

2003 Report on Aboriginal Community Connectivity Infrastructure



<http://www.aboriginalcanada.gc.ca/connectivity>

May 5, 2004

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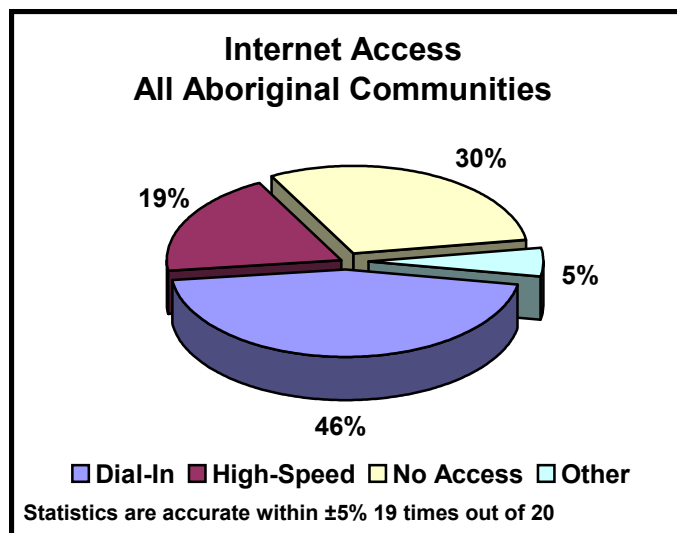
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EXECUTIVE SUMMARY

Today the Internet, the World Wide Web, has become a public, cooperative, and self-sustaining facility that is accessible to hundreds of millions of people worldwide. For Canadians, the Internet provides the means to access up-to-date information and receive fast service in all aspects of economic and social life. Increasingly Canadians are relying on the Internet as a tool for improving their access to education, healthcare, economic development, as well as other government and personal services. Connecting Canadian communities to the Internet with reliable high-speed Internet access will have a profound effect on virtually all aspects of resident lives. However; the communities that serve to benefit the most from the Internet are also the most difficult and costly to connect.

It is not a surprise, then, that individual Canadians and businesses are looking for governments to move services on-line and assist with the deployment of information communications technology Infrastructure. Over the past few years great strides have been made to increase the level of connectivity in remote communities. Current service improvement plans, proposed government projects, and the trend analysis from our connectivity surveys lead us to believe that this will continue for the foreseeable future.

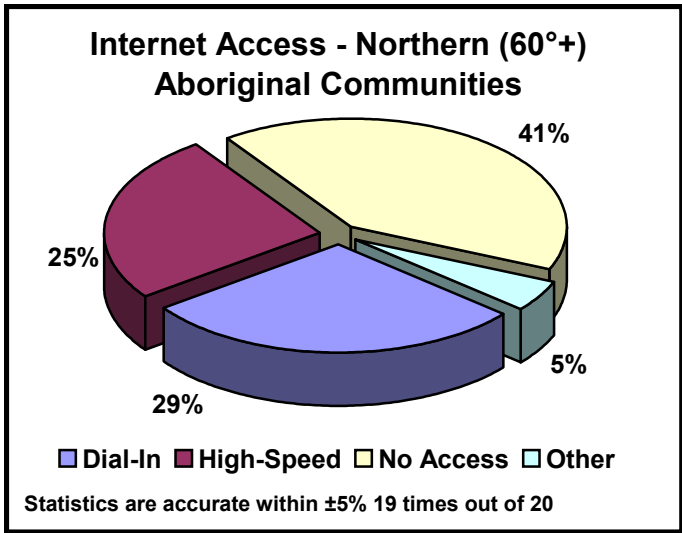
The purpose of this report is to track the trends in Internet connectivity in the Aboriginal communities of Canada. It is intended to address the need for information from Aboriginal communities as well as public sector policy and decision-makers. As fast as new technologies and applications are availing themselves to the Internet so are the upgrades to communication systems across Canada. Thus, it is very difficult to capture and present timely information on telecommunications infrastructure. We have assembled a composite picture of the telecommunications infrastructure in Aboriginal communities by joining our own community connectivity survey with data provided to us by major government connectivity programs. This is an analysis of telecommunications infrastructure and not Internet subscription rates.



The above graph illustrates the level of connectivity in all communities. Based on the connectivity survey results, of the 737 Aboriginal communities:

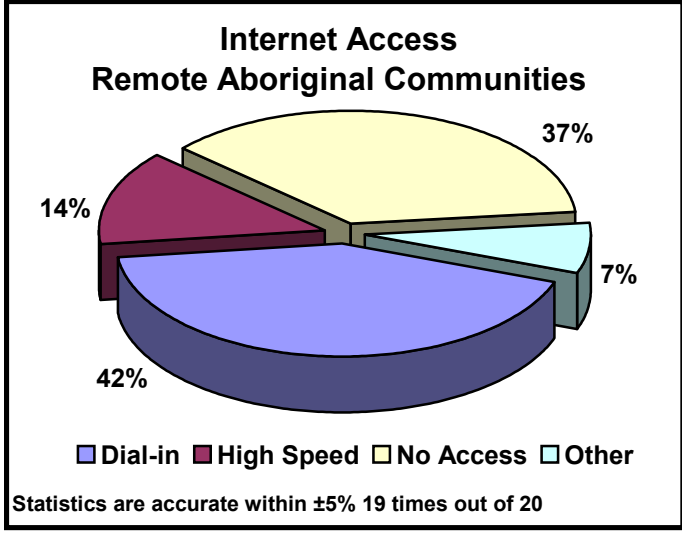
- 70% of Aboriginal communities have at least basic Internet connectivity;
- of which, almost 20% use high speed methods to connect;
- 5% use alternate methods; thus leaving
- 30% being disconnected.

NOTE: For the purpose of this report we consider those communities that incur long distance charges for their dial-in services as being disconnected. Most practical Internet applications like education, research, and healthcare are not feasible when on-line time is limited by long distance telephone charges.



Moving north of 60°, we can see the effect that the Connect Yukon initiative has had on northern high-speed access rates. The availability of high speed Internet services in the north is 25%; greater than Canada as a whole. Communities with no acceptable access however increase substantially to 41%.

We have identified 83 Aboriginal communities north of 60°; 43 First Nations and 40 Inuit communities.



Looking closely at remote¹ communities (generally north of 55°, and/or over 50km from nearest service centre, and/or having no year round road access) we see that high-speed Internet access rates are at 14% while no acceptable connectivity remains high at 37%.

406 Aboriginal communities fit our definition of remote. This is comprised of 342 First Nations, 51 Inuit, and 13 Métis communities.

The existence of an Aboriginal/Non-Aboriginal digital divide appears to be a function of urban vs. rural/remote infrastructure. With the average Aboriginal community having a population of less than 650, it is not surprising that Internet connectivity rates are low. It is interesting to compare the level of Internet connectivity available to Aboriginal communities with the overall Canadian population.

While the Canadian Radio-television and Telecommunications Commission reports that 85%² of Canadians live in communities that are served by high-speed Internet services our research has shown that only 123,247 or approximately 25% of total in-community Aboriginal population has such service. Similarly, 24%³ of Canadian communities have access to high-speed Internet services. Our connectivity survey has identified 19% of Aboriginal communities having access to high-speed Internet services.

All major urban centres in Canada have access to high-speed Internet services. We also know that 51% of the Aboriginal population now resides in urban centres. Thus, one could conclude that the majority of Aboriginal citizens have access to high speed Internet services. Unfortunately, the economic situation facing most urban Aboriginals severely limits their ability to subscribe to Internet services and purchase the required computer equipment. For many, the only means of accessing the Internet is through the network of 116 Native friendships centres. Although we did not directly contact the friendship centres, we do know that 87% of friendship centres are located within cities that have high-speed Internet available to them. We also know that 11% of friendship centres are co-located with Industry Canada Community Access Points.

As stated previously, this is an analysis of the ICT Infrastructure in the Aboriginal communities of Canada. Although lack of appropriate infrastructure is the greatest impediment to Internet usage, mere exposure to a technology does not guarantee successful adoption. Additional considerations including access to computers, training, technical support, application development, and funding for ongoing monthly expenditures must also be made. Without it, the anticipated benefits for community members will be constrained due to unequal implementation and under utilization of the technologies.

As demand for Internet services increase and costs for supplying these services decrease, we will continue to see smaller communities being connected. However, for some of the more remote and northern communities a viable business case may never be made for the extension of Internet services. For these communities the only hope for Internet connectivity lies in the aggregation of demand or cost subsidization. It is our hope that this report will help shape the development of a solution.

In addition to preparing next year's report the Aboriginal Canada Portal will continue to track trends in Aboriginal community connectivity via our Web site: <http://www.aboriginalcanada.gc.ca/connectivity> in an attempt to provide the most current picture of these trends to those concerned.

¹ See page 6 for a more detailed remote community definition.

² Status of Competition in Canadian Telecommunications Markets- CRTC 2003.

³ Bridging the Digital Divide: The Canadian Experience - Presentation by Michael Binder (Industry Canada) to ICT4D, Oct. 14, 2003

I. Introduction

This report on the state of Internet connectivity in the Aboriginal communities of Canada must be viewed as a work in progress. Detailed community scans become outdated before they can be tabulated and analyzed. Also, the rapid expansion of Internet and telecommunication technologies makes any data collection effort challenging. Thus, it is important to continuously track trends in the development of Internet services. To overcome this challenge, we have decided to take advantage of the Internet's power and develop a living report. This printed report will be made available on an annual basis but real time Aboriginal community connectivity statistics and analysis will be available on our website: <http://www.aboriginalcanada.gc.ca/connectivity> throughout the year.

