



Government of Canada  
Department of Communications

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Ministère des Communications

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# GOVERNMENT INTEGRATED OFFICE COMMUNICATIONS

## TRIAL PROJECT

### FUNCTIONAL SPECIFICATIONS AND

### USER REQUIREMENTS

DDE # 85-7711-009

DIVISION OF DEVELOPMENT & ENGINEERING

GOVERNMENT TELECOMMUNICATIONS AGENCY

JUNE 28, 1985



Canada



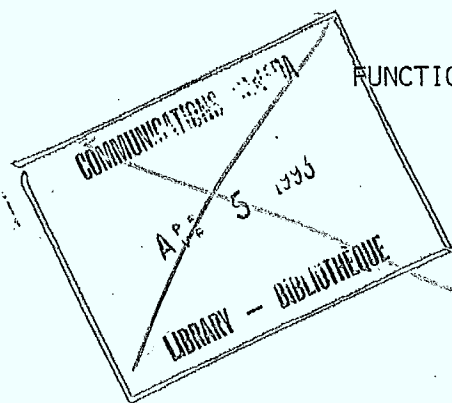
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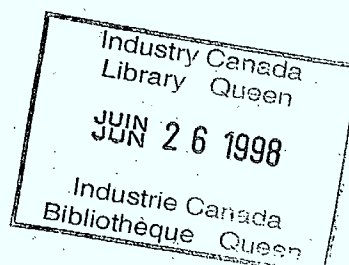
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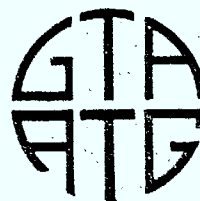
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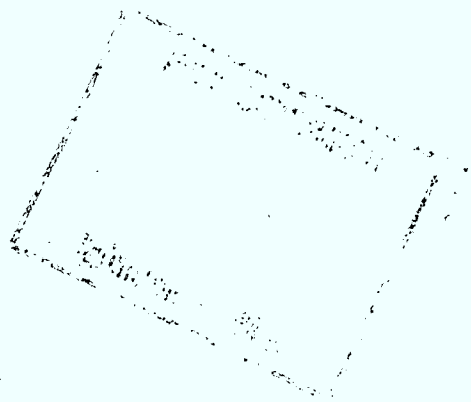
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Division of Development & Engineering  
Government Telecommunications Agency  
June 28, 1985

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## 1.0 INTRODUCTION

### 1.1 GENERAL

As a part of its on-going program to evaluate the potential of new technological products to be used to offer improved common telecommunications services to its client departments, the Government Telecommunications Agency (GTA) intends to conduct an electronic office communication trial project entitled "The Government Integrated Office Communications Trial Project". It is intended that the trial will commence in the first quarter of 1986 for a period of 12 to 18 months, and will involve users within GTA as well as from GTA's client departments. This trial will evaluate Northern Telecom's (NT) newest product, the "Meridian SL-1/ISN" to gauge the viability and cost-effectiveness of its electronic office communication capabilities.

Recognizing the fact that NT does not supply equipment directly to end users such as government departments, but acts through a network of distributors, this project will in no way jeopardize any future competitive process involving GTA's acquisition of systems/services using this particular product/technology and approach or any other similar product/technology and approach.

This document describes the functional and user requirements of the GTA trial project to support its stated objectives. It is intended that NT will develop and submit a proposal on:

- its role, as designer and manufacturer of the equipment to be evaluated, in facilitating and supporting the GTA trial; and
- the terms and conditions for the use, by GTA and its client departments, of the Meridian SL-1/ISN equipment and support services to be engineered and furnished by NT for the duration of the trial.

## 1.2 TRIAL OBJECTIVES

The major objectives of the trial service are:

1. to better define government electronic office communication requirements;
2. to identify the basic common service requirements and other telecommunication parameters which are the most suitable to meet the administrative needs of the government with respect to achieving the best pay-offs in terms of productivity improvement and communications costs;
3. to provide an operational test bed to Northern Telecom to evaluate the acceptability of its product in an operational environment and to identify commercial and industrial opportunities for potential supply of electronic office communication systems and services to the Federal Government by Canadian industry.



## 2.0 FORM AND CONTENT OF THE PROPOSAL

### 2.1 GENERAL

The vendor's proposal to supply this trial service shall comply with the following format and content details.

#### 2.1.1 COMPLIANCE

The proposal shall include a statement confirming the overall compliance with the requirements of this document.

The proposal shall specify which, if any, of the vendor responsibilities described in Section 3.0 of this document will not be carried out and which of the functional and user requirements (Section 5.0) will not be met with the system proposed for this trial.

#### 2.1.2 SYSTEM DESCRIPTION/CONFIGURATION

The proposal shall contain a system description and network configuration for the system to be provided to satisfy all stated functional and user requirements in this document. Schematics and diagrams should be used to help illustrate. Standard brochures and specifications may be submitted as addendum material but not as the primary proposal. The proposal must identify and quantify all hardware and software (generic version identification) components. All telecommunications (transmission) services and associated facilities/equipment (e.g. modems, multiplexors, etc.) required in the network configuration shall be identified. The proposal should list and describe all proposed service features such as telephone, data connectivity, information services and network administration capabilities to be provided, including a list and description of any third party software.

### 2.1.3 Protection Clause

Northern Telecom shall protect, defend and save harmless the Department of Communications, and the Government Telecommunications Agency against any demand for patent fee or other claims of any description for any patented invention, article or arrangement that may be used in construction or form any part of the articles delivered under the contract or on the methods necessitated by their use.

### 2.1.4 Terminology

In this document, the terms, "Contractor", "Company", "Vendor" and "Northern Telecom" are inter-changeable.

