GOVERNMENT SHARED VOICE MESSAGING SERVICE

ANNEX A

SERVICE REQUIREMENTS SPECIFICATION

Government Telecommunications Agency
Communications Canada

GOVERNMENT SHARED VOICE MESSAGING SERVICE

ANNEX A

SERVICE REQUIREMENTS SPECIFICATION

10 March 1988

REVISED:

11 May 1988

Government Telecommunications Agency
Communications Canada

TABLE OF CONTENTS

1.0 INTRODUCTION

GTA plans to enhance local telephone service on its consolidated switches by introducing shared voice messaging (VM) systems. These systems will be fully integrated with the existing switches to provide all users with the highest possible level of automated call answering and voice mail service. Voice messaging services will be targeted at all current subscribers of GTA's local consolidated telephone service. It is GTA's intent that the local voice messaging systems be networked together to provide one homogeneous Canada-wide service. These systems will be introduced on a few selected consolidations initially and will be expanded to others as the need dictates.

2.0 PURPOSE

This specification describes the technical, operational, administrative and management requirements for the provision of a shared voice messaging service on Government of Canada telephone switches across Canada.

3.0 SERVICE SPECIFICATION

3.1 Service Options

3.1.1 The vendor shall have overall responsibility for the following areas:

a. Overall design and engineering;

b. Supply of all required hardware and software components;

c. Connection and integration of the system with the associated Government telephone consolidation switch(es);

d. Installation, testing and cut-over;
e. On-going system maintenance & support;
f. System enhancement, expansion & upgrades;
g. Training & documentation; and
h. Promotional and marketing support.

3.1.2 The vendor may also have responsibility for the following at the discretion of GTA:
a. Provision of accommodation for equipment;
b. Service management, operation and administration;
c. User support activities (section 6.6); and
d. Provision of detailed traffic/service reports to GTA.

3.2 Service Sizing

3.2.1 Service will be introduced initially on the consolidations specified in Appendix A, and shall be sized to handle the subscriber loads listed in that Appendix and the traffic volumes specified in Section 4.

3.2.2 It is anticipated that voice messaging systems will be required on some of the consolidations that are listed in Appendix B in the foreseeable future. Bidders shall indicate on which of these consolidations they are capable and willing to provide a voice messaging system which would fully meet the requirements of this specification. The minimum subscriber base for establishment of a voice messaging service on these consolidations would be 20% of the number of telephone sets or 500 mailboxes which ever is lower. The systems would be sized for the traffic volume and characteristics outlined in Section 4.

3.3 Service Growth Capability

The systems which will be installed to provide initial service on the consolidations specified in Appendix A shall have sufficient flexibility and expansion capability to accommodate the projected growth specified in Section 4.2 without major system reconfiguration or service disruption. Systems installed at a later date on other consolidations must have similar flexibility and expansion capability.

3.4 Proven Technology

The proposed system design shall be based on proven technology (hardware, software and communications). The system technology proposed for the service must have an operational installed base of a minimum of three (3) user organizations on the closing date of this RFP. The vendor shall provide references for these operational systems in order that GTA can assess client satisfaction with similar service/system offerings. In addition, the vendor shall, during the RFP evaluation phase, be capable of fully demonstrating all mandatory service features (Section 3.6) including interworking and integrated operation with the Government telephone consolidation switches (DMS-100) or equivalent, and those desirable service features (Section 3.7) for which compliance is indicated. This demonstration shall be available within 15 working days of the receipt of a request from Supply and Services Canada. Lab demonstrations and simulations will not be acceptable.

3.5 Service Integration

3.5.1 A voice messaging system is said to be fully integrated with a telephone switch when there is both a communications and signalling path between the two. The signalling path allows the systems to interchange command information. For example, the telephone switch can tell the voice messaging system that the call being forwarded to it was intended for a specific local, and

the voice messaging system can tell the telephone switch to activate or deactivate a message waiting signal on a particular telephone.

3.5.2 The service shall be fully integrated with the telephone switching equipment that provides the government consolidated telephone service. Switching equipment types are specified in Appendices A and B.

