

## **COMMUNICATIONS OUTLOOK 2001**

### **Telecommunications**

**Country: Canada**  
**Date completed: 17.07.2000**

## TELECOMMUNICATIONS

### Market Structure and Regulatory Status (Questions 1 -10)

1. Please provide details of the regulation of communication infrastructure, including the public switched telecommunication network (PSTN), provision in your country.

Infrastructure provision for following service	Regulatory Status (e.g. monopoly, duopoly, certain number, fully open to any applicant)	Number of licensed operators (2000)
Fixed PSTN (Local, National and International)	Competitive	148 Operators: <b>NO Licenses required</b>
Network infrastructure capacity (Includes only companies not licensed to provide voice services)	Competitive	
Analogue Cellular Mobile (e.g. NMT etc.)	Competitive	2
Digital Cellular Mobile (e.g. GSM, PCS etc.)	Competitive	8
Wireless local loop (fixed wireless)	Competitive	Wireless Broadband (LMCS / LMDS): 25 WLL (3.4 GHz): 32 MCS: 2
IMT-2000 Operators (i.e. UMTS and 3 <sup>rd</sup> Generation)	Competitive	0

2. Please provide details for the major public telecommunication operator (PTO) of public switched telecommunication services in your country. (PTOs are state and privately owned entities providing public switched telecommunication services over their own infrastructure)

Name of PTO	PTO Ownership Status (2000) (e.g. state owned/privately owned). If a balance of ownership exists please indicate the share (%) held by the government
Bell Canada	Privately owned: 80% by BCE Inc., 20% SBC/Ameritech
Telus Communications Inc.	Privately owned: 100% Telus Corporation. Telus Corporation ownership: GTE 26.7%, 73.3% widely held
Aliant (formerly: NB Tel, Island Tel, NewTel, and MT&T, Maritime telephone companies)	Privately owned: 100% Aliant Inc. Aliant Inc. ownership: 51% by BCE Inc., 49% widely held.
Manitoba Telecommunications System (MTS) Communications Inc.	Privately owned: 20% Bell Canada, 80% widely held
SaskTel	State Owned: 100% Province of Saskatchewan

**3. Please provide details of market share for the largest PTO in the following categories.**

	The largest PTO's share	
	End 1998	End 1999
Local Access: % of access lines		71%
Local Access: % of local calls		67%* Based on Bell Canada's revenue due to Local and Access divided by Wireline carriers Local, calling feature and connection revenue
National Long Distance (% of total minutes) <sup>1</sup>		43%* Based on Bell Canada's revenue due to Long distance and network services by Wireline carriers LD and carriers services revenue
International (% of total outgoing MiTT)		47%* For 1998 IC calculations based on Telegeography, (Total outgoing/Total Volume)
Internet Subscribers <sup>2</sup>		800,000 (PTO's national customer count)

1. If % of minutes is not available, please indicate the % of revenue

2. If share of subscribers is not available, please indicate number of Internet subscribers for the PTO.

**4. Please provide details of the number of subscribers by cellular and PCN mobile communication operators.**

Name of Operator	Number of Subscribers (End 1999)
1. Bell Mobility, Telus Mobility, MTS Mobility, Aliant, NMI Mobility, NorTel Mobility, QuébecTel Mobilité, SaskTel Mobility, Télébec Mobilité, Thunder Bay Mobility	3,586,377
2. Rogers AT&T Wireless	2,153,100
3. Clearnet (Mike and PCS)	559,331
4. Microcell	584,487
5.	

**5. Please provide a description of the most significant recent policy changes affecting the provision of telecommunications services, as well as any draft laws, or regulatory proposals to be implemented in 2000 to 2001.**

**October 1998: Regulatory Regime for the Provision of International Telecommunications Services**

This decision established a framework for the new competitive market in Canada for international services, to respond to: the Government of Canada's commitment under the WTO General Agreement on Trade in Services Agreement for Basic Telecommunications Services (the WTO/GATS Agreement) to terminate Teleglobe's monopoly over telecommunications facilities to overseas destinations, effective October 1, 1998. The new regulatory framework included an open licensing regime for providers of basic international services. This regime came into effect on January 1, 1999. As a condition of their licence, international service providers must not engage in anti-competitive conduct in relation to providing international service.

