

**Interdepartmental Task Force  
on Transborder Data Flows  
: background papers**

QA  
76.9  
T7  
B33  
v.5



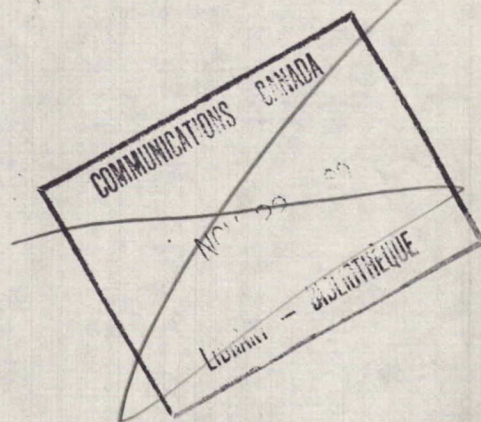
QA  
76.9  
T7  
B33  
v.5

1. [Background papers]

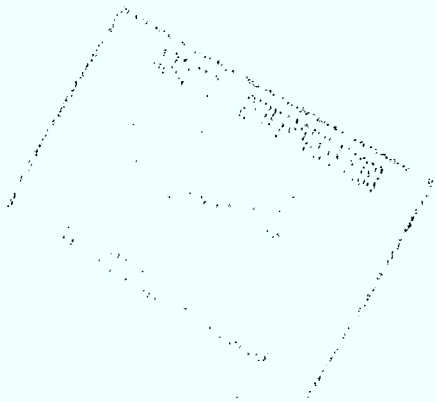
INTERDEPARTMENTAL TASK FORCE  
ON TRANSBORDER DATA FLOWS



*Draft*  
FINAL REPORT OF THE  
TASK FORCE



March 1983



QA  
16.9  
T1  
B33  
V.5

DD 10134983  
DL 10137677

## I. INTRODUCTION

### A. Purpose and Organization of Report

This report presents the findings and recommendations of the Interdepartmental Task Force on Transborder Data Flows, established by the Minister of Communications to investigate the implications for Canadian society, of the growing movements of data in electronic form across international borders.

The term "Transborder Data Flows" (TBDF) has been variously interpreted, with consequent misunderstanding and confusion over their impact. For the purpose of this report TBDF has been defined as the movement of electronic or machine readable data across national boundaries for processing, storage or retrieval. The issues raised by TBDF go far beyond the flows themselves. They pertain to all activities related to these flows. Subsumed under the collective title of TBDF, therefore, are issues both domestic and international which affect a wide range of economic and national cultural policies, sovereignty and national security.

The first section of this report outlines the characteristics of the information revolution and computer/communications technologies, as well as the major concerns about TBDFs. Chapter 2 describes the mandate, structure and approach of the Task Force, Chapter 3 contains conclusions and recommendations.

B. History - General

The rapid application of information technologies, and more specifically the convergence of computers and communications, are causing major changes in business and other activities around the world. They have made possible cost-efficiencies, flexibility and new opportunities in the production and delivery of existing and new goods and services, by business and government. They allow voice, data, text and video messages to be transmitted reliably and efficiently in a common digital format. At the same time the capacity of telecommunications carriage has been vastly improved with the introduction of new communication technologies such as communication satellites and fibre optics. These new technologies enable users to transmit large amounts of data over long distances efficiently and at vastly reduced costs. As a result, geographic location is becoming a decreasingly important factor in communications costs, particularly in the case of satellite-based communications which are largely distance insensitive. This has led companies and institutions to extend their activities internationally.

The information revolution marks not only a structural change in the modes and means of production, as in data processing and robotics, but also in the transportation and use of information in electronic form as in teletext, videotext, word processors, etc. For example, economic entities can now be managed anywhere in the world almost as



though their various parts were situated in a single building. Identical data are available to each part simultaneously, and management can be simply linked for voice exchanges or video conferencing; - On-line banking stretches the potential of a single branch -- or even a home television -- to a world wide system; - Retail credit can be extended and used without regard to geography. As a result, a convergence of once-separate activities and functions is taking place.