3.5.3 The voice messaging system shall be capable of integration with the facilities that provide the Government consolidated telephone service through the Simplified Message Desk Interface (SMDI) when it becomes available. Where this interface is not available, the vendor shall provide an alternative method of achieving the greatest degree of integration possible. The vendor may choose to use tariffed offerings such as Bell Canada's Centrex III Integrated Voice Messaging System (IVMS) Access Arrangement to achieve this integration.

3.5.4 When the service is offered in a location where the Government telephone consolidation is comprised of more than one telephone switch such as the National Capital Region (5 switches), the voice messaging equipment shall be configured and integrated in a manner which allows all VM subscribers on the consolidation to interact with each other as if they were all served by a single voice messaging system connected to a telephone switch.

3.6 Mandatory Service Features

The service shall provide the ability to:

a) record and send messages to other subscribers of the service either individually or in groups;

b) establish distribution lists for the delivery of messages. Both system and personal lists must be available. The system lists

shall be established and maintained by a system administrator. The personal lists shall be established and maintained by the individual subscribers. The system shall ensure that addressees who appear on two or more distribution lists on the same message receive only one copy of the message. The vendor shall specify how many system and personal lists can be created and how many addresses can be contained in each list;

c) inform the subscriber, at login, how many new messages are in the mailbox;

d) date and time stamp each received message;

e) listen to and replay received messages;

f) reply to messages received from other system subscribers by voice message without having to rekey the sender's address;

g) forward a message to other system subscribers with or without additional comments;

h) save messages (all messages shall be retained by default unless the subscriber takes specific action to delete them);

i) delete messages;

j) review and edit messages prior to sending;

k) skip messages in the mailbox to listen to selected messages and to skip forward or backward within a message as it is being played;

l) pause during the recording or playing of messages;

m) easily record and change a personalized greeting message (if no personalized greeting is recorded, the system shall use a standard greeting);

n) secure system information through the use of personal ID and passwords. The password shall have a minimum of six (6) digits and it shall be possible for users to change their own passwords. The system shall disconnect any caller who does not provide a matching personal ID and password within a prespecified number of attempts;

o) guide subscribers on use of the system through a set of clear, concise and understandable voice prompts. These prompts must be available in either English or French as preselected by the subscriber. It must be possible for knowledgeable subscribers to override the voice prompts;

p) indicate to the subscriber that there are new messages in the mailbox by either a flashing light if the subscriber's telephone set is so equipped or a stuttered dial tone if the set has no message waiting indicator;

q) auto-answer, with the subscriber's personal greeting, all incoming calls to the subscriber's telephone or all calls when the subscriber's line is busy or is not answered in a pre-determined number of rings (can vary, but normally 3);

r) gain access to all of the functions of a personal mailbox from external touch tone telephones (including pay and cellular telephones);

s) input all system commands with a maximum of 2 keystrokes;

t) generate detailed service and user statistical reports. These reports should contain sufficient detail (call originator, call duration and called number) to allow GTA to positively identify the originator of each voice message which utilizes intercity services (i.e. networking or outcalling) so that GTA can recover the long distance charges from the appropriate subscriber. The reports should also contain sufficient detail to allow GTA to recover costs from subscribers on a usage basis if GTA wishes to do so in the future;

u) network a minimum of 50 system units in different centres so that messages can be sent and received as if all subscribers across Canada are on one system;

v) outcall to deliver messages or a notification that there are messages in the mailbox to a specific telephone number or pager if the subscriber so desires. The parameters associated with this feature must be settable by the subscriber;

w) provide return receipts to the sender when messages are read by the recipient, if and when requested by the sender;

x) specify delivery of a message at a later time or date;

y) easily add or delete users, change user profiles, add/change/delete system distribution lists, change system parameters, and request and receive system/user statistical reports while the system is operational;

z) allow the system administrator to have full control of system resources by controlling such parameters as the storage limits and/or mailbox size for each subscriber, maximum message length, etc. The vendor must indicate what parameters are controllable by the system administrator; and

aa) have many callers simultaneously access the same personal greeting and mailbox. (The number of callers should only be limited by the number of available ports on the voice messaging system.)