**May 1999: Telesat Canada - Regulatory Framework:**

Recognizing that Canada's commitments under the WTO/GATS Agreement would open the market for services in fixed satellite facilities effective March 1, 2000, the CRTC approved a transitional regulatory framework for Telesat Canada. The CRTC forbore from exercising many of its powers under the Telecommunications Act effective March 1, 2000 in relation to Telesat's RF Channel services. However, it imposed a ceiling on Telesat's prices for RF Channel services offered within Canada after March 1, 2000.

**October 1999: Telephone Service to High-Cost Serving Areas:**

While noting that the level of telephone service throughout Canada is very high, the Commission took steps to ensure that, over time, those few areas which are unserved or underserved will have access to the level of service currently available to most Canadians. The Commission defined the basic level of service for all Canadian to include single line touch-tone access, ability to access the Internet without long distance charges, access to 911 emergency service, voice relay services, operator services, long distance services, and a copy of the local telephone directory. All incumbent local exchange carriers not meeting the basic service objective must submit multi-year service improvement plans designed to achieve this objective in their service territory.

**March 1999: Review of Contribution Collection Mechanism and Related Issues:**

The CRTC initiated a proceeding to review the current collection mechanism for universal service subsidies to examine alternatives to the current mechanism whereby long distance service carriers are the sole explicit contributors. A decision is expected later in 2000.

**Licensing of 3G wireless:** Canada has used auctions to allocate spectrum. There are indications that this will continue into the future. Please see question 9, for more details.

**6. Please provide a brief description of the responsibilities of the national regulatory authorities for public telecommunication services. Please highlight any changes over the last 12 months.**

In the area of telecommunications, the Canadian Radio-television and Telecommunications Commission (CRTC), works to foster competition in all regulated markets while ensuring that high-quality services are reasonably priced and accessible.

To fulfil these responsibilities, the CRTC:

- Relies on market forces to permit fair and sustainable competition
- Monitors competition and regulates when market forces are not achieving public interest objectives;
- Supports evolving convergence; and
- Monitors the evolution of industry structure

**7. Are there any foreign ownership, size of shareholding or other ownership restrictions on individuals and corporations investing in the incumbent PTO(s) in your country? Yes/ No**

Yes. Pursuant to section 16 of the *Telecommunications Act*, the Canadian Telecommunications Common Carrier ownership Rules and Control Regulations govern the Canadian ownership rules for facilities-based telecommunications carriers. Foreign ownership is limited to a maximum of 20% of the voting shares in facilities-based carriers, and at least 80% of the board of directors of facilities-based carriers must be Canadian. In addition, these facilities-based carriers must be Canadian controlled. Investor companies in such carriers are treated as Canadian, if Canadians hold at least 66 2/3% of their voting shares. There are no limits on non-voting shares while resellers can be foreign owned and controlled.

**8. Are there any communication infrastructures or services (e.g. mobile, cable television, terrestrial broadcasting, satellite broadcasting) that PTOs in your country are not permitted to provide directly? In addition, please specify any restrictions on PTOs investing in companies that provide such infrastructure or services. Please include information on requirements by the incumbent PTO to divest cable networks.**

There is no communications infrastructure or service that Canadian PTO's are not permitted to provide directly.

**9. What selection procedures are used to grant licences for new Wireless Local Loop (WLL) and IMT-2000 services? (e.g. spectrum auctions, calls for tenders, government appointments, licence on request)?**

WLL: Canada used a spectrum auction in October 1999, to award 258 wireless broadband licences to 12 different companies. It is anticipated that auctions will be used to award wireless local loop licences in the 3.4 and 2.3 GHz frequency ranges in 2001.