This revolution is rapidly eroding the foundation on which many of our policies and regulations respecting communications, information and related activities are based. As a result these policies and regulations are becoming increasingly ineffective in achieving government objectives. This has given urgency to policy action even while assessment and analysis of these forces and their implications continues. Otherwise, practices which may not be in the national interest could well be accepted and firmly established.

The combination and rapidity of the changes occurring in computer/communications create both opportunities and problems closely related to the question of transborder data flows. In the operation of business, TBDF's have become vital, but they are also a significant economic activity in themselves, with growing importance in international trade. The rapid rise of networks of interconnected computer systems world-wide has given many traditional domestic issues international effect. As a result, and as the economic value

of the international exchange of information grows these new networks carrying data and information are becoming as important to the operation of the Canadian and world economies, as the transportation systems that carry raw materials, manufactured goods and people.

Multinational Enterprises (MNE's) have been particularly well placed to take advantage of the new technologies which they have incorporated to stay competitive and to effectively allocate their resources internationally. The technical and economic ability to process and store data anywhere in their world-wide computer/communication networks allows them to use these systems in many ways. For example, vast systems are standardized in such ordinary operations as accounts, billings, inventory control.

These developments have given rise to concerns that MNEs may centralize electronic data processing, software development and major decision-making in their foreign headquarters, with unfavourable consequences for the host countries of their subsidiaries. Equally, though it has been recognized that technology permits large corporations to decentralize many of their activities, not only to other countries, but to cities and to rural or frontier sites. The Office of the Future may well be independent of most traditional factors determining the location of business. Important questions, therefore, are whether in the application and use of these information technologies private and public economic and social objectives will be consistent.

This whole phenomenon and the rapid growth in TBDFs has raised concerns in several countries. It is feared that a redistribution of economic activities could result in a loss of wealth and employment for some nations which do not effectively apply the new technologies and which do not actively pursue the creation of information in electronic form. In the course of redistribution, others fear loss of access to vital information with consequent loss of power and economic strength to deal effectively with other countries. Many countries are therefore concerned that their sovereignty may be jeopardized.

The issue, both nationally and internationally, which has gained most public attention in relation to TBDFs has been privacy. Even for the individual, the market for information products and services has become global. The citizen has no idea of where personal information may be stored, or who in what countries may have access to it and for what purposes. Because of concurrent studies both in Canada and the OECD into this question the Task Force did not specifically address this problem.

The ability to collect or create, manipulate, store and transmit effectively, intelligently and efficiently vast quantities of data and information from a multiplicity of nodes has led to new



questions relating to law, culture, vulnerability and dependency. Access to, and control of, information have become major factors in determining the well-being of individuals, companies and nations.

Individual countries and international organizations are intensifying their efforts to come to grips with the economic, legal, cultural and social complexities raised by the information age. They are increasingly directing their attention to the new information technologies and the activities involving data processing and information flows made possible by electronic computing and communications. Steps have already been taken by some countries and international bodies (Council of Europe, International Bureau on Informatics, UN Centre on Transnational Corporations, etc.) in the formulation of policies and actions on some aspects of TBDFs. The United States has had Congressional Committee Reports and provisions in proposed legislation. Britain recently published a White Paper. France has had a Presidential Task Force. Japan has been preparing an extensive government report. Brazil five years ago moved to strong nationalist regulation of data flow.

#### Canada

All of these efforts will have direct implications for Canadians in particular, and for the international regime for computer/communications-based activities in general. Canada has been active

in a number of international bodies, and chairs the OECD's Working Party on Transborder Data Flows for the Committee on Information, Computer and Communications Policy of the OECD.

The issues being debated are particularly relevant to Canada because of: (i) the high degree of foreign ownership in Canadian industry, (ii) the importance of trade to the Canadian economy; and (iii) the highly interconnected North American telecommunications system. While diverse international markets are important to Canada, the integration of the Canadian and U.S. economies implies that the economic viability of major industrial sectors of the Canadian economy is especially dependent on the ability of these industries to export to the United States. Important sectors of the Canadian economy depend on imports from the U.S. In both cases, accurate and timely information flows are vital. MNEs extensively use computer/communications systems and Canada has a very large presence of foreign-owned MNEs. The high degree of interconnection between the Canadian and U.S. telecommunications networks leaves Canada particularly open to imports of computer-based services from the U.S. by electronic means. It also implies export opportunities for the Canadian information industry in the U.S. market.

