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Submission to: The Interdepartmental Task Force on  
Trans Border Data Flow (TBDF)

Prepared by: The Computer Communications Group  
Bell Canada

JULY 1982

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## 1.0 Objectives

To identify and discuss Bell Canada's concerns with respect to trans border data flow (TBDF) as well as to address certain issues raised by the data processing industry in submissions to the Interdepartmental Task Force studying trans border data flow issues.

To explain the Bell Canada position with respect to these concerns.

## 2.0 Scope

Trans border data flow (TBDF) can be defined as the transmission of data traffic via telecommunications facilities from Canada to a foreign country. The foreign country may be the final destination or the data may be processed and the resulting information retransmitted to Canada.

## 3.0 Summary of Bell Canada Position

Bell Canada supports the Government's effort to preserve and protect the national interest with respect to TBDF. The Company is concerned, however, that significant Government restrictions on the cross border flow of information could work to the disadvantage of many telecommunications users and thereby to the telecommunications industry as a whole.

Bell Canada is of the view that even if telecommunications rates in Canada were equivalent to those in the U.S., it is not clear that there would be any appreciable reduction in cross border data flows.

Bell Canada is not in a position to reduce its interexchange rates to discourage customers from sending their data to the U.S. for processing.

Bell Canada will continue to strictly enforce its current Canada/U.S. border crossing policy which ensures that domestic traffic is carried on domestic facilities and that the border crossing point chosen for cross border traffic is fair to both the telephone company and the customer.

Bell Canada, in conjunction with the other Trans Canada Telephone System (TCTS) Members, will encourage formulation of Canada-U.S. satellite policy consistent with our terrestrial policies which have been designed to ensure the support and development of a strong Canadian telecommunications industry.

Bell Canada should not act as customs agent by performing any activities which could be construed as monitoring or policing TBDF.

#### 4.0 General

The Interdepartmental Task Force on Trans Border Data Flow, chaired by the Department of Communications (DOC), was established to provide a mechanism for joint planning and coordination of federal policies and programs relating to activities affected by trans border data flow. Separate working groups were formed to study the Sovereignty, International and Economic aspects of TBDF. The findings of the task force will be used as a basis for the development of Government policy recommendations.

The Canadian Government is concerned about the national implications of continued, unrestricted, TBDF. These concerns have been further identified as follows:

1. invasion of privacy
2. data processing industry and communications business may be negatively impacted
  - jobs lost
  - balance of trade upset
  - location of management decision-making increasingly centred south of the border
3. data stored in foreign countries subject to their laws
4. sensitive data about Canadians stored in a foreign country.

Bell Canada agrees that these are important concerns and supports the Government's effort to preserve and protect our national interests with respect to TBDF.

However, Bell Canada is also concerned that it could be prevented from supplying all of its customers' needs should Government restrictions be imposed on cross border data flows. Such restrictions could work to the disadvantage of many of the Company's customers and could thereby work to the disadvantage of our industry as well. It is not clear that any overall reduction in TBDF would be accompanied by a resulting increase in domestic traffic.

Preliminary work by the task force, and investigations within Bell Canada, have identified certain specific TBDF issues which could have a direct impact on the Company. These issues are addressed below.

## 5.0 Bell Canada's Concerns

### 5.1 Domestic vs U.S. Telecommunications Rates

#### Issue

It has been stated by other interested parties that domestic interexchange telecommunications rates are generally higher than those in the U.S.

The Canadian Independent Computer Services Association (CICS) submission to the task force stated that "Any company working both sides of the border wisely transmits data within the U.S. mostly, and in Canada only to the border. The place to locate a central facility is inevitably in the U.S.". The Canadian Association of Data Processing Services Organizations' (CADAPSO) submission to the task force also pointed out that a continued disparity in rates between the two countries would encourage "data processing south of the border rather than across the country".

That is, it is alleged that a customer may be encouraged to have his data processing requirements handled in the U.S. rather than somewhere in Canada, depending on the relative telecommunications (and certain other) costs.

It is also alleged that this difference in rates may encourage a customer to explore the possibility of transmitting his Canada-Canada traffic via the U.S. or to transmit his Canada-U.S. traffic via the closest telecommunications border crossing point.

#### Discussion

A company, choosing to transmit data across the border for processing outside Canada, might do so for a number of reasons.