3.7 Desirable Service Features

The service should provide the ability to:

a) call another subscriber from whom a message has been received by having the system autodial the sender's telephone number;

b) send "confidential" messages which can only be accessed with a special password (in addition to the normal password used for sign-on);

c) provide priority delivery for urgent messages. These messages would be moved to the head of the recipient's mailbox queue and identified as requiring urgent action;

d) find and dial the telephone number of another subscriber when that subscriber's surname is spelled out using the letters on the touch-tone telephone keypad;

e) offer guest mailboxes to allow the subscriber to communicate by voice mail with people who he/she contacts frequently outside the voice messaging system;

f) allow outside callers who reach a personal greeting to be transferred to a secretary/receptionist (specified by the subscriber) by depressing a one or two digit code on a touch tone telephone or through a "time out" for rotary dial callers;

g) send "private" messages which cannot be forwarded to a third party by the recipient;

h) provide notification whereby the sender receives an indication of non-delivery of a message after a specified elapsed time;

i) automatically update all system and personal address lists when user IDs are changed or deleted by the system administrator;

j) cancel a sent message up until the time it has been retrieved by the intended recipient;

k) make delivery of messages to non-subscribers of the service;

l) offer different levels of voice prompts to the subscribers. The desired level could be controlled by either the subscriber or the system administrator;

m) direct callers through the use of a menu or series of menus to recorded information on selected topics;

n) query callers through the use of prerecorded questions and record their responses;

o) verify the destination of all messages by playing back the names of the addressees;

p) delete specific sections from and insert new information into recorded messages; and

q) vary certain system parameters and/or restrict access to certain system features by class of service. (The vendor shall enumerate the parameters and features that are subject to class of service control).

3.8 Provision of Service to PABX Served Customers

Some Government personnel are provided with telephone service through PABXs which are connected behind the standard Government consolidation offering. The vendor shall indicate how the voice messaging service on the consolidation might be extended to PABX served customers in the same area. The vendor shall also list those PABXs to which his voice messaging equipment can be fully integrated. The vendor shall identify and explain any factors which would hinder or inhibit the networking of his voice messaging equipment that is integrated with any of the above listed PABXs with similar equipment that is integrated with a Government consolidated telephone switch.

4.0 SERVICE CAPACITY, GROWTH & PERFORMANCE

4.1 Traffic Volume and Characteristics

For system design purposes, the vendor shall use the following traffic volumes and characteristics:

- on average, each system user will compose and send two (2) messages (each with an average of 1.5 addresses) per day to other system users;

- each system user will receive an average of seven (7) messages per day (3 internally and 4 externally generated messages);

- the average length of messages will be 30 seconds;

- each user will have an average of two (2) saved messages at any given time (i.e. messages which have been read and/or sent and retained for future reference);

- users will normally access their mailboxes and read and dispose of messages daily;

- networked traffic between centres is expected to average less than one message per user per week;

- busy hour traffic will constitute 16% of the overall daily traffic; and

- a minimum Grade of Service of P.02 (probability of blockage based on the Poisson equation) shall be provided to users of the voice messaging system.

4.2 Subscriber Load Growth Potential

For design purposes, the vendor shall use a growth rate of 40% for each year over the initial three year period. For evaluation purposes, it will be assumed that this growth occurs as a step function at the end of each year of operation (i.e., day 1 of year 2 and day 1 of year 3).

4.3 System Capacity

The vendor shall indicate the maximum capacity of the system, and the user traffic statistics upon which that capacity level is based.

4.4 System Performance

The service usage (as defined in 4.1 above) is based on estimated average usage by each subscriber. The vendor shall indicate the maximum usage level (per mailbox) which could be tolerated before degradation of performance would occur. The vendor shall indicate what type of service degradation would be experienced by the subscriber beyond the maximum usage level.