Canada was one of the first countries to study the economic dimension of TBDFs. The Computer/Communications Task Force published its seminal report Branching Out in May 1972. It

recommended steps to strengthen Canadian industry and the coordination of its development for the benefit of Canadian society. The report also showed an awareness of the problems related to Canada-U.S. TBDFs.

The debate on TBDFs intensified in 1978 after the Computer/Communications Secretariat published The Growth of Computer/Communications in Canada. This debate and rising public concern triggered the establishment of the present Interdepartmental Task Force.



## II. TASK FORCE APPROACH AND STRUCTURE

To examine the implications of the transborder flow of data in the Canadian context; to contribute to public understanding of the issues; to encourage discussions; and to help place the government in a better position to deal with the new environment, the Minister of Communications, the Honourable Francis Fox, established an Interdepartmental Task Force on Transborder Data Flows in 1981, with the following terms of reference:

To provide the interdepartmental mechanism for joint planning and coordination of federal policies and programs relating to activities affected by transborder data flow, in particular the sovereignty and economic implications, and to advise to government of these matters through the Minister of Communications.

To discuss and exchange information on the research programs and projects, active or planned within the government and other agencies, and to consider the trends in other countries and their effect on Canada.

To undertake joint interdepartmental research designed to establish the necessary factual and conceptual basis for the development of relevant policy recommendations.

To develop the necessary processes or mechanisms to ensure an adequate data base on various aspects of transborder data flows and to recommend additional research as required.

Because international and national considerations cannot be dissociated this mandate entailed in effect an examination of virtually all information activities in electronic form. In short, it was to develop a base for the formulation of policies relevant to computer-communications and information in Canada.

In view of other federal initiatives already underway, the Task Force temporarily set aside certain issues, such as privacy as well as video and voice transmission, in particular broadcasting. Through its Working Groups the Task Force concentrated on the economic, sovereignty and international aspects of TBDFs. Their reports and findings are presented in Section IV.

The Economic Aspect Working Group investigated how the growing application of information technology and related changes in the movement of data across borders is affecting Canada's economy and trade. Of major importance was Canada's trade balance in computer-based services and changes in the nature and scope of the activities conducted by MNEs in Canada, particularly to the location of their in-house data processing and related computer-based services. Also of interest to the

Working Group were the implications of skill shortages in computer related occupations for the ability of Canadian industry to compete effectively both at home and on foreign markets.

The Sovereignty Aspects Working Group focussed on the non-military/national security and non-economic aspects of Canadian ability to control, both legally and practically changes through increasing TDBF's. In particular, it focussed on jurisdictional, legal and regulatory matters, the supporting technical infrastructure and the applicability of Canadian laws and regulations to an information society whose communications networks are interconnected with others. Also studied was vulnerability through increased reliance on computer-communication systems open to remote disruption or interference. In addition, possible cultural impacts of TBDFs in the form of new electronic information products and services and on the formation of an electronic cultural heritage were investigated.

The International Aspects Working Group studied Canadian positions regarding foreign policies on TBDFs and the implications of international developments for domestic policy and research. In particular, this Working Group's report describes the growth of interest internationally in TBDF policies and action by international organizations and foreign governments, certain international legal questions and an assessment of the implications of these international developments for Canada.



To assist its activities the Task Force produced three background papers which provided a review of trends in computer/communication technology, an analysis of trade in telecommunications and computer services; and an evaluation of available information and general information gaps. (See Appendix)

The Working Groups received general direction from a Steering Committee on which 13 departments and agencies were represented. Some 20 departments and agencies in all have participated in the work of the Task Force. This excellent cooperation provided a rich variety of perspectives and personal expertise. In addition, an Industry Advisory Committee was constituted to advise the Chairperson and six industry briefs were submitted to the Task Force. These consultations ensured that the views of industry received close attention and provided an excellent review of draft reports. Most important, they gave the Task Force a realistic perspective on business operations and their use of data and information. (The membership of these two committees and the text of the briefs are in the Appendices).