The CICS submission to the task force suggested the following contributing factors:

- Computers are cheaper in the U.S. than in Canada.
- Telecommunication is cheaper in the U.S.
- U.S. subsidiaries customarily use the computer at their U.S. head office.
- Canadian firms find it difficult to get started in the Software Package Industry, given that there are already U.S. firms established.

The CADAPSO submission pointed out a number of other possible reasons:

- Due to economies of scale, very large batch bureaux in the U.S. have provided serious, and in some cases damaging, competition for CADAPSO members in the "batch" market.
- Some, and perhaps a significant amount of TNCP (Trans National Computer Processing) is performed outside of Canada, specifically in the U.S., by Multi National Entreprises (MNE's) because of their Canadian subsidiaries' inability to obtain sufficient numbers of competent staff to produce the services here.

- Certain data bases and "super scale" computers are not available in Canada.
- Most provincial governments have imposed a provincial sales tax on data communications facilities.

Higher telecommunications rates for certain services in Canada are thus but one of many possible factors contributing to TBDF. Therefore, even if rates in Canada were equivalent to those in the U.S. for these services, it is not certain that there would be any appreciable reduction in cross border data flows.

The higher interexchange telecommunications rates on certain cross sections and for certain services in Canada have come about largely for the following two reasons:

a) Cost Differences Due to Size of Operations

The larger base of operations in the U.S. should allow the carriers lower unit costs, both on a per message basis in a switched network environment and on a per circuit basis in a private line environment. The lower unit costs in turn would mean lower rates to the U.S. customer for comparable services.

b) Cross-subsidization of Local Service

A basic objective of both Bell Canada's pricing policy and the regulator has historically been to keep the monthly charges for basic local service as low as possible. This has meant that the balance of the revenues required to offset the telephone company's total costs has come principally from long distance service. This "cross-subsidization" of local service has led to local rates in Canada that are lower than in parts of the U.S., but has also led to higher rates for long distance service in Canada.

The CADAPSO brief submitted to the task force recommended that the "CRTC together with the Provincial regulators require the members of the Trans Canada Telephone System to reevaluate the costs of data communications and their regulations relating to it now in place" with a view to benefiting CADAPSO members and the end users of EDP services.

However, as long as Bell Canada's interexchange revenues are made to subsidize local service to the current extent, and with the cost differences due to size of operations, certain TCTS interexchange rates will continue to be higher than for comparable services in the U.S.

Given the difference in certain U.S. and Canadian rates, there may be an incentive for the customer to transmit his Canada-Canada traffic via the U.S. or to transmit his Canada-U.S. traffic via the closest telecommunications border crossing point. However, the cross border routing of traffic is governed by the Trans Canada Telephone System's border crossing policies.

These border crossing policies are observed by all TCTS members and have been developed on a national basis to ensure the support and development of a strong Canadian telecommunications industry.

The border crossing policies are designed to protect Canadian telephone company revenues by ensuring domestic traffic is carried on domestic facilities and by ensuring that the border crossing point chosen is fair to both the telephone company, which should receive its fair share of revenues from cross border traffic, and the customer.

Specifically:

- a) The border crossing point chosen for all interexchange services and/or facilities between one or more points in TCTS and one or more points in the U.S. is that which results in the shortest total distance including that in Canada and the United States. (See explanatory diagram in Appendix I)
- b) All Canadian domestic traffic must be routed within Canada via Canadian facilities.

These policies have been supported by the CRTC in the past when, in 1978, they dismissed a complaint by Chicago Bridge and Iron Company that our policies were unfair.

Canada-U.S. TBDF, like all cross border telecommunications, is governed by these TCTS terrestrial policies and similar policies adopted by CNCP. There is a certain measure of control over TBDF since all trans border traffic is handled by the two national carriers, TCTS and CNCP, in conjunction with AT&T and Western Union in the U.S. The entry of other carriers into this market would, of course, weaken this control.

Terrestrial border crossing policies cannot be directly applied to satellite traffic. New policies are required that recognize the unique nature of satellite traffic. Thus far, effective national policies regarding trans border satellite traffic have not been finalized. In the meantime, there are strong demands from U.S. satellite carriers for interconnection and operation in Canada.

TCTS is urging the Federal Department of Communications to incorporate certain provisions in any future cross border satellite agreement between Canada and the United States. In particular:

- a) An objective of 50% of transborder satellite traffic should be carried on Canadian facilities
- b) All Canada-Canada traffic must be carried on Canadian facilities, except when an equal exchange of U.S.-U.S. traffic is carried on Canadian satellites.