5.0 SERVICE AVAILABILITY AND MAINTENANCE

5.1 Introduction

The service shall have high system availability and efficient service restoration in the case of system failure. It shall make use of highly reliable hardware and software components and be designed to provide dependable techniques and procedures for rapid recovery from and prevention of element failure.

5.2 Availability

5.2.1 The service shall be available 24 hours per day, 7 days per week, 365 (or 366) days per year.

5.2.2 The service shall conform to the Availability Requirements shown in Table 1.

5.2.3 Scheduled downtime shall not exceed 3 hours in duration within any 24 hour period, except when approved in writing in advance by GTA.

5.2.4 All scheduled downtime shall occur outside normal "Business hours" which are defined from 8 a.m. to 5:30 p.m. local time in each time zone in Canada, 5 days per week, Monday to Friday, 52 weeks per year, excluding all Government Statutory holidays (a total of 11 days per year).

5.2.5 The vendor shall provide availability statistics for the proposed service/system such as Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR) figures.

AVAILABILITY REQUIREMENTS FOR VOICE MESSAGING SERVICE*

TABLE 1

FAILURE AFFECTING	MAXIMUM RESTORAL TIME	MAXIMUM TOTAL OUTAGE HRS IN CONSECUTIVE 12 MONTH PERIOD
1 Mailbox	8 business hours**	300 business hours**
2 to 500 mailboxes	4 hours***	24 hours***
More than 500 mailboxes	4 hours***	18 hours***

* Outage totals include all times when one or more mailboxes are unavailable because of system problems or outages, routine maintenance, hardware/software upgrades, or any other scheduled or unscheduled outages or shutdowns.

** If for example a mailbox fails at 1600 hours on Friday afternoon, it must be back in operation by 14:30 hours the next Monday if both Friday and Monday are working days. Note that the term "Normal Business Hours" is defined in section 5.2.4.

*** If for example 400 mailboxes fail at the same time at 16:00 hours on any day, they must be repaired before 20:00 hours that same day.

5.2.6 Vendors shall submit their schedule for routine (preventive) maintenance and shutdowns as a part of their proposals.

5.2.7 Proposals shall clearly state the cost (if any) and availability of the following system features:

a. redundancy;

b. UPS/back-up power; and

c. automatic failure detection/fault isolation.

5.3 Service Maintenance

The vendor shall be fully responsible for all failure detection, system maintenance and service restoration activities. The vendor shall:

a. describe the methodology to be employed to respond to service maintenance requirements;

b. detail current practices for providing service maintenance to existing clients;

c. specify in what Canadian centres service maintenance is currently provided; and

d. specify how maintenance service would be extended to centres listed in Appendices A & B where it does not currently exist.

6.0 SERVICE MANAGEMENT

6.1 Introduction

The vendor may, at the option of the Crown, be responsible for service management as described herein. Service management shall be deemed to include the following areas:

a. System operation and administration;
b. System configuration control;
c. Management/statistical reports;
d. Problem management;
e. User support; and
f. Personnel security.

6.2 System Operation & Administration

The vendor shall perform the following operations and administrative functions:

a) On-going operation and control of the system;

b) Monitoring of resource utilization;

c) Periodic and regular system back-ups on non-volatile storage. (The frequency of the back-ups and the nature of the information being backed-up shall be specified);

d) Exercising automatic service initialization and recovery; and

e) Monitoring, detecting and reporting to GTA any security violations.

6.3 Configuration Management

The vendor shall perform the following configuration management functions:

a) Configure system components (hardware, software, communications) to meet service performance requirements;

b) Define and set the parameters for the initial system configuration;

c) Perform changes/updates to the system configuration on a when-and-as-required basis;

d) Create and maintain an inventory of system components and characteristics;

e) Create and maintain accurate and up-to-date records of all terminations, wiring and interconnections;

f) Set-up the initial user profiles and directory of addresses;

g) Add to, delete from, and modify user profiles and the directory of addresses as required;

h) Establish and maintain system distribution lists;

i) Manage users' IDs and initial passwords; and

j) Define (in conjunction with GTA) and control user resource allocation.

