

Canadian Federal Government  
Information Technology  
Marketplace  
1991

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# **Canadian Federal Government**

## **Information Technology Marketplace, 1991**

# Agenda

- Purpose and Scope
- Market Summary
- Policy and Program Consideration
- Departmental Highlights
- Conclusions and Recommendations



## Purpose

- Provide tactical and strategic information on Canadian Federal Government Information Technology marketplace
- Enable subscribers to:
  - Understand and adjust to change
  - Focus on specific opportunities
  - Direct planning more effectively

## Project Scope and Methodology

- Determine detailed information at the department level
  - 21 organisations studied
  - Face-to-face interviews
  - Targeted the Director General Informatics
  - Obtained available advance planning documents
  - Department reviewed the results
- Interview policy-related areas of the Treasury Board Secretariat and Supply and Services Canada



## Departments Include

- Agriculture Canada
- Canada Mortgage and Housing Corporation
- Communications Canada
- Consumer and Corporate Affairs Canada
- Correctional Services Canada
- Employment and Immigration Canada
- Energy, Mines and Resources Canada
- Environment Canada
- External Affairs Canada
- Fisheries and Oceans Canada
- Health and Welfare Canada
- Industry, Science and Technology Canada
- National Defence
- National Research Council
- Public Service Commission
- Revenue Canada—Customs and Excise
- Revenue Canada—Taxation
- Royal Canadian Mounted Police
- Statistics Canada
- Supply and Services Canada
- Transport Canada

# Department Layout

1. Overview
  - a. Background
  - b. Organization
  - c. Technology Overview
  - d. Resources Available
    - 1991-1992 Funds
    - Informatics Person Years
    - Specific Funding
  - e. Key Contacts
  - f. Planning Documents Available
2. Today's Platforms and Applications
3. Planned Platform and Applications Activity
  - a. Systems Direction Drivers
  - b. Planned Changes
4. Business Opportunities

# Market Summary

- 1991-1992 Market Forecast
- Changing Marketplace
- Technology Trends
- Opportunity Analysis

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## Information Systems and Services 1991-1992 Market Forecast

OASIS Forecast by Category	Canadian \$ Millions
Facilities management	80.0
Professional services	250.0
Systems software	100.0
Hardware maintenance	180.0
Microcomputers	350.0
Mini/mainframe	150.0
Telecom equipment	130.0
Total OASIS forecast	1,240.0
Adjustment for regional IT contracting - 15%	180.0
<b>Total forecast</b>	<b>1,426.0</b>

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# Changing Marketplace

- Public Service 2000 is driving changes
  - Increased delegation of authority
  - Financial control of dollars versus person years
  - Optional use of common services

# Inhibitors to New Technology

- Lack of resources
  - Funding
  - People
- Training - time and cost
- Cost justification



# Technology Trends

- Distributing the processing
- Diverse acceptance of advanced technologies
- Widely planned network rationalization
- Broadly endorsed open systems and applications portability

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# Technology Trends

New Technology	Status of Use								
	In Use			Planned 1991-1992			Planned 2 to 4 Years		
	N	?	Y	N	?	Y	N	?	Y
LANs/servers	1	0	19	1	0	19	0	0	20
Image processing	17	0	3	9	2	9	3	5	12
Cooperative processing	13	0	7	9	3	8	1	3	16
Distributed DBMS	15	0	5	10	3	7	3	2	15
CASE	6	0	14	5	0	15	3	3	14
AI/expert systems									
Standalone	13	3	4	11	4	5	5	7	8
Imbedded	18	1	1	16	2	2	6	9	5
Voice/data integration	18	0	2	15	0	5	1	8	11
Wide-area networks	1	1	18	0	1	19	0	1	19
Object-oriented programming	19	0	1	17	2	1	3	12	5
UNIX	10	0	10	7	0	13	1	6	13
Systems application architecture	16	0	4	15	1	4	11	4	5
Open systems	9	0	11	4	1	15	0	3	17

Y = Yes    N = No    ? = Considering

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# Opportunity Analysis

- Who are the largest departments?
- What are the largest projects?
- Who are the major competitors?
- What are the high demand products and services?