## 2.2 PRICING

### 2.2.1 Price

- a) All prices shall be quoted in Canadian currency.
- b) The proposal shall include a firm price for the exclusive use of the proposed system and network configuration for a period of twelve (12) months from the date on which the system is commissioned in accordance with the approved acceptance/ commissioning plan. It shall also include a firm price for a further optional six (6) month period of contiguous service.
- c) The total price quoted shall be made up of the following cost components:
  - i) a monthly per workstation cost for each level of service for the use of the Meridan SL-1/ISN system. These monthly costs shall include all costs associated with the provision and operation of the system/service including, but not limited to, such things as shipping, maintenance, installation, support, training, and testing. They shall also include the costs of any specialized or proprietary equipment such as M4020 terminals, AIMS, etc.

- ii) itemized costs for all tariffed telecommunications services, facilities, and equipment (such as multiplexers) required to interconnect the various system components and to connect the user terminals to the system.

\*NOTE: GTA will contract with the common carriers for the provision of these services.

- iii) incremental one-time charges or monthly costs, if any, associated with each level of service:

- for adding and configuring user terminals in addition to the quantities identified in this document (Section 5.3) at any point in the contract period;
- for additional user IDs, over and above the normal allocation of one per terminal, for occasional users (e.g. where 2 or 3 people may use the same terminal but wish to have separate user IDs);
- to relocate user terminals (cost, if any, in addition to normal tariffed installation charges);
- for any future service enhancements as and when available during the trial period.

- d) Prices quoted shall include any development (software and hardware) and software licence fees required by the Contractor to meet the requirements of this document, and items such as cables, racks, distribution frames, cabinets, training aids and any other components that may be required.
- e) The proposal shall clearly identify all costs which result from locating the Packet Transport Equipment (PTE) remotely from the SL-1.

### 2.2.2 Billing

The proposal shall provide details on the invoicing or billing options, indicating the point in time at which the invoices will be submitted. GTA shall accept invoices only from Northern Telecom and not from sub-contractors.

### 2.2.3 Purchase Option

The proposal should describe conditions under which GTA may purchase the SL-1/ISN system (hardware and software) and other communications equipment during and at the end of the trial period.

## 2.3 SYSTEM DELIVERY AND INSTALLATION

The proposal shall include all detail relevant to the delivery of equipment to the user sites and its installation by Northern Telecom. In particular, any requirements that may be placed on GTA or client departments in this regard, must be clearly identified.

## 2.4 GOVERNMENT FURNISHED EQUIPMENT/FACILITIES

The proposal shall clearly identify the quantity, type, size and location of all equipment and facilities which the vendor expects the government to provide as a part of this trial service.

## 2.5 SERVICE IMPLEMENTATION AND MANAGEMENT

### 2.5.1 Project & Implementation Schedule

The proposal shall include a firm schedule relative to the execution of the order, providing milestones for delivery of system components, installation, commissioning, and cut-over, together with other activities such as user station review and training. This schedule shall clearly indicate when all government furnished equipment and facilities must be made available to the vendor. If certain system features will not be available at the time the system is to be commissioned, an implementation schedule shall be provided for them.

#### 2.5.2 Project Management & Organization

The proposal shall include a project management plan and the structure of the vendor's project team with the Northern Telecom, Bell Canada and BNR personnel identified.

#### 2.5.3 Commissioning (service acceptance)

The proposal shall outline the service acceptance/commissioning procedure that the vendor plans to use. The vendor shall also agree to submit an acceptance/commissioning plan to GTA for review and approval not more than four weeks after contract award.

#### 2.5.4 System Maintenance & Operation

The proposal shall outline how the vendor proposes to operate and maintain the trial service system. The vendor shall agree to deliver a detailed operation and maintenance plan to GTA for review and approval not later than 8 weeks after contract award.

#### 2.5.5 ISN Software/Hardware Upgrades

The proposal shall specify what plans the vendor has for software and hardware upgrades/enhancements during the trial period. It shall also specify the procedures that will be followed by the vendor to:

- obtain approval for changes from GTA
- implement the changes so as to minimize disruption to users

#### 2.6 DOCUMENTATION

The proposal shall include a list of the relevant supporting documentation that the vendor will provide to GTA and will indicate when each type of documentation will be delivered to GTA.

As a minimum, the documentation to be provided should include:

- a description of all service capabilities for initial and subsequent software releases (within the trial service period)

- methodology and support procedures and forms to identify detailed user requirements and for conducting user station review (service feature requirements for a particular station)
- all documentation required by GTA and user departments for performing any operational/administrative activities required during the trial (such as user and operation manuals and practices)
- site preparation specification for installation of the equipment required
- training manuals and procedures
- any other documentation which the vendor deems to be necessary.

Sample documentation should be included with the proposal where it is available.

#### 2.7 TRAINING

The proposal shall outline the method the vendor proposes to use to train both the system users and the GTA system/service administrator(s). The vendor shall agree to submit a detailed training plan to GTA for review and approval not later than 8 weeks after contract award.

#### 2.8 EXPANSION CAPABILITY

The proposal shall specify the amount of expansion capability (in terms of the number of additional terminals) that will be built into the delivered system. It shall specify if and how the system could be expanded to accommodate additional terminals during the trial period. Any additional space requirements for system expansion shall also be specified.

2.9 TELEPHONE SERVICE

The proposal shall clearly specify what telephone features the users of the service will receive from the SL-1 equipment, and how the SL-1 will interface with the public telephone network and the government's Enhanced Exchange Wide Dial (EEWD) system in Ottawa to provide users with access to EEWD features and the government's Intercity Network. The proposal shall also clearly specify how current user telephone procedures will be changed with the SL-1 system.



### 3.0 VENDOR RESPONSIBILITIES

#### 3.1 GENERAL REQUIREMENT

The vendor will provide the complete and operational system and services required by the GTA trial service to satisfy all functional, service and user application requirements as stated in this document.

#### 3.2 INSTALLATION AND WIRING

The vendor shall design the service, provide the equipment and software, and install the service as defined herein.