These recommendations are intended to provide a framework within which TCTS can continue to serve the TBDF needs of its customers effectively and efficiently. At the same time, these recommendations are intended to encourage a healthy domestic satellite industry and ensure TCTS a fair share of revenues from trans border satellite traffic.



## Position Statements

Bell Canada is of the view that even if telecommunications rates in Canada were equivalent to those in the U.S., it is not clear that there would be any appreciable reduction in cross border data flows.

Bell Canada is not in a position to reduce its interexchange rates to discourage customers from sending their data to the U.S. for processing.

Bell Canada will continue to strictly enforce its current Canada/U.S. border crossing policy which ensures that domestic traffic is carried on domestic facilities and that the border crossing point chosen for cross border traffic is fair to both the telephone company and the customer.

Bell Canada, in conjunction with the other TCTS members, will encourage formulation of Canada-U.S. satellite policy consistent with TCTS terrestrial policies which have been designed to ensure the support and development of a strong Canadian telecommunications industry.

## 5.2 Bell Canada as Customs Agent

### Issue

The Government of Canada could decide to impose certain restrictions on data transmitted to the U.S. (or any foreign country). To enforce such restrictions the Government could propose, as suggested by the CICS submission to the task force, that the carrier act as customs agent, with the mandate that it monitor and police TBDF.

### Discussion

#### Cost and Technical Complexity

a) A customs agent, "listening in" on a data transmission, could only understand the contents of the transmission, (ie. who it's going to, what it's about, what information is being sent, etc.), if the agent knows exactly what to look for. In other words, the customs agent must know the value of every "bit" of the transmission, how to group the bits and how to interpret each grouping. An appropriate analogy would be the knowledge required to monitor and understand a conversation to anybody in the world in any language on any topic.

With the further complication that the data transmission may be encrypted by the customer, ie. the bit pattern altered according to the customer's own code and thus indecipherable to the outsider, it is clear that the customer would have to supply certain specific information in order that his TBDF be monitored and policed. Even if Bell Canada were supplied the necessary information, the technical complexity and cost associated with monitoring and policing even a single customer's TBDF would be prohibitive.

b) The emerging terminal attachment environment in Bell Canada's operating territory would make the monitoring of TBDF increasingly difficult.

Multi functional terminals and hosts mean that data transmitted between two points could be for any one of a variety of purposes formatted in a variety of ways at any given point in time.

With customer ownership and control of terminal equipment a number of problems are presented:

- a) The protocol supported by a customer owned terminal is under customer control.
- b) It would be impossible for Bell Canada to isolate a single multiplexed data channel where the multiplexer is customer owned and the characteristics of the multiplexer are known only to the customer.
- c) A customer could "split" a data transmission over two circuits and reassemble it at the receiving end without the Company's knowledge.

Again the point is made that the customer would have to provide certain specific information in order that the customer's own activities be monitored and policed. This would undoubtedly be met with customer resistance.

- c) In a classifications scheme proposed by the task force, data could be categorized as follows:
- a) data which could not be allowed to exist outside of Canada or to which foreign access should not be granted.
  - b) data which must be maintained in Canada but which may be exported, that is, copies may exist outside of Canada if certain conditions are met.
  - c) data which may be exported, ie. need not necessarily exist in Canada but which must remain accessible to Canadian
    - government(s); and/or
    - business; and/or
    - individuals.
  - d) data which is exempt from TBDF policies.

Bell Canada, if directed to act as customs agent, would have to institute a methodology for classifying data transmissions according to such a scheme and take appropriate follow-up action as required. Such a methodology, even if possible to formulate, would require Company resources and would be extremely costly. Bell Canada contends that neither the Company nor the subscriber should bear the cost of such a scheme.

#### Customer Concerns

- a) With the merge of voice and data services, a circuit is able to carry both voice and data simultaneously. Bell Canada, in monitoring TBDF, would necessarily have to monitor any voice communications carried on the same circuit. Bell Canada is not prepared to undertake, nor would its customers be likely to accept, the monitoring of voice transmissions.
- b) Bell Canada's customers must be able to do business under the assumption that its data transmissions are not subject to scrutiny, even by the Company; that is, the customer expects Bell Canada's networks to be totally secure.
- c) Bell Canada as customs agent could be perceived by the customer as working against the customer's best interests. This in turn could damage general customer relations causing the customer to explore alternatives to dealing with the Company.