The technology revolution is upon us. Not unlike the Industrial Revolution of the late 1800's and early 1900's, the technology revolution will transform the way business is conducted. The technology revolution provides new opportunities for Aboriginal entrepreneurs, educators and healthcare providers. Connecting to the world via the Internet can provide many opportunities, especially for more remote communities. This report is intended to address the need for information of two primary groups:

- **Aboriginal Communities:** Providing a source of reference for Aboriginal communities that are struggling to connect to the Internet. The sharing of best practices, and keeping communities abreast of connectivity programs and initiatives will help them in developing their own connectivity plans; and
- **Public Sector Policy and Decision-Makers:** This report offers valuable insight into the state of Internet connectivity within Aboriginal communities. It is our hope that continuous tracking of connectivity will help all levels of government distribute resources more effectively.

a. Methodology

The preparation of the report on Aboriginal community connectivity began several months ago. The Aboriginal Canada Portal in cooperation with Indian and Northern Affairs Canada (INAC) has played a lead role through conducting connectivity research studies, assembling and analyzing data and statistics and developing the framework upon which the annual report was produced. However, much of the data was drawn from previous data collection exercises. The methodology supporting the annual report and data analysis has been collected from a variety sources including:

INAC – List of Indian Reserves and Indian Settlements from the Indian Land Registry System (ILRS); 2002 and 2003 Connectivity Surveys of Aboriginal communities conducted by the Information Management Branch.

Statistics Canada - 1996 and 2001 Census data provided us with the ethnic composition of the communities in Canada, population statistics, and census subdivision breakdowns.

Canadian Radio-television and Telecommunications Commission - The CRTC has provided us with insight into the High-Cost Serving Areas ruling and documentation on telephone company Service Improvement Plans (SIPs).

Industry Canada – SchoolNet, Community Access Program (CAP), and Broadband for Rural and Northern Development (BRAND) have shared program recipient and community connectivity knowledge with the authors of this report.

Private Sector Telecom - Indirectly through the submission of Service Improvement Plans (SIPs) and through direct contact, the telecom providers of Canada have provided us with information on community infrastructure and Internet Service Provider (ISP) locations.

(i) Creation of an Inclusive Connectivity Database

Starting with the list of First Nation and Inuit communities from INAC, plus Métis communities identified through Census 2001, we approached all of the 737 identified Aboriginal communities with 2 successive annual Connectivity Surveys. Survey response rates were encouraging but not inclusive. Added to this database of 737 communities was information on Industry Canada CAP Sites and SchoolNet sites, along with data from telephone carriers on local dial-in access points. The result was a master database of 737 records that include various data sources relating to connectivity. The statistics provided within this report represent a synthesis of these data sources.

(ii) INAC Connectivity Surveys

The 2002 and 2003 Connectivity Surveys, conducted by the Aboriginal Canada Portal, consisted of a telephone/fax back/on-line approach. The initial point of contact was the Band or Community Administration Office (CAO). Usually engaging in dialog with the economic development officer, we were able to gather information on connectivity at both the community administration office and residences of the community. To date we have successfully collected information from over 650 Aboriginal communities.

For a complete list of the survey questions for 2002 and 2003 please see Appendix F.

Connectivity Survey Participation Rates

Aboriginal Communities		2003 Survey Results		2002 Survey Results	
Group	Total Communities	Full Survey Respondents	Limited/No Participation	Full Survey Respondents	Limited/No Participation
First Nations	634	333	301	600	34
Inuit	53	34	19	45	8
Métis	50	29	21	34	16
TOTAL	737	396	341	679	58
TOTAL Respondents		53.73% Participation Rate		92.13% Participation Rate	

(iii) Industry Canada Connectivity Programs

The two primary Federal connectivity programs in Canada are the CAP and SchoolNet programs. A number of Aboriginal communities have benefited from these programs and their participation is summarized below. A third IC connectivity program, Broadband for Rural and Northern Development <http://broadband.gc.ca> , will help to connect a number of Aboriginal communities but the recipients of this funding have yet to begin implementing their plans.

For a more detailed description of Federal Government connectivity initiatives please see Appendix C

Aboriginal Community Participation in Federal Connectivity Initiatives

Province and Territory	Community Access Program		SchoolNet	
	Communities	Projects	Communities	Projects
Alberta	8	17	33	61
British Columbia	45	70	76	93
Manitoba	14	26	43	50
New Brunswick	2	2	6	6
Newfoundland	2	3	1	1
Nova Scotia	4	4	10	15
Northwest Territories	6	10	0	0
Nunavut	8	10	0	0
Ontario	82	116	66	94
Prince Edward Island	1	1	2	2
Quebec	32	38	21	31
Saskatchewan	2	2	52	76
Yukon	5	5	0	0
Total Communities	211		310	
Total Projects		304		429

Note: Urban, closed and terminated sites were not included

b. Assumptions

(i) What is a Community?

This Report on Aboriginal Connectivity is a community-centric exercise and the authors recognize that the identification of the community is critical when defining service levels and infrastructure gaps. Due to the various sources of data contained within this report, and our desire to expand the report beyond status Indians, it is necessary to develop a definition of a community that is broad enough to capture all data sets but not too broad as to render the statistics insignificant. We have chosen to use the following definition to guide our collection efforts and statistical analysis:

"A locality which is considered to be an Indian, Inuit or Métis community (The most populated Indian reserve of each First Nation, Métis settlement, Inuit hamlet or census sub-division with 25 percent or more Aboriginal population) having the following attributes: a name, distinct physical location and territory, and Aboriginal governance structure, mandate and constituency."

Three groups of Aboriginal Peoples comprise the Aboriginal community – North American Indian (INAC refers to this group as First Nation peoples), Métis, and Inuit. Among these groups there are 634 First Nations, 53 Inuit, and 50 Métis communities distributed through the country. These communities are made up of reserve communities and Aboriginal settlements. There are approximately 3,000 reserve parcels of land to which the 634 First Nation communities or Bands are a part.

The urban Aboriginal population in Canada is growing. In 2001, over one-half (51%²) of the population who identified themselves as Aboriginal lived in urban areas, up from 47% in 1996. This year we have devoted more time and effort to analyzing the urban Aboriginal picture. More information on urban Aboriginal connectivity can be found on page 13.

Aboriginal Population by Area of Residence

GROUP	Total - Area of Residence	On Reserve	Total Off Reserve	Rural Non-Reserve	Urban Non-CMA	Urban CMA
Total - Aboriginal and Non-Aboriginal population	29,639,035	321,855	29,317,180	5,782,375	5,575,485	17,959,320
Total Aboriginal identity Population	976,310	286,080	690,230	196,130	214,225	279,875
North American Indian (First Nation) single response	608,845	272,410	336,435	73,190	111,480	151,765
Métis single response	292,310	7,315	284,995	85,970	84,940	114,085
Inuit single response	45,075	1,810	43,265	31,070	9,105	3,090
Multiple Aboriginal responses	6,665	520	6,145	1,570	2,155	2,420
Aboriginal responses not Included elsewhere	23,415	4,025	19,390	4,330	6,545	8,515
Total non-Aboriginal population	28,662,725	35,775	28,626,950	5,586,245	5,361,260	17,679,445

Statistics Canada - Cat. No. 97F0011XCB01001

¹ 2001 Census: The Final Report of Broadband Internet Service Available to Municipal Jurisdictions - Federation of Canadian Municipalities

² Statistics Canada - Aboriginal Peoples of Canada: A Demographic Profile, 2001 Census (Analysis series), Catalogue No.: 96F0030XIE2001007

(ii) Identifying vs. Defining an Aboriginal Community

On one hand the Aboriginal population, or Aboriginal community as it is often referred, is distributed throughout every Indian reserve, Indian settlement, Métis settlement and Inuit hamlet in every province, territory and region in Canada. According to the 2001 Census, “about 3 in every 10 Aboriginal people lived on rural reserves, and another three in 10 lived in census metropolitan areas. About one-fifth lived in urban areas other than census metropolitan areas, and the same for rural areas other than reserves, often isolated northern communities.

Indeed, Aboriginal citizens, particularly in Prairie Provinces and the north constitute significant proportions of towns, villages, hamlets and rural communities other than Indian reserves and settlements.

It is unlikely that a definition of an Aboriginal community will be defined entirely through the terms of this project, as this is a matter for the Aboriginal community itself. However, and for the purpose of the project, using existing and available data is an important first step in a process that will identify which and where such Aboriginal communities are located.

At the heart of the Aboriginal community issue are the Aboriginal people themselves - how they define themselves and where they perceive their communities to be.

(iii) North American Indian (First Nation) Reserve Community

The Indian Reserve is a physical locality that is defined by legislation and supported by legal surveys and recorded and managed by the Indian Land Registration System (ILRS) at Indian and Northern Affairs Canada. According to ILRS, there are approximately 3,000 North American Indian (First Nation) Reserves.

An Indian Settlement, also recorded but not maintained by the ILRS, does not have the same definition or legislative support as Indian Reserve under the Indian Act.

“An Indian Settlement is a place where a self-contained group of at least 10 Indian people reside more or less permanently. It is usually located on crown lands under federal or provincial jurisdiction. Indian settlements have no official limits (boundaries) and have not been set apart for the use and benefit of an Indian Band as is the case with Indian Reserves.”