- The vendor shall furnish and install all equipment, software, accessories and material. Any material or equipment which the vendor deems necessary for the proper and satisfactory operation of the system that is not specified or described herein shall be deemed to be part of this specification.
- The vendor shall furnish and install all cable and wiring required to connect the service and to interface with common carrier facilities. Other items of equipment such as termination blocks, main distribution frames, terminating hardware, cabinets, etc., shall also be furnished and installed by the vendor.
- The vendor shall ensure that all wiring and installation work is satisfactorily completed by qualified and trained personnel, and complies with the relevant electrical and building codes. The vendor shall maintain and make available to GTA relevant, accurate and comprehensive records of all terminations, wiring and interconnections associated with the installation of the service, throughout the life of this and any subsequent contract.
- The vendor shall clearly identify the requirement for common carrier facilities to interconnect the various system components and to connect the user terminals to the system. The vendor shall coordinate the connection of common carrier facilities.

### 3.3 MAINTENANCE/REPAIR

The vendor shall be responsible for providing all personnel, spare parts, and test equipment required to maintain and repair the overall system. The vendor shall also be responsible for the conduct of all activities required to maintain the entire system in good working order. The vendor's maintenance activities shall be designed to ensure that the system availability and maintenance response times specified in section 5.1.3 are fully met. The vendor's maintenance activities will include, but not be limited to the following:

- the monitoring of system performance to detect any degradation of service;
- the performance of all preventative maintenance procedures recommended by the manufacturers of the various parts of the system;
- the performance of all necessary corrective maintenance activities; and,
- co-ordinating with the common carriers the correction of any communications related problems.

The vendor's maintenance responsibility will include all system components with the exception of government provided terminal devices.

### 3.4 ADMINISTRATION

#### 3.4.1 Maintenance/Equipment Records

The vendor shall undertake to maintain and make available to GTA accurate maintenance/equipment records for the network service in accordance with an approved operations and maintenance plan. These activities shall include, but are not limited to the following:

- 1) maintain updated equipment records;
- 2) maintain updated equipment and network layout drawings and records including wiring distribution and terminations;
- 3) maintain updated records of all services feature assignments, parameters, etc.;
- 4) maintain updated routine preventive maintenance records;
- 5) maintain updated records of all repairs, replacements, equipment and software failures, network outage or deficiencies, etc.

#### 3.4.2 Service Administration

The vendor shall ensure that the relevant information, management tools, etc., including the provisioning of personnel, if required, will be available for GTA to perform administrative functions relating to activities such as:

- 1) trouble reporting to manufacturer and common carrier;
- 2) reconfiguration for adding/deleting users and other related functions;
- 3) billing and cost sharing allocations, etc.

### 3.5 SYSTEM IMPLEMENTATION

Following the delivery and installation of the system, the vendor shall conduct an acceptance test to demonstrate to the satisfaction of GTA that the system performs to the specifications detailed in this document. Acceptance testing will be conducted in accordance with the procedures contained in the approved acceptance/commissioning plan.

### 3.6 TRAINING

The vendor shall provide and coordinate all necessary technical, maintenance/operations/administration, and user training for GTA and user department personnel in accordance with an approved version of the vendor's training plan. The vendor should assume that the users are not currently familiar with the operation of office automation systems/devices.

### 3.7 TECHNICAL INFORMATION AND ASSISTANCE

Northern Telecom will make available technical assistance and related information to GTA. As a minimum information pertaining to the technical specification and operational practices of the proposed system will be required. Information and assistance will be provided to GTA during both the pre- and post-system implementation phases of the trial service.

The required assistance will relate to areas such as

- information to permit GTA to conduct cost-benefit, user need and application/usage analysis

- administration of the service
- information with respect to equipment interfaces.

3.8 PERMITS AND CERTIFICATES

The vendor shall obtain and pay for all permits and licences required and necessary for the performance of the work and shall post all notices required by the law and comply with all laws, ordinances and regulations bearing on the conduct of the work as drawn and specified.

On any work upon which an inspection certificate by local authorities, or any other governing body is required, such an inspection certificate or certificates shall be obtained and paid for by the vendor.

The vendor shall procure all necessary certificates of acceptance or of completion required and issued by provincial, municipal, or other authorities and deliver these to the Government.

#### 4.0 TERMS AND CONDITIONS

##### 4.1 GENERAL TERMS AND CONDITIONS

The following General Terms & Conditions shall apply:

- Standard DSS Terms and Conditions

##### 4.2 SPECIFIC TERMS AND CONDITIONS

In addition the following terms shall apply:

- 4.2.1 Her Majesty accepts no responsibility for the design of the Service and no acceptance tests conducted by GTA diminish in any way the responsibility of the Company to provide Service of such quality and performance acceptable to Her Majesty.
- 4.2.2 Any alterations or modifications in site preparation which are attributable to incomplete or erroneous specifications provided by the Company which would involve additional expenses to Her Majesty shall be made at the expense of the Company.
- 4.2.3 It is understood and agreed that the Company shall, during and after the effective period of the Agreement, treat as confidential and not divulge, unless otherwise authorized in writing by the Crown, any information obtained in the course of the performance of such Agreement. It is incumbent on the Company to execute an affirmation of secrecy document with company personnel and to maintain such documents on file.