IMT-2000 (3G): In the fall of 2000, Canada will auction the 40 MHz of remaining PCS spectrum in the 1.9 GHz band. The first 80 MHz of the 120 MHz PCS spectrum was awarded in 1995, using a comparative analysis. Additionally, applicants for the full 120 MHz spectrum can use either 3G (IMT-2000) or 2G equipment. Canada is very technology neutral and prefers to let the market decide what equipment, technologies and services best meet the consumer needs. The department anticipates that the release of additional 3G spectrum in 2002-2003 will be allocated using an auction process.

**10. Under the communication regulation existing in your country how would national and international voice telephony services provided over the Internet, by entities other than a PTO, be defined and treated? Please mention any restrictions or obligations that may apply.**

The CRTC determined that most Internet service providers are not facilities-based telecommunications carriers as they do not own and operate a public telecommunications facility, and consequently they are not regulated. However, the Commission indicated that should an ISP wish to become a facilities-based carrier, then it would be subject to the same conditions and obligations as other facilities-based carriers.

**Pricing (Questions 11 -12)**

**11. What, if any, conditions are applied to the tariffs set by PTOs? (Please include any price control information such as price caps or approvals and specify for which services they apply).**

The CRTC introduced a four-year price cap regime as of January 1, 1998 for a particular basket of services provided by incumbent local exchange carriers consisting of basic residential, business and other services considered essential for interconnecting with the local exchange carrier. The price cap regime requires the incumbents to flow through targeted productivity gains to capped service and at the same time limits annual increases to local residential telephone service rates to inflation on average. The incumbents must obtain prior approval from the CRTC for rate changes. The CRTC has forborne from regulating services provided by new market entrants and long distance, wireless and leased line services provided by incumbent carriers.

**12. If communication discount schemes are available in your country please provide information on one or more popular schemes applicable to low users and dial-up Internet access users from the incumbent PTO. In the space below please indicate the main features:**

Low User scheme:

Canada does not have a specific program for the provision of telephone service to low income households. An important feature of Canada's telecommunication system is the absence of metered local usage. Unlimited local calling is included in the flat monthly rate of approximately \$20 per month. Local competition was introduced in 1998 and as of yet discount schemes for local services are available only in very limited areas. On the other hand, competition in the long distance market has resulted in a number of discount schemes available to the low user, (i.e., 10 cents a minute to a fixed monthly maximum of \$20; another plan is: \$1 for 15 mins)

Internet Access Discount Scheme:

There is a wide range of pricing plans for Internet access, from \$9.95/month for 10 hours to unlimited usage for approximately \$25. The Internet access industry is a competitive service provided by a large number of independent ISPs as well as affiliates of telephone companies, long distance service providers and some cable TV operators. The discount schemes currently available are not based on usage, but rather a bundling of services. For example, someone who also has their long distance with Bell Canada, will get 15 hours of Internet use for \$9.95 a month instead of 10 hours.

(Additional pamphlets from the PTO in English or French, or with the main points translated into one of these languages, would be most appreciated. Please provide data in local currency).

Note: Low user schemes is a term sometimes applied by PTOs to schemes designed for segments of the community that are financially disadvantaged. A dial-up Internet user refers to a consumer accessing the Internet via a PC with a modem over the local public switched telecommunication network.

### **Numbering/Domain Names (Questions 13 - 14)**

**13. Please describe the numbering policy in your country. Please mention the responsible authority and whether portability (including geographic portability) has been introduced and for which services (e.g. 800 numbers, cellular numbers, local PSTN numbers).**

Canada participates in the North American Numbering Plan (NANP), which also serves the United States and 17 Caribbean countries. The Canadian Radio-television and Telecommunications Commission (CRTC) has regulatory authority in Canada for administration of numbering resources, including the portion of the NANP resources used in providing telecommunications services in Canada. Assignment of numbering resources in Canada is based on various administrative and assignment guidelines either developed or modified by the Canadian Steering Committee on Numbering (CSCN) and approved by the CRTC. The CSCN is one of several working groups operating under the auspices of the CRTC Interconnection Steering Committee (CISC). Members of the CISC represent all types of carriers and members of the public. The administration of NANP resources, as well as ancillary service codes, is performed by

a neutral administrator, under the direction of the CRTC.