The following chapter is a distillation of an extensive consultative process, both in government and with industry, based on three working group reports, nine project reports, three background papers and six briefs from industry and other material both published and unpublished. (See the attached Appendices.) To avoid duplication, the findings of the three working groups are not reviewed here. The interested reader is referred to the respective reports and other documents attached.

### III CONCLUSIONS AND RECOMMENDATIONS

#### A. Conclusions

The world of international communications is changing rapidly and drastically. The next few years will see a fundamental re-examination of the conditions and expectations associated with the international exchange of information as this approaches the economic and political importance of the international exchange of goods, natural resources or capital. In this context, and on the basis of its work the Task Force reached a number of general conclusions. While in themselves these do not call for specific action, they provide a basis on which many of the recommendations are built.

1. Computer/communications technologies have become an essential part of Canadian economic and social activity.
2. It would not appear practical for any single country to effectively control all data flows across its borders for any significant length of time without unacceptable costs.
3. The objective of the open international flow of information is fundamental and should be limited only when absolutely necessary to safeguard national sovereignty, security and culture.

4. Departure from this fundamental objective could deprive Canada of access to important information, and therefore be to the disadvantage of Canadian industries and institutions, particularly if it invites retaliation by other countries. The danger of such retaliation is very real in a world in which protectionist tendencies have been increasing.
5. The competitive position of the Canadian information industry, in order to operate in a system of largely open international flow, will require a positive domestic economic and fiscal environment, oriented towards the development of information products and services.
6. Given the large international dimension to all information policies continued active participation in international forums, such as the GATT, on trade in services, and the OECD is vital for Canada.
7. Given the rapidly changing nature and increasing competitiveness of the evolving distribution technologies, information policies and any attendant regulations need to be technology independent for longer term effectiveness.



B. Recommendations

Despite its extensive and intensive study of TBDFs and related activities, the Task Force approached its report still with a keen awareness of the complexity of the issues involved, the major and continuing gap in the information base and uncertainties in future developments. Thus the Task Force was not in a position to formulate detailed recommendations on a number of issues. Nevertheless, there is an urgency in the development of government policy to meet a rapidly changing environment. Many directions can be safely identified with known facts. The Task Force thought that it would be delinquent in its responsibilities if it were not to submit certain general recommendations, despite the pressing need to develop more information to support future detailed recommendations.

1. INTEGRATED POLICIES

That priority be given to a continued and concentrated review of existing policies, programs, laws and regulations affecting the growth and development of computer/communications and electronic information as the basis for the formulation of an integrated set of domestic policies, which cover the creation, processing, storage, protection, distribution and use of electronic information.

## RATIONALE

Traditional boundaries are eroding among industrial sectors and among technologies. Some, such as telecommunications, are extensively regulated; others such as data processing and publishing are not. Print and electronic media are increasingly created and distributed in digital form through a variety of competitive and complementary distribution modes. The new technology does not respect national boundaries. Hence it is urgent to review existing laws and regulations which tend to be technology-bound, and to develop an integrated set of information policies based on clearly defined objectives rather than on means of delivery so that governments, industry and individual Canadians can make the most effective use of these technologies.

Issues, such as privacy and the development of new services, such as transactional services, which were not specifically addressed by the Task Force will need to be brought under the umbrella of such a concentrated review.

## 2. INTERNATIONAL ARRANGEMENTS

That Canada continue to foster international understanding of the implications of TBDFs and promote international arrangements that take Canadian interests fully into account.

RATIONALE

Domestic policies cannot operate in isolation. Aside from privacy aspects, transborder flows of data are at an early stage of international study. The significance of these flows for international political and trading relationships and obligations as well as the North-South context, need to be better understood internationally. New arrangements are needed to reflect the new international environment. Of particular significance for Canada is the integration of Canadian and American communications which contributes to the difficulty of distinguishing between domestic and international issues and therefore to the importance of minimizing conflicts through international arrangements. Since other countries are also developing policies related to TBDFs, it is therefore important to keep active in the OECD and other multilateral bodies in order to ensure that policies of other governments do not seriously harm the ability of Canadian industry to compete, and that Canada's own domestic bodies keep in step with any consensus that may be achieved multilaterally. Equally important, it would be desirable for Canada to formulate, in parallel to these multilateral activities, coherent and well reasoned positions for bilateral discussion with its major trading partners, particularly the U.S.