Only Status or Treaty Indians can have permanent residency or hold property without Band Council Resolution and Ministerial Authority.

Since there are more Indian reserve communities (and settlements) than there are Indian Bands (First Nation bands) – some Bands have joint ownership in Indian reserves – Indian reserves and settlements should be specified in relation to their First Nation. The Hub of the Indian reserve business activity and service delivery is usually the responsibility of the central band administration – the Band Office. Other common facilities and services for the affiliated reserve communities if not located within the administrative offices are situated on the “main” reserve lands where the administrative functions are housed to support band operations. It is this reason coupled with the difficulties in contacting reserve level representatives that we have chosen to calculate connectivity statistics at the band level for the inaugural year of this report.

For the complete list of First Nations communities included within this report please see Appendix A.

(iv) Inuit Community

Inuit are definite about their people, communities and homelands. In the events leading up to the Inuvialuit and Nunavut lands claims settlements, Inuit beneficiaries were enumerated through an enrolment exercise similar to the Indian Registration to support their claims. Inuit, though a majority live north of the tree line, live throughout the country.

For the complete list of Inuit communities included within this report please see Appendix A.

(v) Métis Community

The Métis community is perhaps the most difficult to define as there is no enrollment procedures similar to the Inuit and Indian Registrar. The provinces of Alberta and Saskatchewan, so far, are the only provinces that formally recognize Métis settlements. The Métis community is distributed throughout many different communities including villages, towns, hamlets, rural municipalities, as well as Indian settlements throughout Canada. For the complete list of Métis communities included within this report please see Appendix A.

(vi) Defining Rural, Remote and Northern Communities

Communities	Latitude	South of 45°	North of 45°	North of 50°	North of 55°	North of 60°*	North of 65°*	
Nearest Service Centre	INAC Classification	A	B	C	D	E	F	Total
< 50 km	1	30	115	44	6	11	2	208
50 - 350 km	2	7	94	175	64	13	2	355
> 350 km	3	0	2	14	6	4	2	28
No Year-Round Road Access	4	0	15	61	21	22	27	146
	TOTAL	37	226	294	97	50	33	737
* includes ALL Territories			= Not Remote			= REMOTE		

II. Background – Basic Facts

It's important to provide some context before entering into a discussion on the telecommunication infrastructure of Aboriginal communities. In 1998, the department of Indian and Northern Affairs reported that a total of 658,824 registered Indians were living both on and off reserve. By 2008, that number is projected to climb to 798,211; an increase of 21%. Today's Aboriginal population is young and active. In 1999, almost half of the registered Indian population was less than 25 years of age. For Canada as a whole, 33% of the population fell into this category.

a. Population

Figures on the Aboriginal population of Canada vary greatly depending on the specific question posed by Statistics Canada. The 2001 census population figures vary between 976,310 people that identify themselves as Aboriginal to over 1.3 million people who respond to having Aboriginal ancestry. Statistics Canada most frequently uses the Aboriginal identity number in calculations and as a result we have chosen to do so within this report. The Aboriginal population represents approximately 3% of the total Canadian population and has been growing at an average annual rate of 4% since 1996.

(i) Comparing Aboriginal and Non-Aboriginal Populations

Group	Population, 1996	Population, 2001	Percentage of Total Canadian Population, 2001	1996-2001 Annual Growth Rate
Total Aboriginal identity Population	799,005	976,310	3%	4.09%
Total Non-Aboriginal population	27,729,115	28,662,725	97%	0.66%
TOTAL	28,528,120	29,639,035	100%	0.77%

Statistics Canada - Cat. No. 97F0011XCB01001 & 93F0025XDB96002

(ii) Aboriginal Population by Aboriginal Identity

Group	1996 Population	2001 Population	Percentage of Total Aboriginal Population, 2001	1996-2001 Annual Growth Rate
First Nation single response	529,040	608,845	62%	2.85%
Inuit single response	40,220	45,075	5%	2.31%
Métis single response	204,115	292,310	30%	7.45%
Multiple Aboriginal responses	6,415	6,665	1%	0.77%
Aboriginal responses not included elsewhere	19,215	23,415	2%	4.03%
TOTAL	799,005	976,310	100%	4.09%

Statistics Canada - Cat. No. 97F0011XCB01001 & 93F0025XDB96002

(iii) Geographic Distribution of Aboriginal Population

Province/Territory	Aboriginal Population, 1996	Aboriginal Population, 2001	Percentage of Total Aboriginal Population, 2001	1996-2001 Annual Growth Rate
Alberta	122,840	156,220	16.00%	4.93%
British Columbia	139,655	170,025	17.42%	4.01%
Manitoba	128,685	150,040	15.37%	3.12%
New Brunswick	10,250	16,990	1.74%	10.64%
Newfoundland	14,205	18,780	1.92%	5.74%
Nova Scotia	12,380	17,015	1.74%	6.57%
Northwest Territories	18,995	18,725	1.92%	-0.29%
Nunavut	20,690	22,720	2.33%	1.89%
Ontario	141,525	188,320	19.29%	5.88%
Prince Edward Island	950	1,345	0.14%	7.20%
Quebec	71,415	79,400	8.13%	2.14%
Saskatchewan	111,240	130,190	13.33%	3.20%
Yukon	6,175	6,540	0.67%	1.16%
TOTAL	799,005	976,310	100%	4.09%

Statistics Canada – Cat. No. 97F0011XIE2001007 & 93F0025XDB96002

(iv) Regional Distribution of Aboriginal Population by Aboriginal Identity (Single Responses)

Province/Territory	Aboriginal Population, 2001			Total
	First Nations	Inuit	Métis	
Alberta	84,990	1,090	66,060	152,140
British Columbia	118,290	800	44,270	163,360
Manitoba	90,340	345	56,800	147,485
New Brunswick	11,490	160	4,290	15,940
Newfoundland	7,035	4,560	5,480	17,075
Nova Scotia	12,920	350	3,135	16,405
Northwest Territories	10,615	3,910	3,580	18,105
Nunavut	100	22,560	50	22,710
Ontario	131,560	1,375	48,340	181,275
Prince Edward Island	1,035	15	220	1,270
Quebec	51,125	9,535	15,855	76,515
Saskatchewan	83,745	235	43,695	127,675
Yukon	5,600	140	535	6,275
Canada	608,845	45,075	292,310	946,230

Statistics Canada – Cat. No. 97F0011XCB01002

b. Communities

(i) Distribution of Aboriginal Communities by Province and Territory

Province/Territory	Aboriginal Communities, 2003			Total
	First Nations	Inuit	Métis	
Alberta	46		2	48
British Columbia	201			201
Manitoba	62		8	70
New Brunswick	15			15
Newfoundland	3	5	6	14
Nova Scotia	13			13
Northwest Territories	27	6		33
Nunavut		28		28
Ontario	140		1	141
Prince Edward Island	2			2
Quebec	39	14		53
Saskatchewan	70		33	103
Yukon	16			16
Canada	634	53	50	737

INAC – Information Management Branch, Strategic Planning

(ii) Breakdown of Aboriginal Communities by Population Group

Aboriginal Community	Population Group				Total	Avg. Community Pop.
	<100	100 - 499	500 - 1,999	2,000+		
First Nation	104	285	208	37	634	653
Inuit	3	22	25	3	53	752
Métis	14	16	19	1	50	487
TOTAL	121	323	252	41	737	648
TOTAL %	16.42%	43.83%	34.19%	5.56%	100.00%	
Avg. Pop.	50	278	943	3,522	648	

INAC – Information Management Branch, Strategic Planning

III. Connectivity Data

The following information is a synthesis of the various data sources referenced within the above methodology.

a. Internet Access at the Community Level

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet Sites

Aboriginal Community	TOTAL Communities	Internet Access	%	NO Access	%
First Nations	634	589	92.90%	45	7.10%
Inuit	53	47	88.68%	6	11.32%
Métis	50	37	74.00%	13	26.00%
TOTAL	737	673	91.32%	64	8.68%

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites

At the community level, **91% of Aboriginal communities are connected to the Internet** in some way. This includes access at the Community Administration Office (CAO), Community Access Points (CAP) and SchoolNet sites, and even at the Household level.

It should be noted that not all Community Administration Offices and SchoolNet sites make their connections available to the general public.