- 4.2.4 The Company agrees to pay all charges incurred because of mistakes made in reporting faults to the common carrier when such faults are found later to have originated from non-carrier equipment.
- 4.2.5 The Company is hereby notified that traffic information, security codes and other information of a restricted nature ("the data") which come into the custody or possession of the Company as a result of the provision to Her Majesty of Service are proprietary to Her Majesty and treated consistently by Her Majesty as restricted data.
- 4.2.6 The Company shall take all reasonable precautions necessary to protect the confidentiality of the data, including any measures set out in instructions issued to the Company by Her Majesty, and shall provide the same level of protection to the data as the protection afforded to information proprietary to the Company which the Company classifies as "Restricted" for its own purposes. At no time shall the Company make the data available to any of its employees, agents or contractors except for those having a bona fide need to know in order to carry out the Service.
- 4.2.7 The Company agrees to provide Service connections to equipment and services of all Common Carriers and to equipment and services owned by Her Majesty when such work is requested, provided acceptable connection standards are attained or exceeded.
- 4.2.8 The Company shall agree to provide the latest manufacturer recommended diagnostic software and preventive maintenance software for the duration of the proposed contract period.
- 4.2.9 Subject to the technical availability of traffic information, billing detail, usage statistics and/or any other such information concerning the operation of the Service, the Company shall provide to GTA or to parties designated by GTA, upon request and without unreasonable delay, traffic information, billing detail, usage statistics



and/or any other such information concerning the operation of the network, and the content and format of such information as well as the frequency which the information will be provided to GTA or parties designated by GTA shall be as specified by GTA.

4.2.10 The Company agrees to notify GTA of all new or revised hardware or software as it becomes available. The Company agrees to upgrade the Service, where requested to do so by Her Majesty as and when new service hardware or software becomes available. The Company shall not unreasonably delay the introduction of new service hardware or software, where the said hardware or software has been ordered by Her Majesty. The Company agrees that the charges for such new or revised services shall be at least as low as the lowest charge available to any other Company customer for similar services.

4.2.11 If at any time during the contract period, the service fails to meet specifications agreed to by the parties, the Company shall submit a corrective action plan to GTA and shall undertake immediate corrective action once the action plan has been approved by GTA. Such corrective actions shall be undertaken without charge to Her Majesty.

4.2.12 The Company shall bear the risk of loss, theft, destruction or damage to any equipment described in the Agreement while the equipment is in transit to any government sites where Service has been requested by Her Majesty and while at any such government sites until the Acceptance Date, except for loss, theft, destruction or damage caused by acts of default, neglect or omission by Her Majesty or Her employees or agents. After the Acceptance date, all risk of loss, theft, destruction or damage to the equipment shall be borne by Her Majesty notwithstanding that title to the equipment may rest with the Company.

4.2.13 The Company agrees that any and all hardware, software or service described in the Company proposal which does not appear in the Price section will be considered to be included in the service at no additional charge unless specifically identified as an optional extra.

4.2.14 Unless GTA decides to exercise a purchase option or to extend the contract, the Company agrees, at the end of this contract period, to remove its equipment from government premises within 30 days at no cost to her Majesty.

## 5.0 SYSTEM/SERVICE/FUNCTIONAL AND USER APPLICATION REQUIREMENTS

### 5.1 OVERALL SYSTEM REQUIREMENTS

The following outlines the general system functional requirements.

#### 5.1.1 Trial Duration

The trial service shall last for a period of 12 calendar months from the date on which the system is fully tested and commissioned. The GTA shall have the option to extend the trial for an additional period of six (6) months immediately following the initial twelve month period.

#### 5.1.2 Trial System Functionality & Capacity

- a) The trial system shall be equipped with the full set of service functionalities (capabilities) of the "Meridian" SL-1 Integrated Services Network (ISN) and the latest software release at time of system cutover. User application requirements for each of the participating user departments are described in the following sections. (Supporting documents for background and clarification purposes will also be provided on request). NT shall clearly identify which of these requirements, if any, will not be met by the trial system and also advise of other capabilities which might be available with the trial system.
- b) Equipment to be provided to support the service shall be designed and equipped with sufficient hardware capacity to accommodate all traffic load variables during the trial service period when all user applications have been fully established.

### 5.1.3 System Availability

- a) The services provided by the system shall be available to all users on a 24 hour per day seven day per week basis.
- b) The vendor shall propose an availability objective for the major system components (eg. 99.7% per month) for review and acceptance by GTA.
- c) Any scheduled service disruptions required for hardware/software maintenance/enhancement/replacement will occur on week-ends, holidays, or during quiet hours. The timing of all such disruptions shall be mutually agreed upon by GTA and the vendor. Any such scheduled disruptions shall not be included in the system availability calculations.
- d) When service to an individual user or group of users is disrupted during normal working hours (8 a.m. to 5 p.m.), it shall be restored within four hours. Where this four hour period would extend beyond 5 p.m., the service shall be restored by the beginning of the next regular business day.

### 5.1.4 Network Configuration

- a) It is GTA's intent to locate the Meridian SL-1 equipment in GTA office space in the Journal Tower North building at 300 Slater Street in Ottawa, and the associated Packet Transport Equipment (PTE) in Treasury Board/Department of Finance space in the east tower of the L'Esplanade Laurier building at 140 O'Connor Street in Ottawa (these locations are more than 700 feet apart).
- b) The user group locations and usage distribution are described in section 5.3. The trial SL-1/ISN system shall be configured, on the basis of minimum cost for all telecommunications and information services, to meet stated user application requirements.

#### 5.1.5 Response Time

The response time requirements for each of the user applications is for responsive, interactive and user friendly services for each of the applications. As far as communication data rates are concerned, the general requirements are that the maximum data rate which the service can support for terminals with direct access to the system should be 1200 to 2400 baud for standard dial-up access and at least 9600 baud for access to the system via dedicated or switched digital telecommunications facilities. Users and terminals co-located with the Packet Transport Equipment (PTE) should operate at higher rates up to the limit as specified in Northern Telecom's specification.

#### 5.1.6 Data Security & Integrity

The system design and configuration shall provide safeguards to ensure the security and integrity of all users' data. The safeguards shall be designed to ensure that only authorized users (and administrators) can access information and files, and that periodic backup copies of all information and files are made and appropriately stored.

