of these departments have asked for electronic copies of the text to adapt it for their own needs.

The three handbooks were prepared by IMB for use by responsibility centre managers, shared facility managers and information systems custodians, as well as for general reference use. They will be available in electronic form through the ACCESS ISTC text retrieval system in the near future. ▲



Laptop/notebook thefts on the rise

by **Carole Laurila**, Operations Audit Branch

A laptop or notebook computer can be as easily carried away by a thief as by its proper owner.

Because these computers are so small, a thief can casually walk out with one under their arm with little fear of being apprehended. This is especially true at times when there is a lot of traffic coming and going, such as at the end of the day.

For ISTC staff, the loss of data could be far more significant than the loss of the computer itself. The release of company client information could cause considerable embarrassment to the department and could damage the professional reputation of individual employees.

Take the following steps to reduce the chance of theft:

- Never leave a portable computer unattended, not even for a moment.
- Always take the computer with you or lock it in a filing cabinet or desk drawer when you leave your desk.
- Remove sensitive data from the computer's hard disk as soon as you are finished with it.
- Encrypt any sensitive data you do leave on the computer with security software — the Auditor General's Office uses a program called "Watchdog". ▲



Carole Laurila follows her own advice and locks laptop PC in cabinet.

E-mail to NRC coming

A pilot project is currently under way to determine how to extend ISTC's e-mail service to the National Research Council (NRC).

"NRC is a bit of challenge because it has three separate systems that are connected to one another over Internet," explains Dan MacDonald of IMB, who has set up the pilot project. During the project, IMB will be working on a new system that will allow ISTC employees to communicate with NRC without using the complicated addressing conventions that current arrangements require. When

the system is fully operational, the name of the recipient will be all that is necessary to send e-mail to NRC.

Initially, only ISTC's Science Sector and the NRC will be connected. Once the pilot project is completed early in the new fiscal year, the service will be extended to the entire department.

For more information, contact Lydia Slattery by e-mail or phone her at (613) 954-2518. ▲

ISTC supporting school network

ISTC and Communications Canada are working together to help set up a computer network that will link 300 Canadian elementary and high schools.

The departments are developing criteria to select schools that already have the information technology, the telecommunications equipment and the necessary expertise to become initial users of the network. Directories and user manuals will also be developed by the departments so the schools can begin to work together over the system. ISTC is in the process of identifying 100 science and technology data bases that the schools should find useful.

ISTC will also be asking 30 volunteers from the Innovators in the Schools Program to go on-line to act as advisors and mentors to students and teachers. The Innovators in the Schools Program is made up of scientists and engineers who contribute their time to promote science and technology studies at Canadian schools.

The network is being set up in collaboration with telephone companies, colleges and universities, provincial ministries of education, and CANARIE Inc. The schools will use CA*net accounts donated by colleges and universities to communicate.

Departmental employees who would like to suggest schools for inclusion on the network are encouraged to e-mail their suggestions to Doug Hull, A/Director General, University and College Affairs and Science Promotion. To be included on the network, a school must have computers and modems, and must be prepared to submit an application outlining how it would use the network to promote better learning and what the school would contribute to the other network participants. ▲

Walk-In Centre

What's new

Demonstrations of computer techniques and a new "brainstorming" software package are available in the Walk-In Centre for people who want to use their computers more effectively.

Computers have vast potential for processing information, but once people master one way to use a computer they don't often proceed to others, explains Alan Morgan of the Walk-In Centre. "We are providing assistance and software demonstrations for employees who have mastered a skill, such as basic word processing, and now want to expand their horizons."

The inaugural run of demonstrations featured an introduction to WordPerfect 5.1 macros. A macro is an assembly of commands to perform a complex series of operations that is put into action with a few simple keystrokes. During the sessions, Alan discussed the kinds of problems that might be solved with macros and demonstrated the construction of a macro that produces calendar pages. The series will continue with more advanced macro topics, including the ways a macro can interact with users to receive specific instructions, and how to set up a macro to have it verify whether the conditions exist for it to function properly.

Other sessions are being considered, says Alan. Possible topics include an introduction to spreadsheets, and merging documents with WordPerfect. Demonstrations will also be held on any topics suggested, provided there is sufficient demand.

A new software package recently acquired by the Walk-In Centre, called "Ideafisher", will be of interest to those wishing to use their computers more effectively. "Ideafisher" is described by its

manufacturer as "the most powerful brainstorming system invented". It is designed to stimulate more creative and effective thinking by helping users to define problems efficiently, to brainstorm in a structured way and to evaluate possible solutions to problems.

Those who are interested in demonstrations can contact Alan Morgan at (613) 954-8090. For a demonstration of "Ideafisher", just Walk-In! ▲

ISTC and industry pool resources to develop network

ISTC, information technology companies and members of the information technology research community have formed a consortium to develop and operate a new high-speed communications network.

The CANARIE (Canadian Network for the Advance of Research, Industry and Education) project has recently received Cabinet approval, and a proposal for the first phase of work is being prepared for Treasury Board to review.

The project began as a private sector initiative to develop a network using leading edge technology and to provide a testing ground for new network technology and services. "ISTC is involved because the substantial technological and financial risks involved make it impossible for private sector companies to go it alone quickly enough to remain competitive with their international rivals," explains Andrew Stephens of the Information Technologies Industry Branch.

The department's partners in CANARIE include Stentor, Unitel, IBM Canada, Newbridge, Gandalf and DMR, as well as many Canadian universities. The group will use CANARIE to develop new network products such as advanced switching systems. Other smaller companies and research groups will be able to rent time on CANARIE to test telecommunication services such as long-distance diagnosis and treatment of medical problems. The

network will also act as a backbone connecting regional networks being developed by individual provinces.