(i) Toll-Free Internet Access at the Community Level

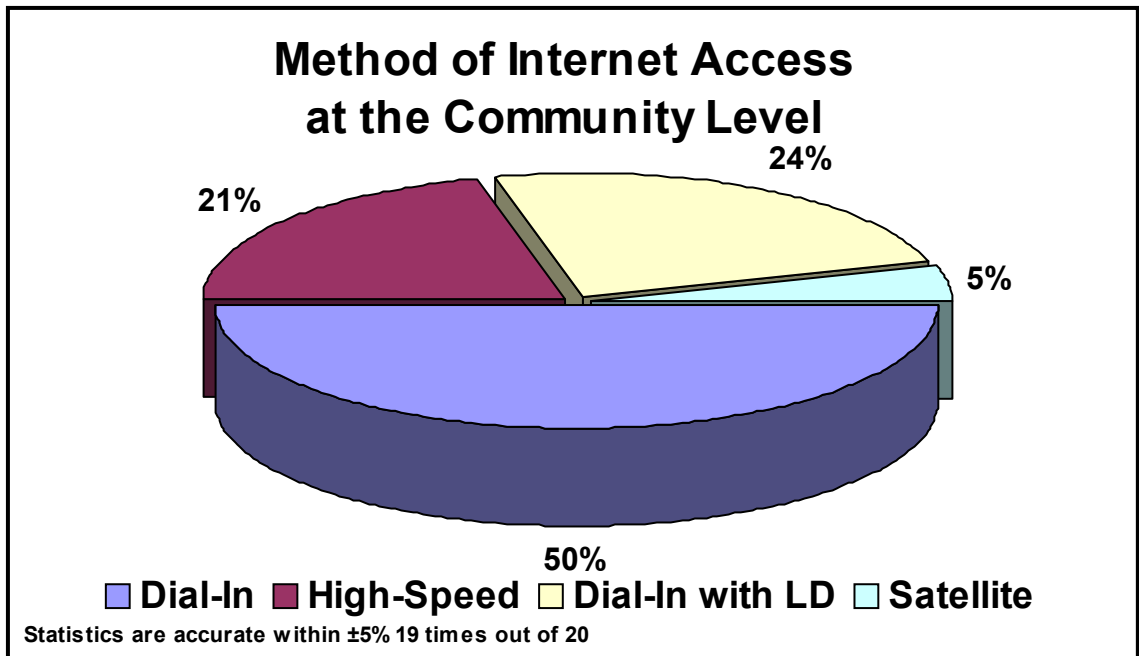
Based upon the communities that have Internet Access from the table above

Aboriginal Community	Toll-Free	%	Charged	%
First Nations	450 of 583	77.19%	133 of 583	22.81%
Inuit	27 of 47	57.45%	20 of 47	42.55%
Métis	30 of 37	81.08%	7 of 37	18.92%
TOTAL	507 of 667	76.01%	160 of 667	23.99%

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites

When we exclude the number of communities that incur long distance charges for Internet services, the numbers change significantly. Also, of the 673 respondents that indicated that their communities have Internet Access, 6 did not specify the method of connection. Therefore, as a result INAC has reduced the total number of communities with Internet Access from 673 to 667. **At the community level, more than 75% of connected Aboriginal communities have toll-free access to the Internet.** This includes access at the Community Administration Office (CAO), Community Access Points (CAP) and SchoolNet sites, and even at the Household level.

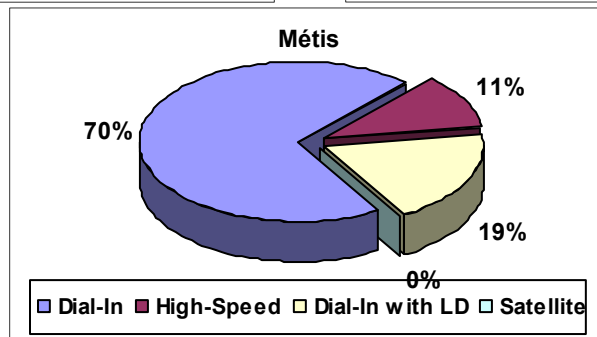
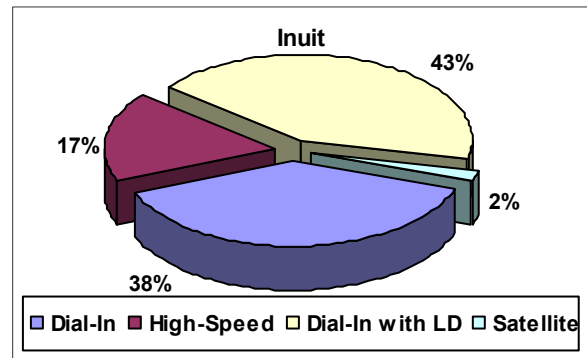
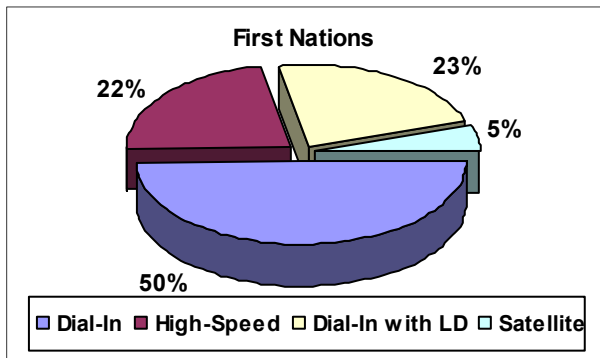
(ii) Method of Internet Access at the Community Level



Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites
 We have defined high-speed internet access to include ADSL, Cable, ISDN, T1, and Wireless.

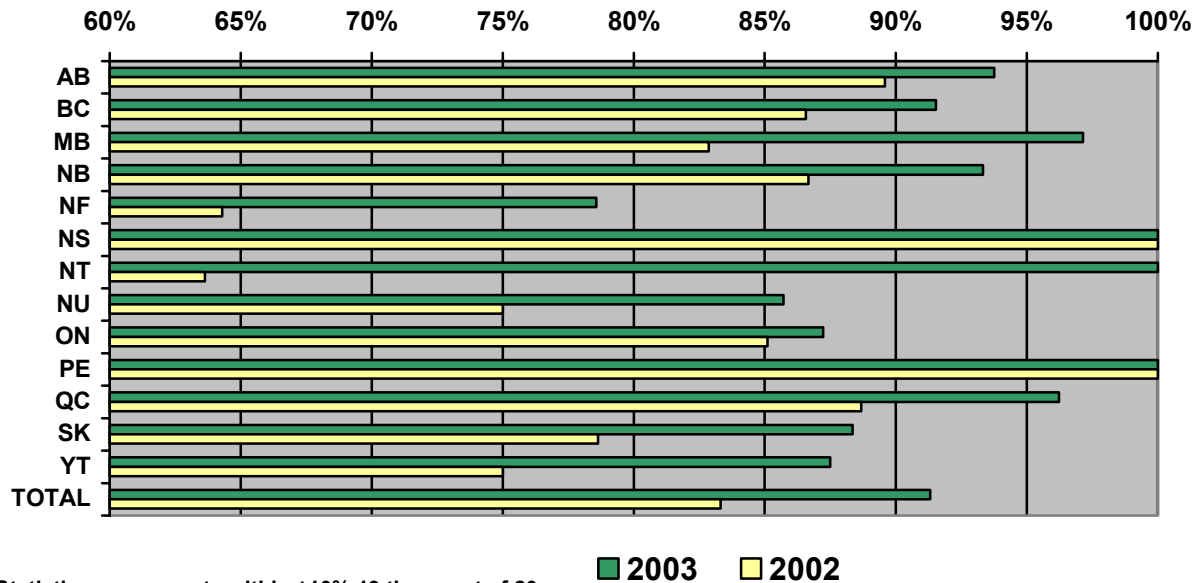
Approximately 75% of communities use low-speed dial-in modems to connect to the Internet. Of this 75%, approximately 32% of these communities (24% of the total) do so while incurring long-distance charges.

While a community that connects to the Internet via low-speed modem while incurring long-distance charges is technically “connected”, the ability for that connection to be used for research, e-commerce or educational purposes is severely limited. INAC refers to “connected communities” as those who do not incur long distance telephone charges for its use.



(iii) Internet Access at the Community Level by Province/Territory

Internet Access Rates at the Community Level



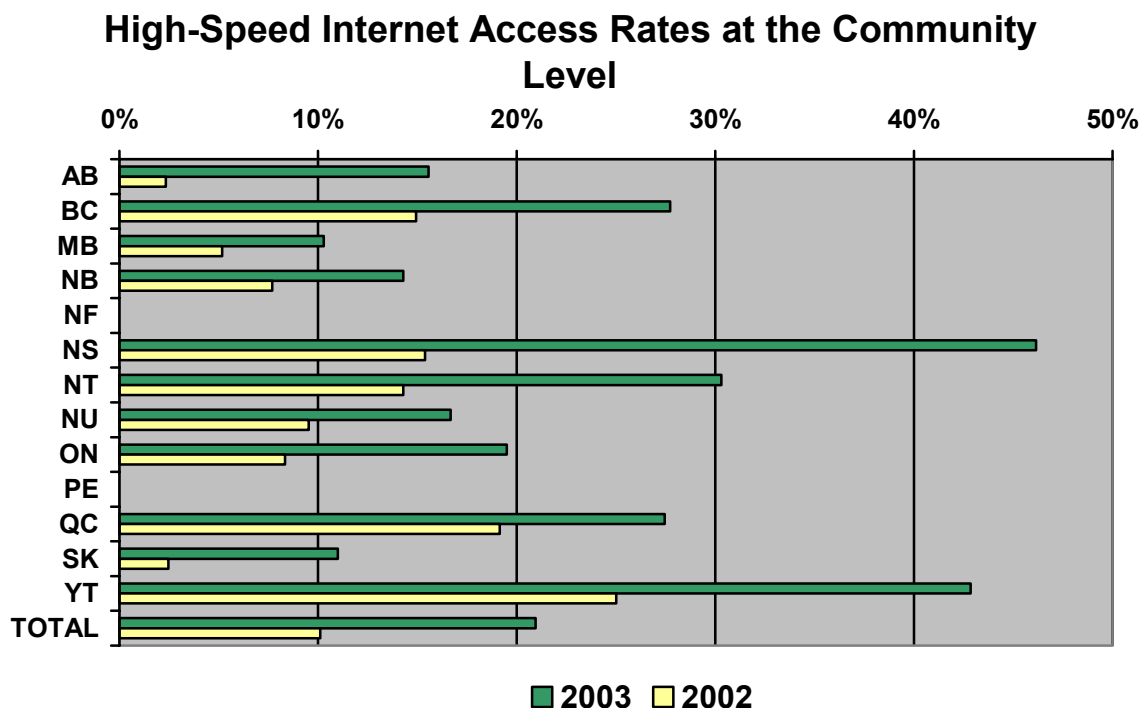
Statistics are accurate within $\pm 10\%$ 19 times out of 20

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites

The level of connectivity varies from province to province but averages well over 80% for all provinces in both years, with the greatest annual gain for Internet access at the community level occurring in the Northwest Territories, moving from 64% in 2002 to 100% in 2003.