#### 5.1.7. System Failure & Contingency

The system shall incorporate measures to ensure that no user information will be lost or corrupted during periods of system failures. Contingency plans shall be developed to deal with catastrophic system failures.

### 5.2 SERVICE ADMINISTRATION

#### 5.2.1 General

An essential requirement of the trial service to be supported by the proposed system is the function of service administration. The

5.2.1 General (cont'd)

service administration functions encompass all aspects in the administration of a shared multi-tenant information system. The proposal should address and describe how and what tools and services are available as part of the contract to permit GTA to assume and evaluate these service administration functions in view of expanded future service offering to other government departments.

5.2.2 Statistical/Usage Data Requirements

Call Detail Recording Capabilities

In the trial system, call detail information is required for the statistical analysis of traffic loads and distribution. The availability of this information is required by GTA to evaluate the capabilities of the call detail recording features of the system for future operational traffic management, network design and billing purposes.

### 5.3 USER APPLICATION REQUIREMENTS

#### 5.3.1 General

The following sections describe user application requirements for four participating departments in the trial service.

An essential requirement for the proposed system to support these applications is that the equipment should be designed and configured with sufficient capacity to accommodate all traffic load variations during the trial service period when these user applications have been fully established to meet their intended objectives. The level of these traffic loads and memory requirements have not been measured or estimated.

The following sections specify the users' application requirements, the user group locations/addresses and the number and distribution of terminals.

#### 5.3.2 User Application Requirements Analysis

GTA agrees to participate with Northern Telecom in the conduct of user needs analyses, at no cost to GTA, for the purpose of permitting Northern Telecom to determine various user data traffic requirements to design and properly configure the proposed system and network.

GTA shall be provided with the results of these analyses and the methodology used to derive configuration and traffic data.



### 5.3.3 USER REQUIREMENT

#### TREASURY BOARD/DEPT OF FINANCE/OFFICE OF THE COMPTROLLER GENERAL (TBC/FIN/OCG)

##### I) Applications

TBC/FIN/OCG intend to use the trial service in their Administration Branch to:

- provide communications and management support for the managers (Director General to the Chief level) and their administrative/secretarial staff;
- automate the processing of requisitions for goods and services required by the Branch;
- automate activities associated with the initiation, performance, and tracking of personnel staffing and classification actions;
- provide automated working tools to the managerial and consulting staff of the Systems Division; and
- allow the telecommunications staff to evaluate the telephony features of the NT Meridian SL-1/ISN system.

##### II) Functional Requirements

Following is a description of the functional requirements of each of the user groups in TBC/FIN/OCG Administration Branch:

###### 1. ADMINISTRATION BRANCH MANAGEMENT

###### a) Preparation and distribution of documents

There is a requirement for the preparation and distribution of documents such as minutes of meetings, circular letters, memoranda, agendas and so on to various members of the Branch management. The system would also allow managers to comment on text documents prepared by any of their colleagues.

A/F

These comments may be voice or text annotations to a document, either by a single individual working on his own or in consultation by telephone with another system user. Managers would also be able to send electronic messages to one or more system users. Directories of frequently called telephone numbers or commonly required addresses would be available.

b) Meeting scheduling

Managerial and secretarial time is often wasted in trying to set up meetings, schedule rooms and distribute supporting documents. Managers also frequently require a work tracking capability to determine the status of an assignment and be reminded of upcoming due dates.

c) Resource utilization and activity reporting

Effective management of the Branch requires that information be available, both at the Division level and the Branch level, on the utilization of human and dollar resources for the provision of various services to the three client Departments. The systems should allow Chiefs and Directors to complete online resource utilization forms, have them aggregated, forwarded to a Branch reporting mechanism and, if required, depicted as graphs. The system should also allow narrative project status reports to be appended to these statistical reports. A project management and resource scheduling facility to support this requirement is desirable.

d) Ability to read data and update information as required

Information on budget and actual expenditures as well as on personnel activities and statistics is necessary for the effective management of the Branch. Branch managers must be able to access the corporate financial and personnel information systems to view information on their own operations. These systems are IBM main frame based and, due to the confidentiality of the information they contain, require adequate security levels. Information from the financial system in particular, may be downloaded to a microcomputer for further analysis at the local level.

## 2. ONLINE PURCHASING

### a) Online completion, authorization and preparation of purchase requisitions

A review of the purchasing function is now underway in an attempt to streamline the operation and improve productivity (transaction turnaround, volume of transactions handled) as well as improve control over the status of any single transaction. It is proposed that, as part of this trial service, responsibility centers have access to an electronic purchasing requisition form. This form would allow them to enter basic information such as item requested, justification, financial code, authorizing signature and transfer the request electronically to the purchasing section. Purchasing officers would receive incoming requisitions, verify that information is complete and accurate, communicate by phone or electronic mail with clients to complete information, notify Financial Services electronically of the funds commitment request, and generate the output to DSS (paper or magnetic tape). This should result in a significant reduction in paper handling and filing requirements.

### b) Online funds commitment

Financial services staff, when notified of a commitment request, will require access to the in-house financial information data base. This system runs under system 2000 on an IBM 4361 located in the Department of Finance. Alternatively, the purchasing officers could use their terminals to access the data base and commit funds directly.

### c) Transaction tracking

Purchasing officers will receive reminders and reports on transactions. The details of each transaction will be recorded in a data base along with its current status. This will permit purchasing clients to determine directly what action has been taken on a requisition as well as permitting purchasing management to identify and correct bottlenecks.