6.4 Management/Statistical Reports

GTA may require detailed system reports on a periodic basis (weekly, monthly, yearly) for system management and/or cost recovery (Section 3.6 t) purposes. The vendor shall describe in detail the full range of reports that can be generated by the proposed system.

6.5 Problem Management

Problem management includes the reporting, diagnosing, tracking, recording and resolution of problems that affect the user's ability to utilize the service in accordance with this specification. The vendor shall clearly specify the problem management procedures that will be used to ensure that all problems are dealt with in a timely and efficient manner.

6.6 User Support

The vendor shall clearly specify what resources and procedures will be used to provide support, advice, and guidance to users who require such assistance.

6.7 Personnel Security

All personnel involved with the operation, administration, management and maintenance of the service shall have an enhanced reliability check in accordance with the security regulations of the Government of Canada.

7.0 DOCUMENTATION

7.1 Types of Documentation

The following types of documentation shall be provided:

a) system/service description manual;
b) service administrator's manuals;
c) training materials;
d) end-user service operation manuals (user guide);
e) user command reference card; and
f) telephone push-button overlay.

7.2 Quantities of Documentation

7.2.1 The proposal shall include one copy of currently available versions of each of the items identified in 7.1.

7.2.2 Three additional copies of the items identified in 7.1 b) shall be provided at least thirty (30) days prior to the commencement of service at each consolidation where the Government subscribes to the voice messaging service.

7.2.3 Three additional copies of the items identified in 7.1 c) shall be provided at least thirty (30) days prior to the commencement of training at each consolidation where the Government subscribes to the voice messaging service.

7.2.4 A copy of the items identified in 7.1 d), 7.1 e) and 7.1 f) shall be provided to each subscriber during user training sessions.

7.3 Format of Documentation

7.3.1 All multi-page documents shall be suitably bound.

7.3.2 All manuals shall contain a table of contents and a glossary of terms (where required).

7.3.3 All documentation shall be available in both official languages (except where special exemptions are negotiated between the Crown and the vendor for specific documents).

7.3.4 It is desirable that manuals be printed in an 8 ½" X 11" format.

7.4 Updates & Revisions of Documentation

7.4.1 The vendor shall be responsible for reviewing and updating all of the documents identified in 7.1 during the contract period to ensure that they accurately reflect the operation of the system.

7.4.2 All document updates and revisions for distribution to government subscribers shall be subject to GTA approval before being finalized and distributed.

7.4.3 The vendor shall be responsible for providing amended pages or documents in the numbers specified in 7.2.

7.5 Reproduction Rights

GTA shall have the right to reproduce, in whole or in part, any of the documents identified in 7.1 for government use.

8.0 TRAINING

8.1 Course Types

The vendor shall provide the following types of training for government personnel:

a) Service Consultant Courses - These courses shall prepare GTA consultants to advise potential subscribers about the service. The courses shall provide information on the features, applications and advantages of the service and allow the consultants to gain a good knowledge of the functionality and performance of the service through hands-on experience.

b) End-User Courses - These courses shall provide the end-user with a good understanding of the features and operation of the service. The courses shall provide end-users with hands-on training.

8.2 Course Descriptions

The vendor shall provide the following information about each of the courses specified in 8.1:

a. method of instruction;
b. content overview;
c. duration;
d. class size;
e. presentation aids & tools;
f. hand-out material;
g. instructor skills;
h. off-the-shelf availability; and
i. cost.

8.3 Language of Instruction

The courses described in 8.1 shall be available in both official languages.

8.4 Training Facilities

8.4.1 Training courses shall be conducted by the vendor's personnel at a vendor or GTA provided site using the full functional capabilities of the service. The proposal shall indicate any price difference between conducting the courses on a vendor provided site and a GTA provided site.

8.4.2 The vendor shall specify the size of training room required and the supporting facilities required in the room. The vendor shall specify the quantity, type, size and location of all equipment and facilities that GTA must provide should training take place at a GTA provided site.