## **Largest Departments**

- Employment and Immigration Commission
- Environment Canada
- National Defence
- Revenue Canada—Customs and Excise
- Revenue Canada—Taxation
- Supply and Services Canada
- Transport Canada

## **Crown Projects**

- Canadian Forces Supply System Upgrade (CFSSU)
  - National Defence
- Canadian On-Line Secure Information and Communications System (COFICS)
  - External Affairs
- Income Security Program Redesign (ISP Redesign)
  - Health and Welfare Canada
- Intelligence and Security Complex (ISX)
  - National Defence

## Top IT Vendors

Vendor	Canadian \$ Millions
IBM Canada, Ltd.	75.8
HNSX Super Computer, Inc.	46.7
Digital Equipment of Canada	42.9
STM Systems Corp.	42.1
Oracle Corporation Canada	41.2
Antares Electronics, Ltd.	33.8
Unitel Communications, Inc.	28.7
Bull HN Information Systems	24.2
Philips Electronics, Ltd.	22.9

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# Major Trends and Opportunities

- Expanding use of PC/LAN environments
  - Applications/locations
  - Hardware/software services required
- Professional services related to
  - Project management
  - Feasibility studies
  - Requirements definitions
- Systems integration is still not widely used
  - Departments want to retain control
- Support Arrangements for
  - PC/LAN installations nationally
  - Application maintenance
- Improved networking
  - Consulting on network rationalization
- Midrange processors and client servers
  - TBITS compliant offerings
- MVS platform status is department dependent
  - Some expanding, some contracting
- Software product opportunities for:
  - Integrated CASE
  - Human resources systems
  - PC/LAN application growth
- Image processing in some specific areas

# Policy and Program Considerations

- Public Service 2000
- Information management policy
- Information management planning
- Treasury Board Information Technology Standards (TBITS)
- Acquisitions 2000
- “Buy Canadian” and the rationalization policy
- Systems integration procurement framework

# Public Service 2000

## What It Will Mean to Vendors

1. Increased bilingualism
  - Screen formats, documentation, accents
2. Decentralisation and regionalisation means
  - Must sell centrally and locally
  - Must solve business problems, not talk technology
3. Operating dollars versus PY control may affect outsourcing
4. Government common service providers will have to compete
5. Human resources systems will be expanded to support improved employee relations

# Information Management Policy

- Treasury Board published two policies in 1990 related to information management
- Management of information technology
  - Coordination and overall Government direction
    - Planning information
    - Standards compliance
    - Business-like approach
    - Link IT strategies with program
    - Support open systems
    - Treasury Board approval levels

## Management of Government information holdings

- Information holdings are a corporate resource
- Organize information for broad access



# Information Management Planning

- Treasury Board Secretariat still has a key role
- Information Management Plan (IMP) replaces Information Technology and Systems Plan (ITSP)
  - More strategic
  - Annual plan as part of fall planning
- Advisory Committee on Information Management (ACIM) is a government-wide forum for exchange of information

# TBITS—Treasury Board Information Technology Standards

- Two key elements
  - Open systems interconnectivity (OSI)
  - Applications portability (AP)
- International standards being adopted
  - IOS
  - CCITT
  - IEC
- TBITS will be mandatory

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## Acquisitions 2000

- Grows out of PS 2000—operational use of common services
- OASIS of the future will:
  - Be viewed by clients as providing value-added service
  - Move from transaction orientation to process facilitation
  - Make greater use of electronics
    - Procurement Opportunity Board (POB)
    - Electronic Order-Taking Systems (ECOTS)
    - Item Information Systems
- Allow clients more authority in final choice

## **“Buy Canadian” and Rationalisation**

- A non-Canadian company could be “rationalised” to be equivalent to a Canadian company
- FTA and GATT restrict preferential treatment
  - Over 50% of OASIS equipment procurements still apply
- Currently, overall policy under review



# Systems Integration

Phase I report in January 1990—requirements and issues

1. Requirements definition
  - When in the cycle do you involve an integrator?
2. Conflict of interest
  - Front-end planning/back-end delivery
3. Prototyping
  - When will it be used?
4. Evaluation of Bids
  - Prestate “best value” rather than “lowest price compliant bidder”
5. Contracting
  - Escape clauses for termination