It should be noted that ALL Aboriginal communities in Nova Scotia and Prince Edward Island had Internet Access in both years.

(iv) High-Speed Internet Access Rates by Province/Territory at the Community Level



Statistics are accurate within $\pm 10\%$ 19 times out of 20

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites
 We have defined high-speed internet access to include ADSL, Cable, ISDN, T1, and Wireless.

Nova Scotia and Yukon clearly lead the country with the highest rate of high-speed internet access at the community level. Nova Scotia also had the greatest annual gain for level of high-speed connectivity at the community level, moving from 15% in 2002 to 46% in 2003. Yukon had the highest rate of high-speed internet access at the community level in 2002 with 25%, and rose to 43% in 2003. This is in large part due to the success of the Connect Yukon project. For more information on Connect Yukon and other provincial initiatives, see Appendix C.

Based upon the 2003 connectivity survey results, the level of high-speed connectivity varies from province to province but averages at approximately 21%, this is up from 10% in 2002.

The Aboriginal communities surveyed in Newfoundland and Prince Edward Island do not have high-speed Internet access at the community level.

(v) **High-Speed Internet Access Rates by Population Group at the Community Level**

High-Speed Internet Access Rate by Population Group	<100	100-499	500-1,999	2000+	TOTAL
2003 High-Speed/Access	15.05%	21.93%	18.75%	41.03%	20.95%
2002 High-Speed/Access	7.79%	9.56%	7.96%	30.77%	10.10%

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites
We have defined high-speed internet access to include ADSL, Cable, ISDN, T1, and Wireless.

It was no surprise that larger communities are better connected to high-speed Internet services than smaller ones. As the cost of providing these services decrease and the number of customers who demand high-speed Internet services increase we should see more smaller-sized communities being offered high-speed Internet services.

High-Speed Internet Access rates have on average doubled from 2002 to 2003 for each population group. This shows that there exists an ever increasing demand for this high-speed internet service for all Aboriginal Communities.

(vi) **Community Internet Access Sites Breakdown**

Community Internet Access Sites	2002	%	2003	%
Community Admin Office (CAO) Only	235	34.61%	159	40.56%
CAO+CAP and/or SchoolNet Sites	311	45.80%	201	51.28%
CAP and/or SchoolNet Sites Only	65	9.57%	12	3.06%
No Access	68	10.02%	20	5.10%
TOTAL	679	100.00%	392	100.00%

Based upon 2002 & 2003 Connectivity Survey Responses, CAP and SchoolNet sites

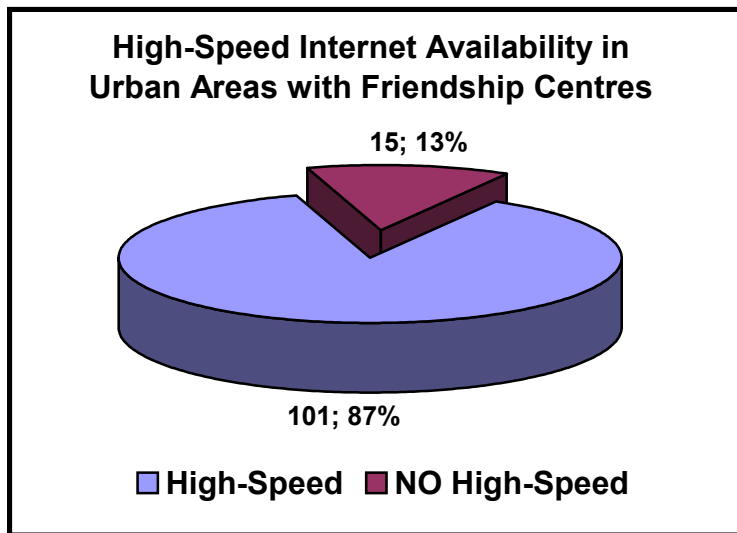
At least 80% of the Aboriginal Communities surveyed have Internet Access at their Community Administration Office (CAO).

(vii) Internet Access in Urban Areas

GROUP	Total - Area of Residence	On Reserve	Total Off Reserve =	Rural +	Urban
Aboriginal Population (Single Responses)	100%	30%	70%	20%	50%
Non-Aboriginal Population	100%	0%	100%	19%	81%
TOTAL Population	100%	1%	99%	20%	79%

Statistics Canada - Cat. No. 97F0011XCB01001

Looking at the above table we see that half of the total Aboriginal population resides in urban areas off reserve. All major urban centres within Canada have access to high-speed Internet services.



Thus, one could conclude the majority of Aboriginal citizens have access to high speed Internet services. Unfortunately, the economic situation facing most urban Aboriginals severely limits their ability to subscribe to Internet services and purchase the required computer equipment. For many, the only means of accessing the Internet is through the network of 116 Native friendships centres. 87% of friendship centres are located within urban areas that have high-speed Internet available to them. 11% of friendship centres are co-located with Industry Canada's Community Access Points (CAP sites).

b. Internet Access at the Household
Based upon 2002 & 2003 Connectivity Survey Responses Only

Aboriginal Community	TOTAL Communities	Internet Access	%	NO Access	%
First Nations	634	546	86.12%	88	13.88%
Inuit	53	47	88.68%	6	11.32%
Métis	50	37	74.00%	13	26.00%
TOTAL	737	630	85.48%	107	14.52%

Based upon 2002 & 2003 Connectivity Survey Responses Only

At the household level, **85% of Aboriginal communities are connected to the Internet** in some way.

(i) Toll-Free Internet Access at the Household Level

Based upon the communities that have Internet Access from the table above

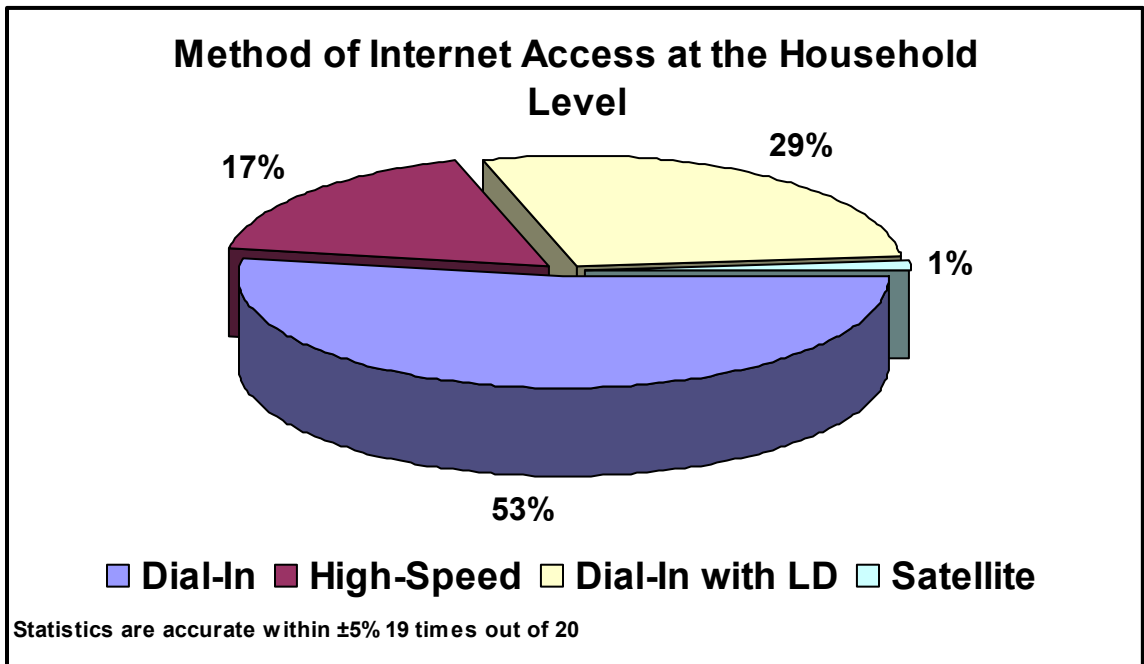
Aboriginal Community	Toll-Free	%	Charged	%
First Nations	392 of 540	72.59%	148 of 540	27.41%
Inuit	26 of 47	55.32%	21 of 47	44.68%
Métis	28 of 37	75.68%	9 of 37	24.32%
TOTAL	446 of 624	71.47%	178 of 624	28.53%

Based upon 2002 & 2003 Connectivity Survey Responses Only

When we exclude the number of communities with households that incur long distance charges for Internet services, the numbers change significantly. Also, of the 630 respondents that indicated that households within their communities have Internet Access, 6 did not specify the method of connection. Therefore, as a result INAC has reduced the total number of communities with households that have Internet Access from 630 to 624. **At the household level, more than 2/3s of connected Aboriginal communities have toll-free access to the Internet.**

It should be noted that our primary contact at the community was the Community Administration Office (CAO). Through this contact we attempted to ascertain what communication technologies were available to the general residential community.