### 3. ONLINE PERSONNEL ACTION REQUESTS

a) Online completion and authorization of personnel action request forms

The personnel administration process is centred on the Personnel Action Request Form (PARF) which initiates classification, staffing and language identification actions. Besides authorizing the initial request, the PARF also records necessary signoffs and provides a transaction tracking mechanism. It is proposed that this function be performed by means of an electronic form to record information and signoffs. Details of a transaction would be recorded in a data base thus allowing personnel staff and clients to determine directly the status of and recent activity on a transaction. From their terminals, personnel staff should be able to query and update the in-house personnel information system.

b) Automatic creation and updating of COPIS record

Information contained in the electronic form should be automatically transferred to a COPIS record if one already exists or create a new record if necessary.

c) Automatic routing and tracking of requests with supporting documentation

After a PARF has been completed and signed on a terminal, it should be automatically routed to the first step in the personnel process, along with supporting job descriptions and organization charts (also in electronic form). This will eliminate the existing requirement for each section to have a copy of a job description since the system copy will be available for reference purposes to all who need it. Organization charts are now generated by COPIS and should be available through the user's terminal.

d) Transaction and operational support

The personnel process requires many auxiliary services such as messaging, room bookings, personal calendaring, meeting scheduling, extensive telephone usage, and personal reminders. The process also makes extensive use of word processing to produce standard correspondence such as notifications of screening out and letters of offer. Personnel support staff should be able to generate these in letter quality directly from their terminals.

e) Report generation

Many management information reports are now generated manually. Transaction volume and turnaround reports would be generated directly from the tracking data base.

4. SYSTEMS DIVISION

a) Professional support

Consulting staff and management require support to analyse statistical data gathered in the course of management and systems feasibility studies and generate tables and graphs required for interim and final reports. In addition, productivity would be improved if this group were able to generate text, distribute it to colleagues and obtain voice and written annotations to the draft text. The ability to do this electronically would significantly reduce printing requirements. The nature of the work dictates that these individuals are frequently away from their offices and yet it is essential that they be able to receive and communicate messages to clients and colleagues. Within the lifespan of a project, they tend to have frequent telephone contact with a limited but large group of vendor representatives and other external resources.

b) Management support

The work of Systems Division consists largely of short and long-term projects which require coordination and utilization planning for staff resources. The work of the management group, including related support staff, would be facilitated by access to word processing software for the preparation of correspondence, reports and internal memoranda. Project management and control would be improved by the availability of a project management and resource utilization facility. Such a facility should be capable of recording and reporting on the time spent on the various stages of projects by different people, monitoring and reporting on adherence to milestones, plotting gantt charts for projects, and allowing "what if" analysis of proposed resource allocation changes. Personal utilities such as calendar management, meeting scheduling, and directory support are desirable. Advanced telephony features such as voice messaging, conferencing, automatic redial, direct dialing from a directory would reduce support staff workload and improve their accessibility both to staff and clients.

c) Systems development support

The systems development group is responsible for the development and maintenance of a number of mainframe and mini-based systems, most notably the IBM-based CFIS (Computerized Financial Information System) and COPIS (Computerized Personnel Information System) systems. To perform these functions, programmers require access to internal and service bureau data bases and 3270 emulation. Management control over this function would be improved with the availability of a project control system similar to that described in b) above.

5. TELECOMMUNICATIONS GROUP

a) Pilot evaluation

The telecommunications group requires terminals so that they may evaluate the telephony features of the Meridian system as well as provide assistance and support to other users of the pilot system as required.

### III) Summary of Feature Requirements

Following is a summary of the types of features that will be required by each of the user groups in the TBC/FIN/OCG Administration Branch:

#### 1. ADMINISTRATION BRANCH MANAGEMENT

- voice messaging
- text messaging
- voice annotation to text message or word processing document
- forms
- spreadsheet
- word processing
- calendar management (and automatic meeting scheduling)
- BF (reminder capability)
- electronic text distribution (electronic mail)
- directory
- 3270 emulation
- security level definition

#### 2. ONLINE PURCHASING

- forms (including electronic signature)
- 3270 emulation (connectivity to internal IBM data base)
- online financial commitment authorization
- BF capability
- messaging (voice and text)
- directory
- statistical reporting
- filing (read only access from any terminal to determine transaction status)
- word processing
- letter quality output
- data base management system



3. ONLINE PERSONNEL ACTION REQUESTS

- forms
- 3270 emulation
- access to external data base (gateway)
- online action authorization and signatures
- calendaring, scheduling
- standard correspondence generation (word processing)
- directory
- text messaging
- voice messaging
- BF capability
- statistical reporting
- spreadsheet
- data base management system

4. SYSTEMS DIVISION

- word processing
- voice messaging
- text messaging
- calendar, scheduling
- 3270 emulation and gateway to corporate database
- project control
- - statistical analysis *what packages?*
- spreadsheet
- directory
- shared document access

5. TELECOMMUNICATIONS GROUP

- voice (telephony) business calling features
- directory
- voice messaging
- screen based SL-1 telephony
- integrated voice/text messaging

VI) Transmission Rate

The transmission rate for all applications in Ottawa must be a minimum of 9600 bps.

V) External Communications Requirement

Access to external networks and services via an X.25 Gateway.

VI USER GROUP LOCATION & USER DISTRIBUTION  
TBC/FIN/OCG

The Packet Transport Equipment is expected to be located in the computer centre on the 18th floor of the east tower of the Esplanade Laurier complex at 140 O'Connor St. in Ottawa. Users will be located on the 3rd, 4th, 5th and 6th floors of the same building.

USER GROUP	NO. OF WORKSTATIONS	REMARKS
BRANCH MANAGEMENT		
- DG's OFFICE	4	3 - 4020 1 DECMATE WP
- PROFESSIONAL & TECH. SERVICES	7	5 - 4020 2 IBM PC
- ADMIN SERVICES	6	4 - 4020 2 IBM PC
- PERSONNEL SERVICES	12	CURRENTLY USE IBM 3270's } *
- FINANCIAL SERVICES	10	" " " " }
- SYSTEMS DIVISION	6	4 - 4020 2 IBM DISPLAYWRITERS
PURCHASING STAFF	7	7 - 4020
PERSONNEL OFFICERS	10	CURRENTLY USE IBM 3270's *
SYSTEMS CONSULTING STAFF	6	4 - 4020 2 IBM PC's
TELECOM OFFICERS	4	4 - 4020

\* THE TYPE OF TERMINALS TO BE USED  
 BY THESE USERS HAS NOT YET BEEN  
 DETERMINED.