The project will be implemented in three phases. Progress will be reviewed and a decision to proceed or cease will be made at each stage.

Phase I (fiscal years 1993-94 and 1994-95) includes the following four elements:

- An existing network, CA*net, will be upgraded to a higher speed in order to meet increasing traffic demands.
- Stentor and Unitel will establish laboratories and a high-speed test network for advanced technology and applications development.
- Using these test facilities, advanced products, software and services will be developed to address complex requirements such as the ability to handle voice, data, image and video communications.
- Detailed costing and business planning will be undertaken to determine whether to proceed to phases II and III of the project. ▲

The limitations of DOS

DOS (Disk Operating System), the most common operating system for microcomputers, is reaching the end of its useful life.

DOS is 10 years old and cannot take advantage of many of the capabilities more sophisticated 386 and 486 machines now offer, says Guy Vales, who is responsible for microcomputer and LAN support in IMB. DOS also lacks multi-tasking and memory protection — a feature that prevents crashes caused by programs overwriting areas of memory used by the operating system and other programs.

DOS is also limited by its memory addressing system. It uses 16-bit addressing while newer systems use 32-bit addressing. Adding more bits to memory addressing allows the machine to use more memory, the same way that adding an area code makes it possible to place a telephone call

to anywhere in North America instead of just inside the local calling area.

To complete tasks with DOS that require more memory than its 16-bit memory addressing provides, programmers have devised a number of "fixes". The system can then be made to work, but it requires a lot of support, says Guy.

TSR (Terminate Stay Resident) programs are examples of one type of fix. TSRs can be used to allow task-switching within DOS. TSRs let programs cohabit — to remain open while the user switches to another program. Unfortunately, sometimes programs corrupt one another causing crashes that can lead to data loss.

Because of these limitations, many manufacturers are focusing on newer operating systems. "DOS is not going to die tomorrow, but it will eventually become obsolete as fewer and fewer manufacturers produce new software for it," explains Guy.

Guy says the ideal operating system would meet the following requirements:

- reliability;
- ability to run all the DOS software the department currently owns;
- industry support to ensure program development to meet future needs;
- graphical user interface; and
- true (pre-emptive) multi-tasking — the ability to run two programs at the same time instead of just switching back and forth between them.

The immediate alternative to DOS is DOS Windows (see **Moving to Windows involves hidden costs**). The current version of Windows is not an operating system, but is a special kind of program, called a shell, that loads on top of DOS and gives the computer a graphical interface.

"However, Windows is more than just a pretty face," adds Guy. "It provides users

with features and capabilities not available to DOS users. But, it is still an application, not a full operating system, so it cannot overcome all of DOS's limitations."

Several other new operating systems, including a new version of Windows, are currently under development. "The coming months promise a lot of excitement in this area and IMB will be keeping an eye on the marketplace to see what develops," says Guy. ▲

Move to Windows involves hidden costs

Moving to Windows, the immediate alternative to DOS, or to any GUI (Graphical User Interface) environment, carries hidden costs, says Guy Vales, who is responsible for microcomputer and LAN support in IMB.

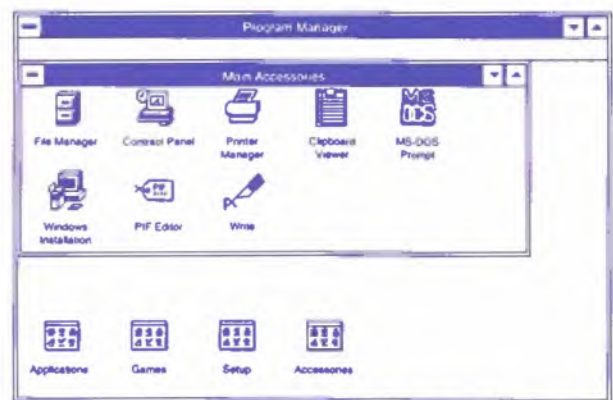
"When considering this move, we have to balance all the costs, including additional training, against the increased productivity that Windows' user-friendly applications and improved operating environment will bring," he explains.

An American computer research firm, has estimated that for most organizations, the cost of moving to Windows will be between \$US2 000 and \$US3 800 per person. "My estimate is that the department's costs will be toward the lower end of this range because it has already made a significant investment in hardware that can run Windows," says Guy.

The major part of the cost is hidden in items such as training and support, and upgrades of application software. Both support staff and end users will need training to use Windows to its full potential, says Guy. "Contrary to what is sometimes suggested, for most users, grasping the GUI environment and using certain applications does require some training," he explains. "However, once a user has learned one Windows program, it is easier to learn others."

The department has a growing number of GUI-capable computers. To run Windows adequately requires a computer with at least a 386 chip and preferably eight megabytes of RAM. Currently, 20 percent of the microcomputers at ISTC do not fully meet these requirements; the majority of the non-GUI-capable computers are in the regions. By the end of the calendar year that number is expected to be down significantly.

A move to the GUI environment makes sense strategically, says Guy. "Increasingly, the department relies on technology to conduct its business. If we are to take advantage of the latest hardware and software developments, we have to move to a GUI environment." The change will be a gradual one over the next two to three years. ▲



Some of the opinions expressed in this newsletter do not represent the official views of IMB. Thanks to all who contributed to this issue.

Published by Information Management Branch of Finance, Personnel and Administration.

Please e-mail your comments, suggestions or story ideas to (INTERFACE) or mail them to: *Interface* Editor, ISTC, Room 340F, West Tower, 235 Queen Street, OTTAWA, Ont., K1A 0H5.

Recyclable Recycled