Toll free numbers (i.e., 800, 888, 877, etc), are fully portable while local PSTN numbers are only portable in certain areas, and cellular numbers are not portable.

**14. Which organisation is responsible for the administration of your Internet country code top level domain names.** (An example of a country code top level domain name is .be for Belgium). Please provide any details of any recent policy initiatives relating to country code domains.

The administration of the .ca is currently in transition from the University of British Columbia to the Canadian Internet Registration Authority (CIRA), a private sector, not-for-profit corporation. This is expected to be completed by Fall, 2000, at which time CIRA will be fully operational as the administrator of the .ca. At that time, it is expected that CIRA will significantly change the eligibility criteria for registering a .ca domain name. CIRA has recently undertaken a public consultation on establishing an alternative dispute resolution policy to deal with allegation of abusive registrations (e.g. cybersquatting). For additional information please see: <http://www.cira.ca/>

## Interconnection (Questions 15)

### 15. Interconnection between fixed networks.

	Yes /No	Details
Are PSTN interconnect or access charges a matter for commercial agreement between operators? And if so, is there provision for arbitration and by whom?	Yes  Yes	Interconnection charges for incumbent carriers require approval by the CRTC. To ensure that subscriber-to-subscriber access is maintained, the CRTC requires all local exchange carriers to interconnect with each other and with all long distance carriers and wireless service providers. Interconnection arrangements between competitive carriers are most often executed by means of agreements. Competitive disputes between carriers relating to interconnection can be brought before the CRTC for resolution.
Is there a requirement on the incumbent to publish the rate for PSTN interconnect or access charges?	Yes	Interconnection rates are approved by the CRTC and are available in public tariffs.
For the purpose of establishing interconnect or access charges is accounting separation used?	Yes	Accounting separation is used to isolate local utility service costs from the competitive services segment.
Once the interconnection or access charge of the incumbent has been established, is it available as a standard rate for other service providers (including other PTOs and resellers)?	Yes	CRTC approved rates & terms for interconnection are available on a non-discriminatory basis.
Does regulation specify that competitive service providers can collocate facilities on the same site as incumbent PTOs? (Please indicate whether resellers and Internet Service Providers can collocate equipment under the same terms and conditions as PTOs without being designated as a PTO?)	Yes	The CRTC has determined that co-location would facilitate competition by providing competitors with the option of delivering their traffic to local switches over either leased or owned facilities, based on cost and efficiency considerations. The CRTC determined that co-location should be available only to Canadian carriers. Carriers who have co-location access at a central office (CO) can resell their transmission capacity and in so doing, can create a competitive market for transmission capacity at the CO.
What kind of interconnection accounting methodology (e.g. LRIC, FDC, etc.) is used for calculating the incumbent's interconnection charges?		The incumbent's interconnection charges are calculated and based on forward-looking long run incremental costs plus a 25% mark-up to recover fixed and common costs.
Is carrier pre-selection implemented? If so, please describe the coverage of carrier pre-selection (e.g. local, long-distance and international).	Yes	Carrier pre-selection for long distance carriers was implemented over the 1992 to 1997 timeframe. Local number portability has been implemented in the major centres across Canada.

**16. Fixed to Mobile Network Interconnection**

	<b>Details</b>
Are termination rates to mobile networks published?	Not applicable in Canada at this time.
How are the termination rates for fixed-to-mobile calls determined in your country (e.g. commercial negotiated between operators, determined by mobile operator or other)?	Termination rates for fixed to mobile calls are not imposed.
Are these rates subject to any regulation (e.g. must they be cost orientated if operators have significant market power)?	Not Applicable in Canada at this time.