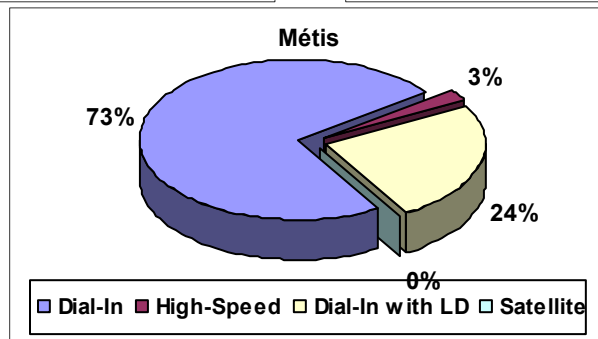
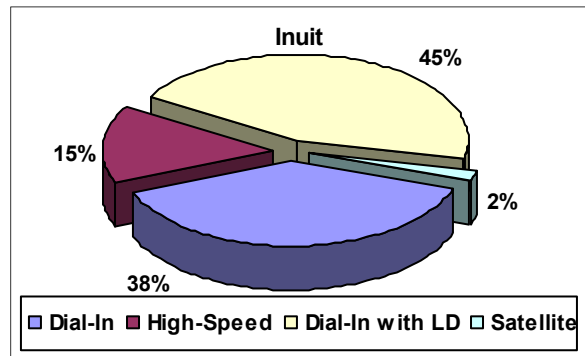
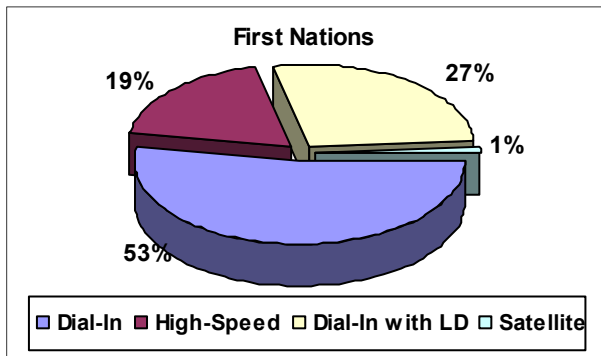
(ii) Method of Internet Access at the Household Level



Based upon 2002 & 2003 Connectivity Survey Responses Only
 We have defined high-speed internet access to include ADSL, Cable, ISDN, T1, and Wireless.

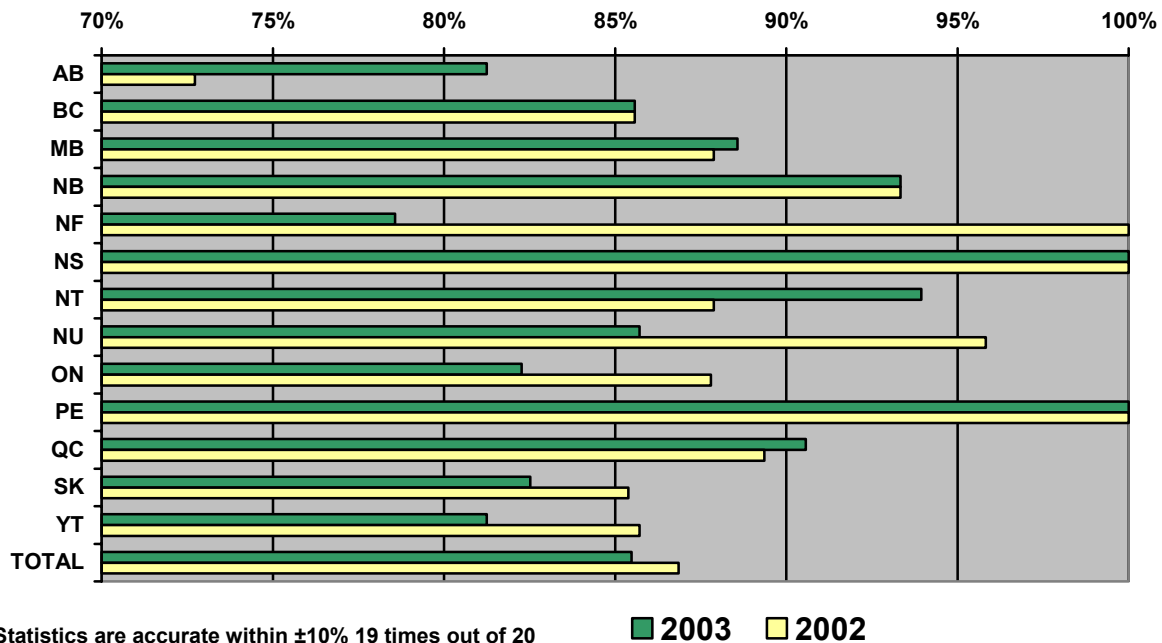
Of the communities with households connected to the Internet, 82% of those communities have households that use analog dial-in modems to connect. Of this 82%, 35% of those (29% of the total) do so while incurring long-distance telephone charges.

While a community that connects to the Internet via low-speed modem while incurring long-distance charges is technically “connected”, the ability for that connection to be used for research, e-commerce or educational purposes is severely limited. INAC refers to “connected communities” as those who do not incur long distance telephone charges for its use.



(iii) Availability of Internet Access at the Household Level by Province/Territory

Availability of Internet Access at the Household



Based upon 2002 & 2003 Connectivity Survey Responses Only

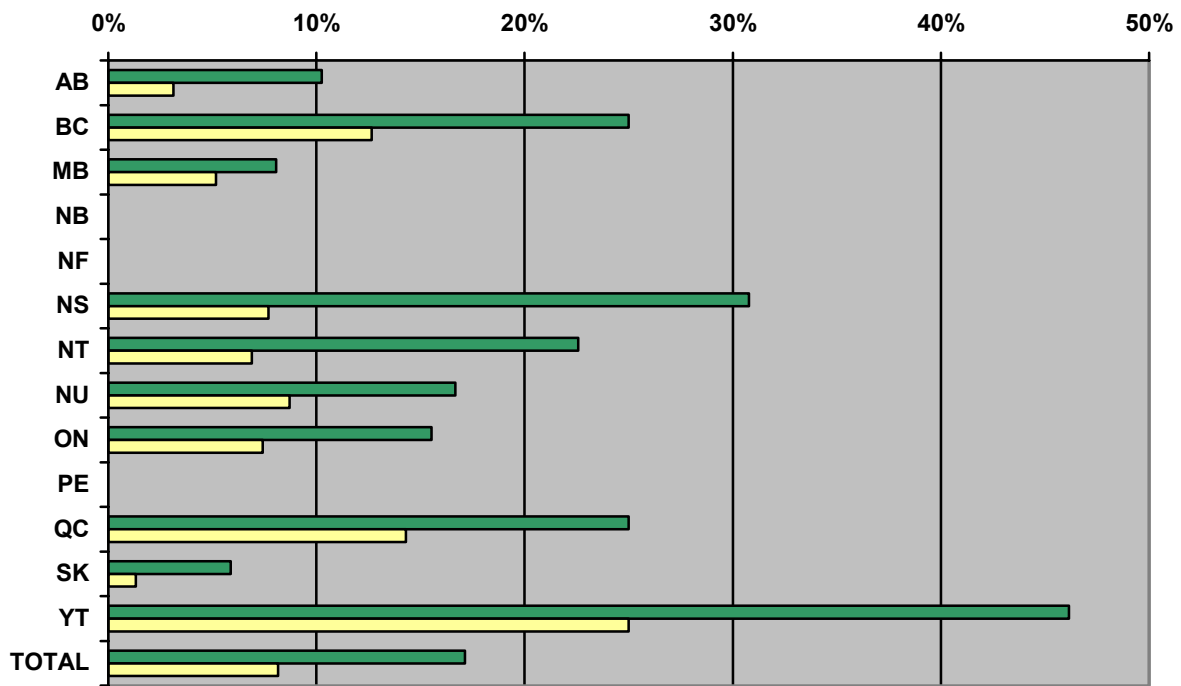
The above chart indicates the ability to connect to the Internet if provided with the appropriate equipment at the household.

The level of connectivity varies from province to province but averages at just over 85% for all provinces for both years. The decreases from 2002 to 2003 occurred as a result of differences in sampling sizes.

It should be noted that ALL households within Aboriginal communities in Nova Scotia and Prince Edward Island had Internet Access in both years.

(iv) **Availability of High-Speed Internet Access at the Household Level by Province/Territory**

Availability of High-Speed Access at the Household Level



Statistics are accurate within $\pm 10\%$ 19 times out of 20 ■ 2003 ■ 2002

Based upon 2002 & 2003 Connectivity Survey Responses Only
 We have defined high-speed internet access to include ADSL, Cable, ISDN, T1, and Wireless.

When we look at the availability of high-speed internet access, the picture is quite different and variable. The above chart tabulates the percentage of participating communities that indicated the availability of high-speed Internet services at the household level.

The level of availability of high-speed connectivity varies greatly from province to province and has increased dramatically from 8% in 2002 to 17% in 2003, with the greatest annual gain coming from the Yukon whereby the availability of high-speed internet access rates increased from 25% in 2002 to 46% in 2003.

Households within Aboriginal communities surveyed in New Brunswick, Newfoundland, and Prince Edward Island do not have high-speed internet access available to them.

Most satellite Internet systems currently in place are one-way systems that require a traditional analog dial-in modem for uploading. For that reason satellite systems have been excluded from the definition of high-speed.