Phase II report being completed

Planned use of SI not widespread in departmental research

## Department Reports— List of Departments

- Agriculture Canada
- Canada Mortgage and Housing Corporation
- Communications Canada
- Consumer and Corporate Affairs Canada
- Correctional Services Canada
- Employment and Immigration Canada
- Energy, Mines and Resources Canada
- Environment Canada
- External Affairs Canada
- Fisheries and Oceans Canada
- Health and Welfare Canada
- Industry, Science and Technology Canada
- National Defence
- National Research Council
- Public Service Commission
- Revenue Canada—Customs and Excise
- Revenue Canada—Taxation
- Royal Canadian Mounted Police
- Statistics Canada
- Supply and Services Canada
- Transport Canada

# Department Reports— Department Layout

## 1. Overview

- a. Background
- b. Organization
- c. Technology Overview
- d. Resources Available
  - 1991-1992 Funds
  - Informatics Person Years
  - Special Funding
- e. Key Contacts
- f. Planning Documents Available

## 2. Today's Platforms and Applications

## 3. Planned Platform and Applications Activity

- a. System Direction Drivers
- b. Planned Changes

## 4. Business Opportunities

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# Agriculture Canada

Major investment in VAX technology

Traditionally made up of autonomous entities

- Technology Overview
  - IBM MVS platform
    - Selected corporate applications
    - Also runs Net Income Stabilisation Act (NISA) activity
  - Headquarters VAX platform—6 VAXs
  - 52 regional and local VAXs
  - PC platform—OA and network links via LAN
  - Agrinet—WAN that ties in MVS/DEC/LAN
- Estimated Informatics Resources
  - 1991-1992 budget                      \$26.2 million
  - PYs    256
  - Special funding                              nil

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## **Agriculture Canada— System Direction Drivers**

- FM expiring in 18 months will cause action on IBM applications
- Strategic IT review looking at VAX systems versus UNIX/open systems
- Continuing standardization will eliminate some levels of sign off
- Standalone PCs will replace terminals

# Agriculture Canada— Technology Trends

New Technology	Status of Use		
	In Use	Planned 1991- 1992	Planned 2-4 Years
LANs/servers	Y	Y	Y
Image processing	N	Y	Y
Cooperative processing	Y	Y	Y
Distributed DBMS	N	N	Y
CASE	Y	Y	Y
AI/expert systems			
Standalone	N	N	?
Imbedded	N	N	?
Voice/data integration	N	N	?
Wide-area networks	Y	Y	Y
Object-oriented programming	N	N	?
UNIX	Y	Y	Y
Systems application architecture	N	N	N
Open systems	Y	Y	Y

Y = Yes    N = No    ? = Considering

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## **Agriculture Canada— Opportunity Highlights**

- RFPs coming for DEC/VAX applications
- AGRINET upgrading involves OSI-compliant hardware for \$1 million in 1992/1993
- A range of continuing professional services opportunities will continue

# Canada Mortgage and Housing Corporation

Very centralised, very architecture driven, and very "Big Blue"

- Technology Overview
  - IBM MVS platform
    - Runs all applications
  - Communications and branch platform
    - Viewed as extension of host
    - 70 AS/400s as communications platform, file servers, OA
    - 2,000 PCs (IBM PS/2)
  
- Estimated Informatics Resources
  - 1991-1992 budget      \$419.2 million
  - PYs                              232
  - Special funding              nil

## **Canada Mortgage and Housing Corporation—Opportunity Highlights**

- Few near-term opportunities
  - Platform in place
  - Minimal use of outside professional services
- Communications opportunities in 1992-1993



# Communications Canada

Has operated as a decentralised department

- Spectrum management
- Government Telecommunications Agency (GTA)
- Cultural activities
  
- Technology Overview
  - IBM MVS platform
    - For Spectrum management systems and GTA financial system
  - Bull CP-6 platform
    - Spectrum MIS
    - Broadcast and Communication Research Centre
  - CDC 180 platform
    - Canadian Heritage Information Network
  - Mix of DEC, HP, Sun for scientific and research activity
  
- Estimated Informatics Resources
  - 1991-1992 budget                      \$2.7 million
  - PYs    41
  - Special funding, CP6 offload        \$4 million

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## Communications Canada— Opportunity Highlights

- Major professional services requirements to shift SMS to new RDBMS
- CP-6 offload will require:
  - Extensive professional services
  - PC/LANs for specific areas
- Imaging opportunities in CHIN and correspondence control
- Systems operations (FM) is widely used