5.3.4 USER REQUIREMENTS  
TRANSPORT CANADA

I) Applications

- a) Information Handling Airworthiness (Transport - Air)
- b) Communications (Messaging and document control) and management support in Airworthiness

II) Functional Requirements

Transport Canada has the following functional requirements:

1. Electronic Messaging

The system must provide the capability to send, receive, store, B.F., retrieve, answer and forward (with or without comment) both text and voice messages.

2. Electronic Document Preparation;  
Distribution, Filing & Retrieval

- The System must provide:
  - a word processing capability which can be used to prepare lengthy electronic documents
  - the ability to distribute electronic documents to all system users

- the ability to file and retrieve documents from personal & shared files using the following keys:
  - brief subject identification
  - file reference number
  - day/month/year
  - date and time sequence
- a means of automating the processing of forms
- the ability to apply an electronic signature to a document through the use of a password or code
- the ability to conduct screen/voice meetings simultaneously between two or more workstations where all parties have the ability to amend the screen presentation
- the ability to restrict access to files through the use of security passwords
- the ability to insert comments into a document or to append them to the document
- the ability to transfer PC generated files such as spreadsheets

3. Correspondence Control & Tracking

A/F  
The system must provide a method of controlling and tracking both internally and externally generated correspondence using such items as record no., record date, external file no., document date, addressee, originator, subject, document type, action required, BF date, date returned, disposition, and cross reference.

4. Shared Professional Services

The system must provide all users access to the following shared professional services:

- directory, mail and phone lists (both personal & shared)
- calendaring and scheduling facilities
- a reminder, BF service

5. Personal Professional Tools

The system must provide all users with access to such personal professional tools as:

- spreadsheets
- project management
- database management
- other PC type applications

6. Shared Printers

A/F The system must allow workstations to share one or more dot matrix and/or letter quality printers. It must be possible to queue jobs for the printer while the workstation proceeds to other tasks. The system should advise the user when the printed output is completed.

7. Multitasking

The system must allow users to carry on with other tasks while printing, receiving and sending messages, etc. The system must allow users to interrupt tasks, and to resume them at a later time at exactly the same point at which they were interrupted.

8. System Security

The system must employ a security password system for system sign-on and for access to private information contained within the system.

9. Database Access

The system must provide the ability to access databases on IBM mainframe systems.

10. Microcomputer Interface

The system must allow IBM PCs to be used as terminal devices.

11. Portable Input Devices

The system must allow for the use of portable microcomputer type input/output devices through dial-up access.

12. Input of External Documents

The system should allow for the input of externally generated documents through devices like an OCR.

III) Response Time

Response time for internal applications must be at 9600 bps. External applications require communications at 1200 bps minimum.

IV) External Communications Requirement

Access to public data networks and to GEMS/ENVOY 100.

V) User Group Location & User Distribution

User Group	Location	Floor	No. of Terminals	No. of Users	Remarks
MOT HQ	Headquarters Centennial Towers 200 Kent St. Ottawa, Ontario	7	83	95	6 IBM PCs with printers 1 L.Q. printer 77 VT100 type terminals
MOT Ont. Region HQ.	Ontario Regional Office 4900 Yonge St. Toronto, Ontario	3	19	35	2 IBM PCs with printers 17 VT 100 type terminals
District Offices	London, Ont.	-	1	2	VT 100 with printer
	Timmins, Ont.	-	1	4	VT 100 with printer
	Ottawa (Airport)	-	1	4	VT 100 with printer
	Toronto**	-	-	-	VT 100 with printer
MOT Que. Region H.Q.	Quebec Regional (Dorval Airport)	one floor	20*	36	mix of terminal types not yet determined
District Offices	Quebec City	-	1*	4	terminal type not yet determined
	Val D'or	-	1*	3	terminal type not yet determined
	Montreal**	-	-	-	terminal type not yet determined

\* The inclusion of these terminals in the trial is desired by Transport Canada for a period of at least one year. Installation of these terminals is not scheduled for the initial phase since bilingual software is unavailable on the first release.

\*\*The number of terminals and users for this district office are included in the Regional HQ totals since the offices are in the same physical location.



### 5.3.5 USER REQUIREMENTS

#### - GOVERNMENT TELECOMMUNICATIONS AGENCY (DEPARTMENT OF COMMUNICATIONS)

##### I) Applications

- a) Communications (Messaging) and Management Support
- b) (IOS) Evaluation/Demonstration and Trial Project Management
- c) GTA Circular/Bulletin Preparation & Approval
  - The preparation of GTA circulars and bulletins is co-ordinated by the DPC organization in GTA HQ. Before these documents are approved and released, they must be reviewed by both HQ and regional managers. It is intended to use the electronic document preparation, distribution, and editing capabilities of this trial service to automate this approval process.

##### II) Functional Requirements

- 1. Word Processing - To include document preparation from a keyboard, full editing capability, all the attractive features of the best microcomputer word processing packages such as WORDSTAR etc. Full bilingual capability both for keyboards, display and printing. Spelling checker, flexible format (not page oriented). Ability to annotate electronic copy for further correction by a secretary, typist or other individual so that originator can put comments on draft documents which he creates.
- 2. Document Input - Must be capable of inputting documents from other electronic systems and media. Transfer AES word processing text into IOS word processing files for editing. Transfer of ASCII textual files from other electronic messaging services such as ENVOY and EOS. Input of printed documents via OCR equipment is desirable. Input of voice comments on documents is also desirable.

A/F

Interfaces available?