### 3. CLASSIFICATION OF DATA FLOWS

That integrated information policies include a system of classification of data flows, including identification of "vital data" and "vital national information systems", with assessment of the protection required by each.

#### RATIONALE

The chief characteristic of information is its diversity. Information is not uniform - as a result no simple policy model can be applied to the multiplicity of information types and uses. A classification system is therefore necessary. Technology has given a new dimension to national security, for such services as on-line banking, traffic control, and delivery of government social assistance services are essential to society. While the incidence of failure is still relatively low, the economic and social cost of disruption is increasing quickly. Canada is particularly vulnerable to remote disruption because of the North American integration of telecommunications networks.

### 4. INFORMATION PRODUCTS

That the government take appropriate measures which will contribute to the creation of Canadian information products in the form of data files, data bases and software by:

- appropriate legal protection for software and electronic information;
- full application of traditional support for manufactured goods to the development of information products and services.
- use of federally funded source data for production of data bases for general use;
- sympathetic government procurement policies consistent with our international obligations;
- examination of other means of appropriate fiscal support for software and data base development.

#### RATIONALE

Information technology and information products increasingly contribute to wealth and productivity. The creation of software and data files and data bases is labour intensive and requires many skills. The role of people and their human skills is a critical factor. Information creation and handling depends heavily on a solid base of skills associated with systems analysis, data base management application analysis and development and programming - all growing economic activities. National economic objectives therefore justify support to the industry; conversely, the lack of it can only encourage increasing imports with undesirable effects on employment, balance of payments, vulnerability and dependency. The encouragement of investment requires clear definitions of property rights in software and electronic

information, as well as favourable resolutions of tax questions respecting R&D and venture capital. Government measures must, of course, be consistent with Canada's international commitments.

Governments, being the largest creators and consumers of information in Canada, can influence the supply and demand for information products. Source data created at public expense can be made available to industry for further use. Government procurement policies can support private industry.

#### 5. THE COMPUTER SERVICE INDUSTRY

That to foster the competitive position of the Canadian data processing and computer service industry, consideration be given to:

- reduction or removal of federal sales tax on computer equipment;
- modification of duties on imported computer equipment not manufactured in Canada;
- laws and regulations to prevent unauthorized use of data processing and to clarify vendor liability for processing errors which cause loss or damage;
- international arrangements which provide adequate safeguards in open international trade in computer services, and possible extension of existing anti-dumping laws and regulations to services;

- rigorous enforcement of procurement policies and their extension to include contracting out on a "facilities management" basis;
- support for production of inventories or catalogues of canadian product offerings;
- adjustment of telecommunications tariffs to permit fair competition between east-west flow and north-south traffic in North America.

#### RATIONALE

The Canadian computer service industry had revenues exceeding \$1 billion in 1981 with little government support, but Canadian service bureaus suffer competitively because of duties and taxes on their hardware.

The Canadian data processing industry and the computer service industry require three types of measures: (1) cost reduction measures, that is reduction of taxes and duties on equipment and of telecommunications costs; (2) demand stimulation, that is procurement policy, improved information on the availability of Canadian offerings (inventory and cataloguing), and international arrangements; and (3) legal protection, that is laws and regulations, and measures respecting dumping.

While legally unable to prevent unauthorized use of their services, the data processing industry faces growing legal liabilities. With remote use and possible disruption, international arrangements are needed to ensure that domestic laws are not frustrated in situations where vendors, users and misusers are subject to different national laws.

The remote use and disruption of data processing services has already led to the study of possible remedial steps, including criminal sanctions. It may be necessary for international arrangements to harmonize national laws governing the use and misuse of data storage and processing facilities. The issue of trade in services is actively under study in GATT and the OECD; these forums could provide a framework for discussion and resolution of potential international issues of concern to service bureaus: for example, the dumping of services.

6. RETENTION OF RECORDS

That government requirements for the retention of business records for evidentiary and other purposes be clarified to indicate whether such information may be in electronic or machine readable form, and what restrictions apply with regard to where such records are stored and maintained.