# Consumer and Corporate Affairs

Made up of a number of separately operated entities

Systems mirror organization

- Technology Overview
  - IBM MVS platform—shrinking application set
  - CDC 930 platform—trademark system
  - Regional Bull DPS-6 platform
    - 12 minis for Bankruptcy and Consumer
  - Corporate Bull DPS-6 platform
    - 2 minis for Corporations system
  - Mac platform—Competition Policy
  - Wang platform—Imaging for lobbyists
  - PC/LAN—1,00 PCs for OA and small applications
  - CDC Service Bureau—name search data base

## Consumer and Corporate Affairs

- Estimated Informatics Resources
  - 1991-1992 budget      \$5.8 million
  - PYs                      35-40
  - Special Funding
    - Patent System      \$70 million over 5 years
    - Bankruptcy System   \$3.3 million over 3 years
    - Corporate Image      \$0.5 million funded  
\$3-4 million not funded
    - Consumer Affairs     \$5-6 million over 3 years
    - Competition Policy   \$3-5 million 1991-1992;  
further funding in  
1992-1993, 1993-1994

## **Consumer and Corporate Affairs— Opportunity Highlights**

- Patent system is major SI project
- Major redesign of bankruptcy system
- Adding imaging to corporate system
- DPS-6 replacement in consumer affairs
- Professional service use in smaller assignments



## Correctional Services

Made a recent major commitment to DEC at all levels

- Corporate
- Regional Headquarters
- Institutions and District Parole Offices
  
- Technology Overview
  - DEC VAX at all levels
  - PC/LAN
  - A DECnet packet switch network
  
- Estimated Informatics Resources
  - 1991-1992 budget      \$12.6 million
  - PYs                              110

## **Correctional Services— Opportunity Highlights**

- Professional services for applications projects
- Professional services for OA and E-mail
- Software products and professional services for integrated industries requirements

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# Employment and Immigration Canada

Runs a few centralized functions/applications

- Employment
- UIC
- Immigration

A big Unisys shop

“Do it yourself” bias

- Technology Overview
    - Regional Unisys platform—4 regional centres
    - Central Unisys platform—Hull
    - Amdahl platform—at STM for Canadian Job Strategy and Policy Planning
    - PCs—standalone and terminals
  - Estimated Informatics Resources
    - 1991-1992 budget      \$79 million
    - PYs
      - Central                      360
      - Regional                    350
- Special funding                      nil

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# Employment and Immigration Canada— Opportunity Highlights

- Hardware/software for PC/LAN
- Professional services for front-end studies
- New technologies: CASE, image processing, optical disk/scanning under consideration

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# Energy, Mines and Resources

Traditionally very autonomous units

Attempting to coordinate informatics

- Technology Overview
  - IBM MVS platform—corporate financials
  - Sequent mini—OA
  - DEC VAX—approximately 100 DECcs
  - PCs—for OA
  
- Estimated Informatics Resources
  - 1991-1992 budget      \$48.2 million
  - PYs
    - Central                      54
    - Sectors                      86
  - Special funding              nil



## **Energy, Mines and Resources— Opportunity Highlights**

- Hardware at mini and PC levels
- Professional services in financial and personnel systems

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# Environment Canada

Very autonomous “services”

- Canadian Parks Service
- Conservation and Protection
- Atmospheric Environment Services

Major OA system to link department-wide

- DOTS—Departmental Office Technology System

- Technology Overview

- DOTS is based on 100 computers—VAX and MicroVAX and 4,000 PCs
- AES Supercomputer Centre at Dorval for weather modelling
- AES Downsvew—NAS 9060 for climatology
- Numerous application-specific minis
  - mostly DEC
- PC/LAN—3,500 MS DOS

- Estimated Informatics Resources

- 1991-1992 budget      \$82.6 million
- PYs                              658
- Special funding              nil

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## **Environment Canada— Opportunity Highlights**

- Completion of the department review will trigger many opportunities
- Use of professional services at corporate and services levels is widespread
- Integrated CASE software product is being sought

# External Affairs and International Trade

Obviously a geographically dispersed operating environment

COSICS has been major SI activity (Canadian On-Line Service Information and Communications System)