8.4.3 The training courses shall be provided in all major centres where the service is installed.

9.0 ACCEPTANCE & AVAILABILITY TESTING

9.1 Acceptance Testing

9.1.1 Acceptance testing shall be conducted by the vendor to demonstrate to GTA that the service fully meets the requirements of this specification.

9.1.2 The vendor shall submit a detailed acceptance testing plan, including test schedule, equipment configuration, test procedures and location upon contract award. An outline of the acceptance testing plan shall be included in the vendor's proposal.

9.1.3 The vendor shall obtain approval of the detailed acceptance testing plan from GTA before actioning the procedures. GTA shall either approve or indicate any changes required to the proposed test and acceptance procedures within 21 days of submission by the vendor.

9.1.4 The vendor shall provide the personnel and the test equipment needed and shall conduct the test and acceptance procedures with the GTA team witnessing the results. GTA shall be notified at least 14 calendar days in advance of the schedule for conducting the test procedure.

9.1.5 GTA shall have unlimited access to all test data and results at anytime during and after the tests.

9.1.6 The test shall be declared successful when it is mutually agreed by GTA and the vendor that all requirements have been met and the system has operated for 30 consecutive days after the cutover date without an outage that affects more than one user.

NOTE: Service cutover date is defined as the date when the service becomes available to the initial group of government users as defined in section 8.1.6 of the RFP document (Schedule of Events).

9.2 Availability Testing

9.2.1 The availability testing shall be performed on the system jointly by GTA and the vendor for 90 consecutive days after the service cutover date.

9.2.2 The test shall verify that all maintenance and restoration procedures are sound and that the availability requirements of this specification are met. The vendor shall undertake corrective action, at no cost to GTA, if the results of this testing do not meet the availability requirements. Following the corrective action, the 90 day test period shall recommence. The test shall be completed only when the system meets the availability requirements over a period of 90 consecutive days.

10.0 ACCOMMODATION FACILITIES

Any facilities supplied by the vendor to accommodate system equipment and service management equipment and personnel shall:

a. comply with all applicable government standards and specifications, including the following:

i) The National Building Code of Canada;
ii) The National Fire Code of Canada;
iii) The Federal, Provincial & Territorial Building Codes; and
iv) The Municipal By-laws and other codes.

b. have sufficient space for significant future growth (the proposal shall state what future growth can be accommodated);

c. be accessible to authorized GTA personnel on an as and when required basis; and

d. be physically secure. The vendor shall describe in detail the availability of physical security features such as coded access entrance ways, facility surveillance, visitor escort procedures, personnel identification, I.D. badges, alarms, etc.

11.0 PROMOTIONAL SUPPORT

11.1 Introduction

This section describes the requirements for the provision of promotional support to GTA by the vendor to promote the service to client departments in the Federal Government.

11.2 Presentations

11.2.1 The vendor shall develop and produce a marketing presentation, specifically tailored for the government service, to allow GTA consultants to make presentations to personnel at various levels in client departments.

11.2.2 The presentation shall be based on 35 mm color slides, overhead transparencies, and/or the color video medium.

11.2.3 The presentation material shall be produced in both official languages.

11.2.4 All presentation material shall clearly indicate that the service is a Government common service provided by GTA.

11.2.5 All presentation material shall be subject to GTA approval and the contractor shall abide by any adjustments and/or alterations in content or appearance requested by GTA.

11.2.6 A minimum of ten (10) English and five (5) French copies of the presentation material shall be provided to GTA.

11.3 Literature

11.3.1 The vendor shall prepare and produce high quality printed literature describing the government service for distribution to potential end-users in client departments.

11.3.2 The printed literature shall be produced in a bilingual (French/English) format.

11.3.3 The printed literature shall clearly indicate that the service is a Government common service provided by GTA.

11.3.4 The printed literature shall be subject to GTA approval and the contractor shall abide by any adjustments and/or alterations in content or appearance requested by GTA.

11.3.5 The vendor shall deliver up to ten thousand (10,000) copies of the printed literature to GTA as required. The vendor shall quote the cost for additional quantities of the printed literature in lots of 1000. GTA shall also have the right to produce additional copies at its own expense if required.