#### RATIONALE

A clearly enunciated position<sup>o</sup> on the status of records in machine-readable form is of growing importance. This would reduce present uncertainties, speed up computerization and increase competitiveness. Further, the uncertainty surrounding the evidentiary validity of these electronic records needs clarification, together with the question of domestic storage requirements. Present doubts in this area can bring about unnecessary duplication of business records and may retard the much-needed application of new technologies to the detriment of economic growth.

#### 7. ACCESS

That the right of Canadians and non-Canadians to access Canadian data stored abroad, and the protection of its confidentiality be resolved through appropriate international arrangements.

#### RATIONALE

While there is nothing inherent in TBDFs that would undermine legal principles of jurisdiction, computer/communication may be a vehicle through which extraterritorial jurisdiction would be given practical effect or become the object of extraterritorial regulation, if governments try to exercise jurisdiction over data in foreign locations.

Large organizations often store data abroad: for operations or backup. With a growing proliferation of laws and regulations internationally on access to, and protection of information, Canada must ensure that Canadians do not lose their rights to their own data stored outside the country. Equally, Canadian measures to prevent misuse or theft of data and to protect confidentiality must not be frustrated by the extra-territorial application of foreign laws.

#### 8. CULTURE AND EDUCATION

That cultural and educational objectives be supported by government programs to foster Canadian electronic information products, thus reducing dependence on foreign sources: for example,

- computer assisted instruction (CAI) courseware available in both official languages and based on Canadian content when appropriate;
- public funds to support creation of data files and data bases which may be in the public interest, but are uneconomical in the Canadian market, including specialized products for the handicapped;
- support of public access to Canadian vendors of information services through libraries and public information centres;
- encouragement for educational institutions to use Canadian information products and services;
- programs to raise computer literacy and to promote use of Canadian electronic products and services.

#### RATIONALE

Cultural products are increasingly being produced in electronic form. This recommendation implies an application to electronic information of current policies supporting Canadian textbooks, publications, films and other educational and cultural products to assist in the realization of Canada's cultural objectives.

#### 9. HERITAGE

That a Canadian electronic heritage be actively promoted through:

- a national inventory of publically available machine readable data files;
- mandatory deposit of publically funded machine readable data, where appropriate;
- consultation with business, universities, research institutes and other interested parties.

#### RATIONALE

The lack of machine readable data files on Canadian cultural and historical subjects could result in reduced knowledge of Canada.

Already much development of Canadian society is recorded only in electronic or machine readable form: by 1990 it is estimated that over 50% of records of large companies and institutions will be in digitized form. Unlike earlier paper records, these data are generally purged

purged when no longer needed for operations, and they are therefore lost to future generations. Appropriate procedures are therefore required to ensure adequate retention of these records.

#### 10. COMPATIBILITY OF SYSTEMS

That encouragement be given to the establishment of consistent tariff structures, access rules and technical standards on Canadian telecommunications systems and to the removal of existing bias against the introduction of private (intracorporate) leased-line telecommunications networks.

#### RATIONALE

In order to remain competitive Canadian companies must be able to treat Canada as a single integrated market and deliver uniform services on a national basis. The significant cost differential between Canadian and United States rates for data communications weakens, to some extent the competitive position of Canadian service bureaus and creates incentives for the establishment of data centers outside Canada. The continued lack of harmonization among Canadian regulatory jurisdictions of regulations, particularly with regard to systems interconnection and terminal attachment, tariffs and standards pertaining to the use of communications links reduces innovation and efficiency and is likely to contribute to the migration of computer communications activities out of Canada.

Moreover, the existing tendency to favour the operation of public data networks over those private networks, could well disadvantage both vendors and users of computer/communications services.

Lack of internationally compatible standards results in unnecessary technical barriers to information flows. International consultation and coordination are essential.

## 11. SKILLS

That a national policy be developed aimed at greatly increasing the computer literacy of Canadians of all ages.

Specific measures which should be considered to support this goal include:

- the raising of computer literacy within the educational system by the use of computer-aided instruction and the use of the computer as a tool for problem solving in a wide variety of applications;
- the development of fiscal measures which would reduce the cost of supplying computer equipment to the educational system.