3. Document Handling and Record Keeping - Input and editing as above.

Electronic filing in records management form where documents can be filed under file numbers, file labels, easy common user identified file references. A user should be able to create his own file system while still being required to file documents under the organization's official records management system. Thus when a document is created or is received, it will be assigned to the organization's official file but the user may file it in his "green binder" for example. There is a requirement to be able to annotate documents by adding voice comments and/or written comments. Once these are annotated to the document when it is an official copy it should not be possible to delete them, similar to the minute system now used. Once an outgoing document is in official final form it should not be capable of being altered. Documents should be capable of being sent by anyone to anyone in the system and a log kept of who has the document. A correspondence log or "purport" is required for all official incoming and outgoing correspondence. Must be able to prepare correspondence and route it for staffing and signature in its draft form. Must be able to transmit documents to other users on the system, to outside electronic messaging systems, and users on other networks as ASCII textual files.

1 voice recognition?

→ A/F

4. Directory - Must include a directory which should list the phone numbers, full names, mailing address, messaging address, organizational title both long and short forms and nickname used. Directory should also contain distribution and routing lists.

A/F

5. Forms - Must be able to call up standard forms on screen and fill in necessary spaces with automatic routing to next address for processing with control on designated fields and authorization fields where signatures and control numbers are required. Filing of forms is also a requirement.

6. Calendar - Calendar systems for all individuals and facilities such as conference rooms and audio visual equipment.

7. Financial Spreadsheet - Provide capability to run one of the existing popular financial spreadsheets such as LOTUS 1-2-3, Supercalc, Multiplan, Visicalc etc. It would be desirable that existing commercially available software be capable of being run on the system.
8. Integrated Software - Provide capability such as found in Symphony and Framework software packages, where word processing, database management, graphics, and spreadsheets run as an integrated package.
9. Database Management System - A multi-user database management system such as DBase III is essential. DBase II should also be available.
10. Access Capability - Provide protocol conversion to access X25, SNA, etc protocols. Provide for 3270 protocol emulator for dumb ASCII terminals and other types of terminals. Provide access to other types of LANS to be described.
11. Central File Server, Printer and Magnetic Tape Backup - Provide a central file server, high speed printer and a magnetic tape backup capability.
12. Local Processing and Storage - Provide at user workstations, micro processor power with floppy and hard disks. Also parallel and serial printer ports.
13. Command Language - Operating System command language must be user friendly.
14. Security - Require system of user identifiers and passwords.
15. Micro-Mainframe Link - Must be able to up and down load various micro and mainframe files for local or remote processing. Provide access to numerous different mainframes used by Agency personnel.

*interfaced  
available?*

III. User Group Location and User Distribution

GOVERNMENT TELECOMMUNICATIONS AGENCY

User Group	Location	Floor	Application(s)	No. of Wkstn/ Users (ID)	Remarks
a) GTA HQ & NT	Journal Tower N. 300 Slater St. Ottawa, Ontario	10	I(a) (c)	4	DGGT, DST, DFA, DPC
		7	"	1	DDE
		14	"	1	NCR
		7	I(b)	1	OCDC (DDE)
		10	I(a) (c)	3	DPC
		17	I(a)	2	DATS
		7 14 7,9, 10	I(a) (b) I(a) (c) "	4 1 7	DDE NCR (see note 1)
b) GTA Ont Region	St. Claire E. Toronto, Ontario	9	I(b)	1	
			I(a) (c)	1	
c) other region off.	Atlantic Region Moncton		I(a) (c)	1	Dial up access with ASCII or terminal with VT100 Emulation
	Quebec Region Montreal		I(a) (c)	1	"
	Central Region Winnipeg		I(a) (c)	1	"
	Pacific Region Vancouver		I(a) (c)	1	"

(F) —

Note 1: Develcon Dataswitch to connect to SL-1 (IOS) via sufficient circuits to serve 35 terminals (user) sharing 7 user IDs in IOS. The 35 terminals comprise of 30 Televideo 925, 3 Direct terminals and 2 IBMPC.

#### IV Response Time

Response time for internal (Ottawa) applications must be at 9600 baud. External applications require communications at 1200 baud minimum and 2400 baud (desirable).

#### External Communications Requirement

- Access to GEMS/ENVOY 100 for electronic messaging, including auto-delivery mailbox.
- Access to the CRC (Communications Research Centre) computer, located in Shirley's Bay, to support various applications on a reach-through basis.
- Voice mailbox capability, particularly for the Ontario Region (and possibly for the National Capital Region).

### 5.3.6 USER REQUIREMENTS

#### CUSTOMS AND EXCISE (Department of Revenue Canada)

##### I) Application

Communications (Messaging) and Management Support for headquarters executive staff.

##### II) Functional Requirements

- Voice & Text Messaging
- Database access
- Filing (personal & departmental)
- Printing on shared printers
- Ability to access computing tools such as spreadsheets, calendar management, project management, database management and document preparation tools
- Electronic forms
- Voice/data conferencing
- Personal & corporate directory

##### III) Response Time

Response time for internal applications must be at 9600 bps.  
External applications require communications at 1200 bps minimum.

##### IV) External Communications Requirement

- Access to GEMS/ENVOY 100 for electronic messaging
- Communications with departmental MICOM communicating word processor

V) User Group Location & User Distribution

User Group	Location	Floor	No. of Terminals	Remarks
ADM & Assistant	Connaught Bldg. McKenzie Ave. Ottawa, Ont. K1A 0L5	7	3	2 Display phones 1 VT 100 1 Printer (D.M. - slave)
SECT. DIR.		4	7	5 Display phones 2 VT 100 1 Printer(L.Q.-dedicated) Gandalf Mux & modems installed in closet on 4th floor

VI) Expansion Capability

Revenue Canada/Customs & Excise wishes to have the capability to increase its number of terminals by up to twenty terminals during the trial period.



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## DATE DUE

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