**Unbundling (Questions 17 -18)**

**17. Please describe initiatives for local loop unbundling and indicate when unbundling policies were put in place or the expected date of implementation.**

To permit new entrants access to the facilities of incumbent local exchange carriers, the CRTC ordered the carriers to unbundle certain facilities including local loops in May 1997. Unbundled facilities were classified as non-essential or essential facilities, e.g. facilities for which there are alternative sources of supply or facilities that are monopoly controlled, are required to provide service and cannot be economically or technically duplicated. Essential facilities are subjected to mandatory unbundling . After an extensive review of incremental costs, final monthly rates for unbundled local loops were approved in November 1998.

**18. Please provide the prices for access to unbundled local loops and specify the service on offer (e.g. raw copper, DSL subscriber line).**

The rates for unbundled local loops are based on incremental cost plus 25% mark up to recover fixed and common costs. Monthly lease rates vary geographically and are available on the CRTC website under Telecom Decision CRTC 98-22, Final Rates for Unbundled Network Components at [www.crtc.gc.ca/INTERNET/1998/8045/d98-22.html#DIR](http://www.crtc.gc.ca/INTERNET/1998/8045/d98-22.html#DIR).

## Consumer Issues (Questions 19 -20)

19.

	<b>Details</b>
In the context of universal service policies, which elements of telecommunication service are considered as part of universal service in your country?	The Commission defined the basic level of service for all Canadians to include : single line touch-tone access, local calling to an Internet Service Provider, access to 911 (emergency) service, voice relay services, operator services, long distance services, and a copy of the local telephone directory.
Please provide details of any explicit funding mechanism for addressing universal service and its coverage (this can include initiatives related to infrastructure in respect to addressing digital divide issues).	An explicit source of funding for addressing universal service comes from long distance service providers who are required to “contribute” to the affordability of local telephone service via a per-minute fee on long distance traffic. The Canadian average is 2 cents/minute. These contribution revenues are dispersed to local exchange carriers, competitive and incumbent, serving residential customers in high cost serving areas.
Is the cost of providing universal service calculated? If so please provide the latest annual costing.	Yes, the explicit universal service subsidy is based on the incumbent carriers’ revenue shortfall from providing local service. For example in 1999, contribution revenues were \$768 million, and contribution expenses were \$1.2 billion.
What percentage of telephone subscribers do not have access to an Internet service provider’s point of presence with a local call?	Ability to access the Internet with a local call varies by region and by carrier. For example, in Ontario and Quebec 1% of subscribers cannot access the internet with a local call due to the existence of party lines. Under the CRTC’s requirements, all incumbent carriers will be implementing service improvement plans that will include ensuring all subscribers have local calling to an ISP.
What is the average monthly online time for a subscriber to the largest PTO’s Internet access service (e.g. number of hours).	In December 1999, Canadians spent on average 7.2 hours a month online, over an average of 11.2 usage days. <a href="http://www.mediametrix.ca/PressRoom/Press_Releases/01_26_2000.html">http://www.mediametrix.ca/PressRoom/Press_Releases/01_26_2000.html</a>
What is the average household consumption expenditure of telecommunication services in your country? Please provide the data in local currency and specify the year of the survey. Please indicate which of the following telecommunications services are included or excluded -- fixed PSTN services, cellular mobile services and Internet access -- or provide a definition of the indicator used in your country.	Data is from the 1997 Survey of Household Spending: Statistics Canada publication #: 62-202-XIB. Total Expenditure (NAICS 1000-5230): \$49,947 <b>Telephone: (NAICS 2200-2204): \$746</b> Purchase of telephones, etc. (NAICS 2200): \$24 <b>Telephone Services (NAICS 2202-2204): \$722</b> Telephone Service (NAICS 2202): \$714 Installation & Repairs (NAICS 2204): \$8 <b>Cellular Services (NAICS 2210): \$93</b> <b>Internet Services (NAICS 2220): \$29</b>

**20.**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Please report any estimates of the potential coverage of access lines with DSL by the end of the following years (as a % of total subscriber lines) by the incumbent(s):	ALIANNT: 60% Telus: 65% Bell: 70% MTS: 75%		ALIANNT: 60% Telus: 75% Bell: 85% MTS: 80%	