(v) **Comparing Household High-Speed Internet Access Rates by Population Group**

Household High-Speed Internet Access Rate by Population Group	<100	100-499	500-1,999	2000+	TOTAL
2003 High-Speed/Access	10.84%	18.18%	16.14%	28.95%	17.14%
2002 High-Speed/Access	6.58%	7.43%	7.28%	21.62%	8.16%

Based upon 2002 & 2003 Connectivity Survey Responses Only

We have defined high-speed internet access to include ADSL, Cable, ISDN, T1, and Wireless.

It was no surprise that we identified households within larger communities as being better connected to high-speed Internet services. As the cost of providing these services decrease and the number of customers who demand high-speed Internet services increase we should see households within smaller communities being offered high-speed Internet services.

High-Speed Internet Access rates have on average doubled from 2002 to 2003 for each population group. This shows that there exists an ever increasing demand for this high-speed internet service for all households within Aboriginal Communities.

(vi) **Household Internet Service Provider (ISP) Subscribers**

% of Community Residents	Household ISP Responses	%
0	31	8.16%
1-25	236	62.10%
26-50	72	18.95%
51-75	35	9.21%
76+	6	1.58%
TOTAL	380	100.00%

Based upon 2003 Connectivity Survey Responses Only

When asked the question; "In your opinion, what percentage of community residents currently subscribe to an ISP service?" **90%** of the responses were in the 0 to 50% range.

(vii) **Household Access to Satellite TV**

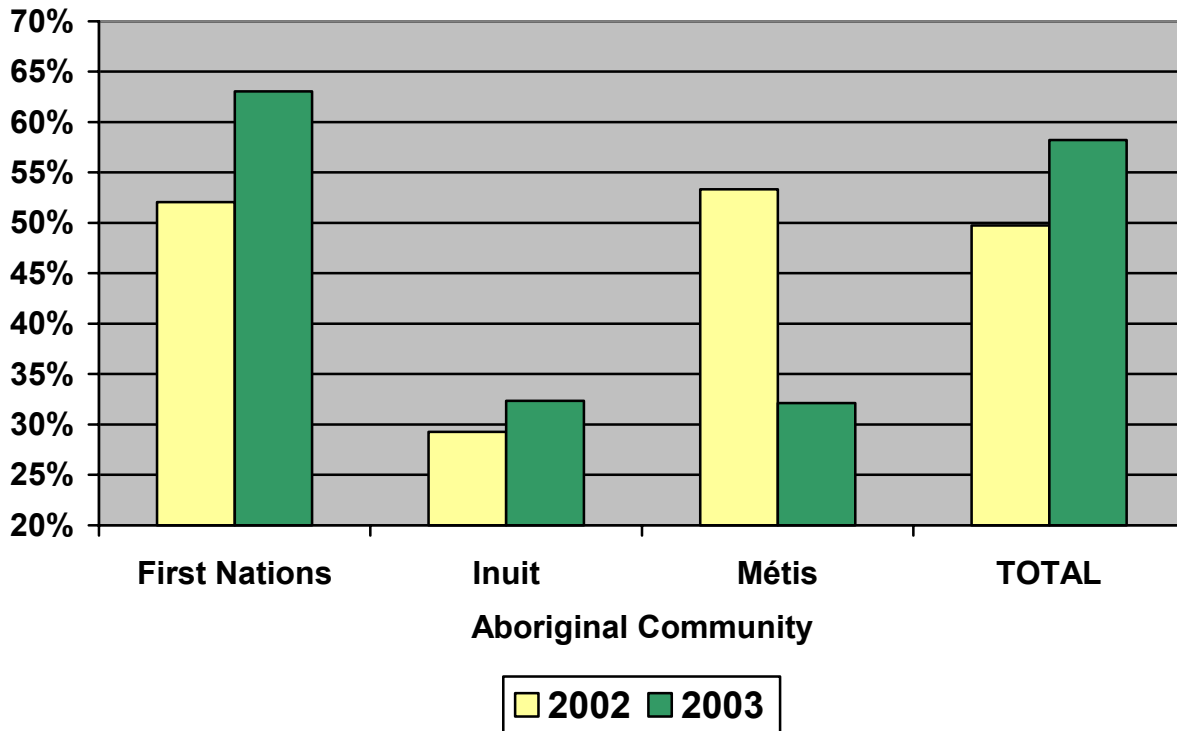
% of Community Residents	Satellite TV Responses	%
0	36	9.42%
1-25	82	21.47%
26-50	67	17.54%
51-75	100	26.18%
76+	97	25.39%
TOTAL	382	100.00%

Based upon 2003 Connectivity Survey Responses Only

Similarly, when asked the question; "What percentage of community residents currently subscribe to a satellite television service?" **the majority of responses were in the over 50% range.** We can only speculate, but feel that these high numbers demonstrate a propensity to use new technology.

c. Community Member Access to the CAO's Internet Connection

Community Members' Ability to Access the Internet at their Community Administration Office (CAO)



Based upon 2002 & 2003 Connectivity Survey Responses Only

Many communities allow residents to use their community administration office's (CAO) Internet facilities for personal use. Overall access rate for community members in all Aboriginal communities increased from 50% in 2002 to 58% in 2003.

Of the Aboriginal communities that allow community members to use their community administration office's Internet facilities, 77% are communities with no high-speed access available to the individual households. Also, of the communities that have high-speed access at the CAO, 91/130(70%) allow community members to use their community administration office's Internet facilities.

We invite your comments and suggestions, please direct them to connectivity@inac.gc.ca

V. Appendices

Appendix A – List of Aboriginal Communities

First Nation Communities		
Aamjiwnaang	Big Grassy	Chiniki
Abegweit	Big Island Lake Cree Nation	Chipewyan Prairie First Nation
Abénakis de Wôlinak	Big River	Chippewas of Georgina Island
Acadia	Bigstone Cree Nation	Chippewas of Kettle and Stony Point
Acho Dene Koe	Biinjitiwaabik Zaaging	Chippewas of Mnjikaning First Nation
Adams Lake	Anishinaabek	Chippewas of Nawash First Nation
Ahousaht	Birch Narrows First Nation	Chippewas of the Thames First Nation
Ahtahkakoop	Birdtail Sioux	Clearwater River Dene
Aishihik	Black Lake	Cold Lake First Nations
Aitchelitz	Blood	Coldwater
Aklavik	Bloodvein	Columbia Lake
Albany	Blueberry River First Nations	Communaut, anicinape de Kitcisakik
Alderville First Nation	Bonaparte	Comox
Alexander	Boothroyd	Conseil de la Première Nation Abitibiwinni
Alexandria	Boston Bar First Nation	Conseil des Atikamekw de Wemotaci
Alexis	Bridge River	Constance Lake
Alexis Creek	Brokenhead Ojibway Nation	Cook's Ferry
Algonquins of Barriere Lake	Brunswick House	Cote First Nation 366
Algonquins of Pikwakanagan	Buctouche	Couchiching First Nation
Animbiigoo Zaagi'igan	Buffalo Point First Nation	Cowessess
Anishinaabek	Buffalo River Dene Nation	Cowichan
Anishinabe of Wauzhushk Onigum	Bunibonabee Cree Nation	Cree Nation of Chisasibi
Anishnaabeg of Naongashiing	Burns Lake	Cree Nation of Mistissini
Annapolis Valley	Burnt Church	Cree Nation of Wemindji
Aroland	Burrard	Cross Lake First Nation
Ashcroft	Caldwell	Cumberland House Cree Nation
Athabasca Chipewyan First Nation	Campbell River	Curve Lake
Atikamekw d'Ojibwan	Canim Lake	Dakota Plains
Attawapiskat	Canoe Creek	Dakota Tipi
Aundeck-Omni-Kaning	Canoe Lake Cree First Nation	Da'naxda'xw First Nation
Barren Lands	Canupawakpa Dakota First Nation	Dauphin River
Batchewana First Nation	Cape Mudge	Day Star
Bay of Quinte Mohawk	Carcross/Tagish First Nations	Dease River
Bear River	Carry The Kettle	Dechi Laot'i First Nations
Bearby's and Okemasis	Cat Lake	Deer Lake
Bearfoot Onondaga	Cayoose Creek	Deh Gah Gotie Dene Council
Bearskin Lake	Champagne	Delaware
Bearspaw	Champagne and Aishihik First Nations	Deline
Beausoleil	Chapleau Cree First Nation	Dene Tha'
Beaver First Nation	Chapleau Ojibway	Deninu K'ue First Nation
Beaver Lake Cree Nation	Chawathil	Ditidaht
Beecher Bay	Cheam	
Behdzi Ahda" First Nation	Chehalis	
Berens River	Chemainus First Nation	
Betsiamites	Chemawawin Cree Nation	
Big Cove	Cheslatta Carrier Nation	

Dog Rib Rae
 Doig River
 Dokis
 Douglas
 Driftpile First Nation
 Duncan's First Nation
 Eabametoong First Nation
 Eagle Lake
 Eagle Village First Nation - Kipawa
 Eastmain
 Ebb and Flow
 Eel Ground
 Eel River
 Ehattesaht
 English River First Nation
 Enoch Cree Nation #440
 Ermineskin Tribe
 Eskasoni
 Esketemc
 Esquimalt
 First Nation of Nacho Nyak Dun
 Fisher River
 Fishing Lake First Nation
 Flying Dust First Nation
 Flying Post
 Fond du Lac
 Fort Alexander
 Fort Folly
 Fort Good Hope
 Fort McKay First Nation
 Fort McMurray #468 First Nation
 Fort Nelson First Nation
 Fort Severn
 Fort William
 Fountain
 Fox Lake
 Frog Lake
 Gamblers
 Gameti First Nation
 Garden Hill First Nations
 Garden River First Nation
 Ginoogaming First Nation
 Gitanmaax
 Gitanyow
 Gitsegukla
 Gitwangak
 Glen Vowell
 Glooscap First Nation
 God's Lake First Nation