## Regulatory Concerns

a) Bell Canada's potential role as customs agent could involve examining the content of a customer's data transmission. For example, the Company could be directed to perform the following functions on TBDF:

- a) measure the content of a firm's TBDF (no. of messages to certain locations, characteristics of each message, etc.)
- b) slow or delay TBDF making data processing in the U.S. less attractive.

Bell Canada is a communications carrier and as such is mandated to satisfy the telecommunications requirements of its customers. As a carrier, Bell Canada must not exert any control over the contents of what is carried over its facilities and should not be expected to perform activities where examination of content is required.

Section 5(3) of the Bell Canada Special Act of Incorporation states:

The Company shall, in the exercise of its power under subsection (1), act solely as a common carrier, and shall neither control the contents nor influence the meaning or purpose of the message emitted, transmitted or received as aforesaid."

It would further be unreasonable to expect a private company to engage in the monitoring and policing of content. This raises many of the privacy issues of which the task force is already aware.

b) Further, Section 321 of the Railway Act, under which Bell Canada must operate, states:

A company shall not ... subject ... any particular description of traffic to any undue or unreasonable prejudice or disadvantage, in any respect whatever".

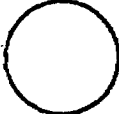
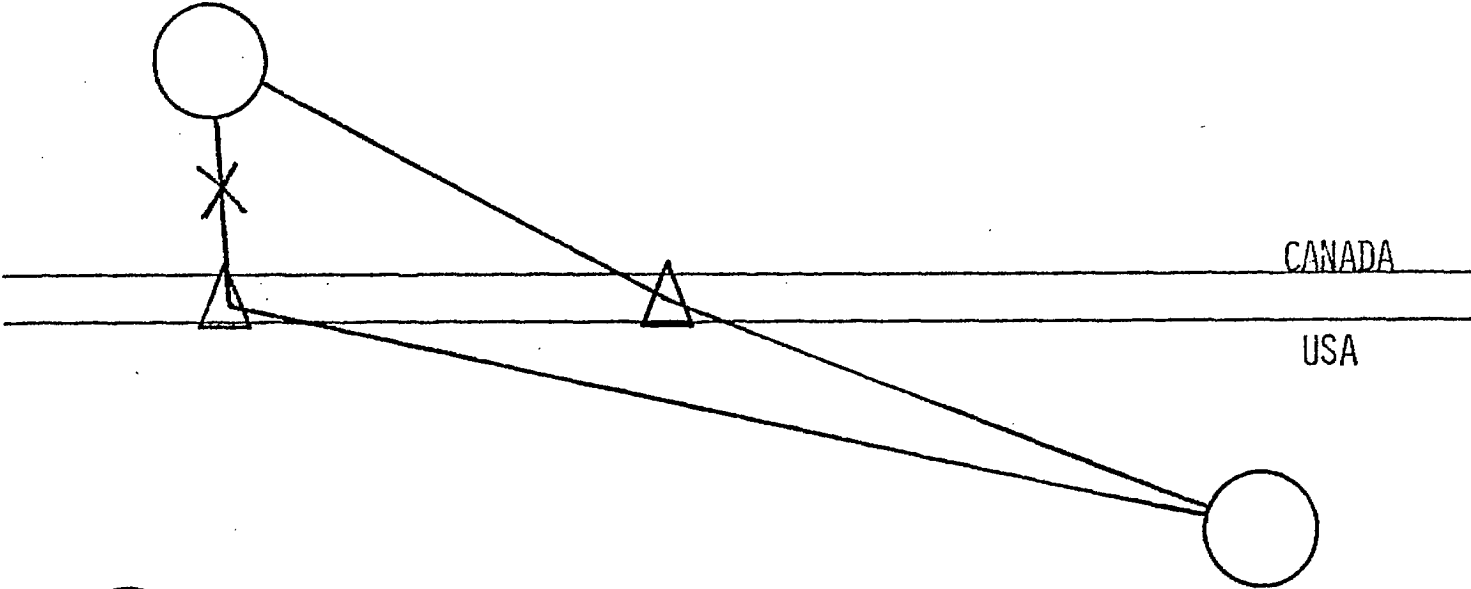
Under existing legislation, this would prevent Bell Canada from taking such "follow-up" actions as blocking or delaying a TBDF transmission categorized as non-exportable.