APPENDIX A

INITIAL SERVICE LOCATIONS

Initial service shall be provided on the Government of Canada telephone consolidations in the National Capital Region (Ottawa/Hull), Toronto, Montreal, and Vancouver.

National Capital Region Consolidation

Government telephone service in the National Capital Region is provided through an Area Wide Centrex service (EEWD) supplied by Bell Canada. The service operates on five Northern Telecom DMS-100 switches which are housed on Bell Canada premises and are fully maintained, operated, and administered by Bell Canada. One switch is located in Hull, Quebec and the other four are located in Ottawa. The five switches provide service to approximately 90,000 telephone sets in the Region.

Toronto Consolidation

Government telephone service in Toronto is provided through an Area Wide Centrex service (Centrex III) supplied by Bell Canada and by two SL-1s which are housed on Government premises. The Area Wide Centrex serves approximately 7,500 Government subscribers and is provided by a Northern Telecom DMS-100 switch which is housed on Bell Canada premises and is fully maintained, operated and administered by Bell Canada. All initial service users in Toronto will be served by this Area Wide Centrex service.

Montreal Consolidation

Government telephone service (approximately 10,000 telephone sets) in Montreal is provided through an Area Wide Centrex service (Centrex III) supplied by Bell Canada. This service is provided by a Northern Telecom DMS-100 switch which is housed on Bell Canada premises and is fully maintained, operated and administered by Bell Canada.

Vancouver Consolidation

Government telephone service (approximately 7,100 telephone sets) in Vancouver is provided through an Area Wide Centrex service (Consolidated Electronic Switching Service) supplied by British Columbia Telephone. This service is provided by a Northern Telecom DMS-100 switch which is housed on British Columbia Telephone premises and is fully maintained, operated and administered by the Company.

Subscriber Load

The initial subscriber load will be:

- 2500 mailboxes in the National Capital Region
  (It should be assumed that these mailboxes will be distributed over all 5 switches)
- 500 mailboxes in Montreal
- 500 mailboxes in Toronto
- 500 mailboxes in Vancouver

APPENDIX B

OTHER CONSOLIDATION LOCATIONS AND SWITCH TYPES

LOCATION	SERVICE	EQUIPMENT	SUPPLIER	# SETS
Charlottetown P.E.I.	COC	SL-1	IT	1,700
Halifax N.S.	AWC	DMS-100	MT&T	8,000
Moncton N.B.	AWC	DMS-100	NBT	2,200
St-John's Nfld.	AWC	DMS-100	NFT	2,700
Sydney, N.S.	AWC	DMS-100	MT&T	1,500
Quebec City, Que	AWC	DMS-100	BC	4,000
Hamilton, Ont.	COC	DMS-100	BC	1,000
Calgary, Alta.	AWC	DMS-100	AGT	3,000
Edmonton, Alta.	AWC	SL-100	ET	4,000
Regina, Sask.	AWC	DMS-100	ST	2,000
Saskatoon, Sask.	AWC	DMS-100	ST	1,800
Winnipeg, Man.	AWC	DMS-100	MTS	7,000
Victoria, BC	CESS	**	BCT	3,500

All equipment resides on telco premises except in Victoria & Edmonton where it resides on Government premises.

** Victoria is served by 5 SL-1s and a DMS-100 RLCM.

APPENDIX B

Abbreviations

AGT - Alberta Government Telephone
AWC - Area Wide Centrex
BC - Bell Canada
BCT - British Columbia Telephone
CESS - Consolidated Electronic Switching Service
COC - Central Office Centrex
ET - Edmonton Tel
IT - Island Telephone
MTS - Manitoba Telephone
MT&T - Maritime Telegraph & Telephone Co.
NBT - New Brunswick Telephone Co.
NFT - Newfoundland Telephone Co.
ST - Saskatchewan Telephone

GOVERNMENT SHARED VOICE MESSAGING SERVICE : ANNEX A : SERVICE REQUIREMENTS SPECIFICATION