- Technology Overview
  - 21 minis—mostly DEC VAX
    - 18 at missions abroad
    - 3 at headquarters
  - 12 VAXs dedicated to COSICS Phase I (North America)
  - COSICS Phase II will be client-server based
- Estimated Informatics Resources
  - 1991-1992 \$4.5 million
  - PYs 300-400
  - Special Funding
    - COSICS Phase I \$50 million 1988-1991
    - COSICS Phase II \$100 million 1991-1994
    - CAIPS (Computer Assisted Immigration Processing System) \$6 million/year through 1994

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## **External Affairs and International Trade—Opportunity Highlights**

- COSICS Phase II will be major opportunity
- Major VAX platform expansion
- Professional services needs in import/export system redevelopment and CAIPS



# Fisheries and Oceans

Historically decentralised and regionlised

Industry monitoring requiring consolidated data

- Technology Overview
  - STM MVS platform for financials
  - DSS MVS platform for personnel
  - Cyber 840 for science sector
  - Regional VAXs and regional HPs
  - DFONET for communications
  
- Estimated Informatics Resources
  - 1991-1992 budget      \$21.3 million
  - PYs
    - Headquarters              39
    - Regionally                  147
  - Special funding              nil

## **Fisheries and Oceans— Opportunity Highlights**

- Consulting and hardware for DFONET
- Broad professional services requirements
- Hardware, software services for LANs
- GIS use being expanded

# Health and Welfare Canada

3 major areas of informatics activity

- Corporate Informatics
- Income Security Program (ISP)
- Health Protection

ISP redesign is a major crown project (over \$100 million)

- Technology Overview
  - Amdahl 5880 MVS platform at STM
  - DGs at headquarters and 7 regions
  - PC/LANs in user areas
  - Supply and Services runs ISP

- Estimated Informatics Resources

	<u>Corp.</u>	<u>ISP</u>	<u>Health</u>	<u>Total</u>
1991-1992 budget (millions)	\$3.9	\$5.9	\$8.5	\$18.3
PYs	89	43	95	227
Branch				<u>15</u> 242

Special funding  
Income Security Program                      over \$100 million  
Redesign

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## Health and Welfare Canada— Opportunity Highlights

- ISP redesign will be a major crown project
- Extensive use of professional services
- Opportunities in EIS, imaging, EDI
- Network consolidation will require consulting and hardware
- PC/LAN environment will create opportunities

# Industry, Science and Technology Canada

ISTC is made up of diverse sectors with diverse platforms due to history of department

Branches often drive the IT activities

- Technology Overview
  - Office Automation and Systems Architecture (OASA)
    - A departmental linkage for OA
  - MVS platform based on Amdahl 5870 at IST
    - Runs major operational systems
  - HP platform—operates some corporate systems
  - VAX platform—for Textcom
  - PC/LAN environment—2,200 PCs installed
    - Used for workplace automation
    - LAN application development in early stages
  - 2 networks
    - terminal-to-mainframe using SNA
    - minicomputer that links terminals to HP and DEC
- Estimated Informatics Resources
  - 1991-1992 budget      \$19.9 million
  - PYs
    - Central      52
    - Branch      60
    - 112



## **Industry, Science and Technology Canada—Opportunity Highlights**

- System maintenance spending up to \$4.5 million per year
- Network, LAN opportunities
- Professional services opportunities for RAMS, PRISM, HRIS, software evaluation

# Department of National Defence

Currently a major cost-saving review is underway and could impact activities

Major opportunities on many fronts

- Technology Overview
  - MVS platform—4 mainframes in 2 locations
    - National-level ADP applications
  - VAX VMS platform for personnel
  - Application-specific minis—20 VAX and Bull DPS-6/8 in many locations
  - DEC 11/34s at 36 Canadian Forces Bases
    - Upgrade program underway
  - Command ADP systems—facilities in each of 4 groups
  - PC/LAN—16,000-18,000 PCs
    - MS DOS/UNIX servers/VINES LANs
- Estimated Information Resources
  - 1991-1992 budget      \$254.3 million
  - PYs                      5,000—ADP and Telecom
  - Special funding      extensive
  - 1991-1992 portion  
                                 included above

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## Department of National Defence— Opportunity Highlights

- Within Mobile Command, a tender is due December 1991 to replace the Gould Processor
- Move to ESA will require replacing the two IBM 3084Qs
- Opportunities exist relating to the design, development, and support of DB2 applications
- A wide range of hardware acquisition, software acquisition, and professional services opportunities will be available within the spending plans for each of the major capital projects