## Position Statement

Bell Canada should not act as customs agent by performing any activities which could be construed as monitoring or policing TBDF.

BORDER CROSSING

SHORTEST OVERALL MILEAGE APPLIES



CUSTOMER LOCATION



BORDER CROSSING POINT



TRANSMISSION PATH



NOT PERMITTED



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b) Further, Section 321 of the Railway Act, under which Bell Canada must operate, states:

A company shall not ... subject ... any particular description of traffic to any undue or unreasonable prejudice or disadvantage, in any respect whatever".

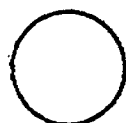
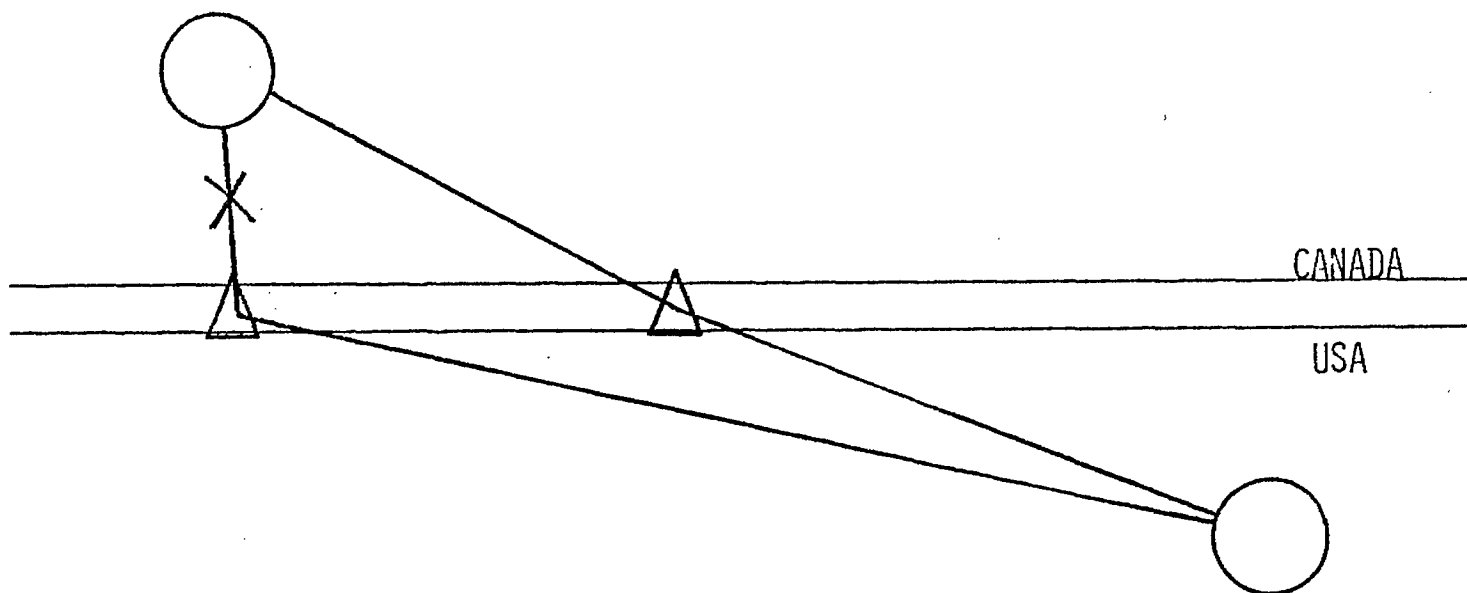
Under existing legislation, this would prevent Bell Canada from taking such "follow-up" actions as blocking or delaying a TBDF transmission categorized as non-exportable.

## Position Statement

Bell Canada should not act as customs agent by performing any activities which could be construed as monitoring or policing TBDF.

BORDER CROSSING

SHORTEST OVERALL MILEAGE APPLIES



CUSTOMER LOCATION



BORDER CROSSING POINT



TRANSMISSION PATH



NOT PERMITTED







HE SUBMISSION TO: THE  
7812 INTERDEPARTMENTAL TASK  
S822 FORCE ON TRANS BORDER  
1982 DATA FLOW(TBDF)

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HE  
7812  
S822  
1982

DATE DUE  
DATE DE RETOUR

JUL 7 1986			
20 OCT 1986			