## RATIONALE

An adequate supply of skilled manpower is an essential prerequisite for the development of a viable and competitive information industry. In the past, Canada has not suffered from a competitive disadvantage



in the area of skilled manpower required to support computer-related activities. However, certain foreign countries such as Japan and France have already put into action long range programs to ensure that their national level of computer literacy is raised to a point which is fully supportive of their goal of moving towards a post-industrial society. While the U.S. has no official national plan for computer literacy, its commanding lead in the development and use of the information technologies on a large scale serves as a basic force in increasing its level of computer literacy.

The ability to use computers and electronic information products and services is becoming increasingly important not only in running an efficient business operation but also for most types of blue and white collar work.

12.

That coordinated strategies be developed in cooperation with industry to alleviate the forecasted personnel shortage in key areas of the information industry.

In particular, that:

- training programs under the new National Training Act give emphasis to on-the-job training for skills not only in traditional programming activities but also in a wide range of application skills relevant to the information industry as a whole;

- programs be developed to encourage part-time and home-based employment, where appropriate, in the computer-based services industry; and,
- particular attention be given to training and assisting those with non-computer science backgrounds to effectively use and apply computercommunication technologies including retraining of the existing workforce, in particular women.

#### RATIONALE

We have already discussed the role of educational institutions in raising the level of computer literacy and providing basic computer skills for those preparing to enter the job market for the first time. However, certain kinds of computer-related skills can only be acquired by on-the-job training and experience. From industry's point of view, it is preferable to make people with professional skills computer literate than to attempt to teach possibly many professional skills to a computer specialist.

There is a consensus that the impact of the information revolution will be felt first among workers, particularly women, in manufacturing industries, also support workers and middle managers in all industries, and that the consequent structural unemployment will be a feature of the 1980's. At the same time there is a forecasted shortage of a variety of personnel with computer-related skills.

An appropriate response to this situation is retraining. Advantage should be taken of provisions made pursuant to the National Training Act which provide financial support for both institutional and on-the-job training for skills not only in traditional programming activities but also in a wide range of application skills relevant to the information industry as a whole. Specific steps should be taken to ensure that the computer-based products and services suppliers are made aware of and encouraged to more actively participate in programs to increase computer literacy and computer-related skills.

Another appropriate response would be to explore the use of measures which would encourage part-time and home-based employment of people in the information industry.

### 13. GUIDELINES FOR MULTINATIONAL ENTERPRISES

That existing national and international guidelines on corporate behaviour by multinational enterprises be reviewed with a view to including in them issues raised by transborder data flows. These might include:

- demonstrable efforts to purchase information goods and services from Canadian suppliers;

- develop a capacity in their Canadian operations for technological innovation, research and development of software and new information products and services;
- application of the concept of the global product mandate to computer-based products and services;
- demonstrable efforts to contribute to Canada's historical record in electronic or digitized form.

#### RATIONALE

The growing role of telecommunications and information services in the operations of multinationals, the attendant increase in transborder data flows and the strategic importance of information resources and information related activities for Canada, suggest that guidelines specific to the treatment of these services by multinationals should be formulated. Existing guidelines on the behaviour of multinationals do not currently refer to computer/communications. The OECD guidelines on multinational behaviour are undergoing review in 1984, affording Canada an opportunity to contribute to the review process and establish national guidelines consistent with the international guidelines that are evolving.

#### 14. DATA COLLECTION AND RESEARCH

That adequate funds and human resources should be made available for coordinated and focussed attention on data collection and research to

ensure adequate information is available on information creation, processing, storage, protection, distribution and use; and that a mechanism for continuing consultation with industry be established.

#### RATIONALE

These measures are essential if the information gap is to be filled and if adequate and informed support is to be given to government and industry in the formulation of plans and policies respecting electronic information. Throughout its work, the Task Force encountered repeated difficulties in carrying out the necessary analysis of issues because of the lack of appropriate hard data, either in Statistic Canada or in the private sector. As existing surveys do not require the filing of information specific to information creation, processing, storage, distribution and use, Canadian business and institutions have not organized themselves to respond to such requirements. Some detailed assessment of information gaps and specific recommendations in this regard are provided in the background report on this topic attached to this report and in the economic aspect working group report.





[BACKGROUND PAPERS]

DATE DUE

MAY 26 1994

[illegible]