# National Research Council

Very separate institutes

Attempting to provide overall control framework

- Technology Overview
  - IBM VMS platform
    - 60% for CISTI (Canadian Institute for Scientific and Technical Information)
    - 30% scientific, 10% administration
  - DEC VAX—predominate the institutes
  - UNIX workstations—making inroads
  - PC—OS/2 and Mac
  
- Estimated Informatics Resources
  - 1991-1992 budget                      \$425.6 million
  - PYs
    - Central and Institutes      65

## **National Research Council— Opportunity Highlights**

- Professional services for new integrated corporate applications
- CASE tool selection
- Hardware replacement opportunities in individual institutes
- CISTI may outsource, FM, or upgrade



# Public Service Commission

A major project for Integrated Staffing System (ISS)

- Technology Overview
  - 4381 MVS—national systems
  - 4381 VS—PROFS
  - PC/LAN—MS DOS
    - Some LAN activity today
    - More with ISS
  
- Estimates Informatics Resources
  - 1991-1992 budget      \$5.4 million
  - PYs                      95
  - Special funding      ISS funded for \$16.5 million over 4 years

## **Public Service Commission— Opportunity Highlights**

- Integrated staffing system (ISS) will create opportunities for:
  - Professional services
  - Hardware and software
  - Network infrastructure
  - Imaging technology
- A software package modified to fit the language training and training management needs

# Revenue Canada—Customs and Excise

Applications are IBM technology PC—host based

Major activity with GST and now Customs 2000

- Technology Overview
  - MVS platform— 2 HDS EX100s and Amdahl 5995-700
    - STM FM
    - Runs major systems
  - DEC VAX platform—Customs and Excise Chemistry Laboratory
  - Interim Processing Centre—GST document handling
  - PC/LAN—3,500 PCs, 386 class, MS DOS
    - 100 LANs—LAN-to-host, not LAN-to-LAN
    - LAN integration centre for pre-assembly
  - Network—GST network; GTA for brokers
- Estimated Informatics Resources
  - 1991-1992 budget      \$150 million
  - PYs                              226
  - Special funding              nil

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# **Revenue Canada— Customs and Excise Opportunity Highlights**

- Customs 2000 will create broad opportunities
- Major departmental standing offer for PCs

# Revenue Canada—Taxation

Major IBM host-based environment

- Technology Overview
  - MVS platform—3 major processors
    - Runs all major applications
    - Monolithic, old systems
  - Network environment—SNA backbone
  - PC/LAN environment—7,000 PCs: 1,600 lap, 4,200 desk, 1,200 networked
    - MS DOS
    - Pilot LAN activity
  - Information centre as part of office system
- Estimated Informatics Resources
  - 1991-1992 budget      \$83.9 million
  - PYs                              1,127
  - Special funding              nil



## Revenue Canada—Taxation Opportunity Highlights

- VAN opportunities
- PCs and LAN servers/software
- OCR RFP
- EIS package selection
- Electronic letter creation system

# Royal Canadian Mounted Police

Very centralized

Policy of same facilities for all locations

- Technical Overview
  - MVS platform, 4 mainframes
    - Canadian Police Information Centre (CPIC)
    - RCMP Operational Systems
    - RCMP Administration
    - Test/backup
  - Communication concentrators—6 boxes
    - Tandem replacing Perkin Elmer
  - PCs—3,000 MS DOS, 1,200 standalone
- Estimated Informatics Resources
  - 1991-1992 budget      \$35 million
  - PYs                              600
  - Special funding              nil

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## **Royal Canadian Mounted Police— Opportunity Highlights**

- Replacement of Amdahl 5867s this year
- Replacement of Perkins-Elmer with Tandem
- CPIC Phase I data conversion, design, DB2 consulting opportunities
- Major (2,000 unit) PC acquisition - 1992-1993
- Potential opportunities in expert systems, imaging

# Statistics Canada

Confidentiality of data key

Professional staff have been computer literate for years

90% of processing is statistics related, 10% administrative

- Technical Overview
  - MVS platform—Amdahl 5990-700
  - DEC VAX VMS platform—multiple processors for specialized requirements
  - Data capture and regional platform
    - 8 Bull DPS-6s
    - Being replaced by Motorola UNIX boxes
  - Development platform—Sun UNIX workstations
  - Application-specific minis—HP and concurrent minis
  - PCs—2,500 micros installed, mostly MS DOS
- Estimated Informatics Resources
  - 1991-1992 budget      \$18.5 million
  - PYs
    - Central                      60
    - Branch                      100

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## Statistics Canada— Opportunity Highlights

- Some growth in MVS and DEC platforms
- UNIX/Oracle opportunities
- PC/LAN growth
- Larger workstations for development



# Supply and Services Canada

Operates 3 types of systems

- SSC Operational Systems
- Common Departmental Systems
- Income Securities Program for Health and Welfare Canada
  
- Technology Overview
  - MVS platform—2 large sites with 3 processors
    - Run SSC Operational Systems
    - Connected to 21 offices
  - Regional platform—30 Bull DPS-6s
    - Data collection/entry and cheque/benefit statement printing
    - Regional Technology Project to upgrade
    - LAN-based facilities
  - Supply platform—13 HP 3000s
  - PC/LAN platform—4,000 PCs, MS DOS

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## Supply and Services Canada— Opportunity Highlights

- Mainframe hardware includes CPU upgrades, automated library systems
- Additional equipment for the regional technology project
- PC/LAN hardware/software
- New project opportunities growing from Acquisition 2000, AIM project, and ISP redesign
- Professional services opportunities on many fronts
  - Expertise in MVS operations
  - Automation and production support
  - Architectural consulting
  - Overall applications consulting
  - Network specialities
  - PC/LAN installation and support

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# Transport Canada

View systems in 2 categories

- Information Management Systems (IMS)
- Operational Systems

Report covers IMS systems only

Traditionally a major centralist IT shop

Now much more decentralised—affecting decisions and architecture

- Technology Overview
  - Corporate MVS platform and backbone network
    - 2 3084Qs in Ottawa centre (STM operated)
    - 13 4331s in regions
    - 1 4341 as 4331 development facility
    - 1 Wang for translation
    - SNA backbone
      - 228 sites; 8,000 users
      - 3,000 PCs and 1,600 terminals connected
    - Major IMS facility
  - Training College platform
    - HP 9000s for OA and hotel software
  - Aviation support—DEC VAX

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# Transport Canada

- Technology Overview

- Pearson Airport—DEC VAX for terminal traffic MIS

- Marine Group—midrange processors in Quebec City

- Air Traffic Recruitment—9 Motorola UNIX processors

- Specialised and application specific—large number of minis

- Mostly DEC, some HP, etc.

- PC/LAN

- 7,000 installed—one-half connected

- 80% MS DOS, 20% Mac

- Sun for graphics and engineering

- LANs for workgroup applications

- Estimated Informatics Resources

- 1991-1992 budget      \$182.5 million (information management systems only)

- PYs

Informatics	490
Telecom	<u>131</u>
	621

- Special funding      included in above

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## **Transport Canada— Opportunity Highlights**

- Use \$40 to \$50 million outside services per year
- Broad professional services opportunities
- Integrated departmental financial system will be \$40 million SI tender September/October 1991
- Ship activity and reporting system will be \$3 to \$5 million project in fall 1991
- New architecture will create opportunities
- Broad systems operations (FM) and systems support opportunities

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# Conclusions and Recommendations

- Market opportunities
- Recommendations

# Market Opportunities

- Expanding use of PC/LAN/server environments
  - Applications/locations
  - Hardware/software/services required
- Professional services related to:
  - Project management
  - Feasibility studies
  - Requirements definitions
- Systems integration still not widely used
  - Departments want to retain control
- Support arrangements for
  - PC/LAN installations nationally
  - Application maintenance
- Improved networking
  - Consulting on network rationalisation
- Midrange processors and client servers
  - TBITS compliant offerings
- MVS platform status is department dependent
  - Some expanding, some contracting
- Software product opportunities for
  - Integrated CASE
  - Human resources systems
  - PC/LAN application growth
- Image processing in some specific areas

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## Recommendations

- Broaden sales coverage to include users
- Demonstrate ability to solve the user's business problems
- Develop a value-added service component
- Larger bids create partnering opportunities
- Open systems and applications portability key in future systems
- Aim at improving cost effectiveness of products/services—funding and person years both critical



# About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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