Gordon
 Grand Rapids First Nation
 Grassy Narrows First Nation
 Gull Bay
 Gwa'Sala-Nakwaxda'xw
 Gwawaenuk Tribe
 Gwicha Gwich'in
 Hagwilget Village
 Halalt
 Halfway River First Nation
 Hartley Bay
 Hatchet Lake
 Heart Lake
 Heiltsuk
 Henvey Inlet First Nation
 Hesquiaht
 Hiawatha First Nation
 High Bar
 Hollow Water
 Homalco
 Horse Lake First Nation
 Hupa'asath First Nation
 Huu-ay-aht First Nations
 Indian Island
 Innu Takuaikan Uashat Mak Mani-Utenam
 Inuvik Native
 Iskatewizaagegan #39
 Independent First Nation
 Iskut
 Island Lake First Nation
 James Smith
 Jean Marie River First Nation
 Ka:'yu:'k't'h'/Che:k:tles7et'h' First Nations
 Ka'a'gee Tu First Nation
 Kahkewistahaw
 Kahnawake
 Kamloops
 Kanaka Bar
 Kapawe'no First Nation
 Kasabonika Lake
 Kashechewan
 K'atlodeeche First Nation
 Katzie
 Kawacatoose
 Keeseekoose
 Keeseekoowenin
 Kee-Way-Win
 Kehewin Cree Nation
 Kingfisher
 Kingsclear

Kinistin
 Kinonjeoshtegon First Nation
 Kispiox
 Kitamaat
 Kitasoo
 Kitchenuhmaykoosib Inninuwug
 Kitigan Zibi Anishinabeg
 Kitkatla
 Kitselas
 Kitsumkalum
 Klahoose First Nation
 Kluane First Nation
 Kluskus
 Konadaha Seneca
 Kwadacha
 Kwakiutl
 Kwanlin Dun First Nation
 Kwantlen First Nation
 Kwaw-kwaw-Apilt
 Kwiakah
 Kwicksutaineuk-ah-kwaw-ah-mish
 Kwikwetlem First Nation
 La Nation Innu Matimekush-Lac John
 La Nation Micmac de Gespeg
 Lac Des Mille Lacs
 Lac La Croix
 Lac La Ronge
 Lac Seul
 Lake Babine Nation
 Lake Cowichan First Nation
 Lake Manitoba
 Lake St. Martin
 Lax-kw'alaams
 Lennox Island
 Leq' a: mel First Nation
 Les Atikamekw de Manawan
 Les Innus de Ekuanitshit
 Lheidli T'enneh
 Liard River
 Liidlii Kue First Nation
 Listuguj Mi'gmaq First Nation Council
 Little Black Bear
 Little Black River
 Little Grand Rapids
 Little Pine
 Little Red River Cree Nation
 Little Salmon/Carmacks First Nation
 Little Saskatchewan
 Little Shuswap Lake

Long Lake No.58 First Nation
 Long Plain
 Long Point First Nation
 Loon River Cree
 Louis Bull
 Lower Cayuga
 Lower Kootenay
 Lower Mohawk
 Lower Nicola
 Lower Post First Nation
 Lower Similkameen
 Lubicon Lake
 Lucky Man
 Lutsel K'e Dene
 Lyackson
 Lytton
 Madawaska Maliseet First Nation
 Magnetawan
 Makwa Sahgaiehcan First Nation
 Malahat First Nation
 Mamalilikulla-Qwe'Qwa'Sot'Em
 Manto Sipi Cree Nation
 Marcel Colomb First Nation
 Martin Falls
 Matachewan
 Mathias Colomb
 Matsqui
 Mattagami
 McDowell Lake
 M'Chigeeng First Nation
 McLeod Lake
 Membertou
 Metepenagiag Mi'kmaq Nation
 Metlakatla
 Miawpukek
 Michipicoten
 Micmacs of Gesgapegiag
 Mikisew Cree First Nation
 Millbrook
 Mishkeegogamang
 Missanabie Cree
 Mississauga
 Mississauga's of Scugog Island
 First Nation
 Mississaugas of the Credit
 Mistawasis
 Mohawks of Akwesasne
 Mohawks of Kanesatake
 Mohawks of the Bay of Quinte
 Montagnais de Natashquan
 Montagnais de Pakua Shipi

Montagnais de Unamen Shipu
 Montagnais du Lac St.-Jean
 Montagnais Essipit
 Montana
 Montreal Lake
 Moose Cree First Nation
 Moose Deer Point
 Moosomin
 Moravian of the Thames
 Moricetown
 Mosakahiken Cree Nation
 Mosquito, Grizzly Bear's Head,
 Lean Man Fst.Natns.
 Mount Currie
 Mowachaht/Muchalaht
 Munsee-Delaware Nation
 Muscowpetung
 Mushuau Innu First Nation
 Muskeg Lake
 Muskoday First Nation
 Muskowekwan
 Muskrat Dam Lake
 Musqueam
 Nadleh Whuten
 Nahanni Butte
 Naicatchewenin
 Nak'azdli
 Namgis First Nation
 Nanoose First Nation
 Naotkamegwanning
 Naskapi of Quebec
 Nation Anishnabe du Lac Simon
 Nation Huronne Wendat
 Nazko
 Nee-Tahi-Buhn
 Nekaneet
 Nemaska
 Neskantaga First Nation
 Neskonlith
 New Westminster
 Nibinamik First Nation
 Nicickousemenecaning
 Nicomen
 Niharondasa Seneca
 Nipissing First Nation
 Nisga'a Village of Gingolx
 Nisga'a Village of Gitwinksihkw
 Nisga'a Village of Laxgalt'sap
 Nisga'a Village of New Aiyansh
 Nisichawayasihk Cree Nation
 Nooaitch

North Caribou Lake
 North Spirit Lake
 North Thompson
 Northlands
 Northwest Angle No.33
 Northwest Angle No.37
 Norway House Cree Nation
 N'Quatqua
 Nuchatlaht
 Nuxalk Nation
 Ocean Man
 Ochapowace
 O-Chi-Chak-Ko-Sipi First Nation
 O'Chiese
 Ochiichagwe'babigo'ining First
 Nation
 Odanak
 Ojibway Nation of Saugeen
 Ojibways of Onigaming First
 Nation
 Ojibways of the Pic River First
 Nation
 Okanagan
 Okanese
 Old Massett Village Council
 One Arrow
 Oneida
 Oneida Nation of the Thames
 Onion Lake
 Onondaga Clear Sky
 Opaskwayak Cree Nation
 Oregon Jack Creek
 Oromocto
 Osoyoos
 Oweekeno
 Pabineau
 Pacheedaht First Nation
 Paq'tnkek First Nation
 Pasqua First Nation #79
 Paungassi First Nation
 Paul
 Pauquachin
 Pays Plat
 Peepeekisis
 Peguis
 Pehdzeh Ki First Nation
 Pelican Lake
 Penelakut
 Penticton
 Peter Ballantyne Cree Nation
 Peters
 Pheasant Rump Nakota

Piapot
Pic Mobert
Pictou Landing
Piikani Nation
Pikangikum
Pinaymootang First Nation
Pine Creek
Popkum
Poplar Hill
Poplar River First Nation
Poundmaker
Première nation de Whapmagoostui
Première Nation Malecite de Viger
Prophet River Band, Dene Tsaa
Tse K'Nai First Natn
Qualicum First Nation
Quatsino
Rainy River
Red Bluff
Red Earth
Red Pheasant
Red Rock
Red Sucker Lake
Rolling River
Roseau River
Ross River
Sachigo Lake
Saddle Lake
Sagamok Anishnawbek
Saik'uz First Nation
Saint Mary's
Sakimay
Salt River First Nation #195
Samahquam
Sambaa K'e (Trout Lake) Dene
Samson
Sandpoint
Sandy Bay
Sandy Lake
Sapotaweyak Cree Nation
Saugeen
Saulteau First Nations
Saulteaux
Sawridge
Sayisi Dene First Nation
Scowlitz
Seabird Island
Sechelt
Seine River First Nation
Selkirk First Nation

Semiahmoo
Serpent River
Seton Lake
Shackan
Shamattawa First Nation
Shawanaga First Nation
Sheguiandah
Sheshatshiu Innu First Nation
Sheshegwaning
Shoal Lake No.40
Shoal Lake of the Cree Nation
Shubenacadie
Shuswap
Shxw'ow'hamel First Nation
Siksika Nation
Sioux Valley Dakota Nation
Siska
Six Nations of the Grand River
Skatin Nations
Skawahlook First Nation
Skeetchestn
Skidegate
Skin Tyee
Skowkale
Skownan First Nation
Skuppah
Skwah
Skway
Slate Falls Nation
Sliammon
Smith's Landing First Nation
Snuneymuxw First Nation
Soda Creek
Songhees First Nation
Soowahlie
Spallumcheen
Spuzzum
Squamish
Squiala First Nation
St. Mary's
St. Theresa Point
Standing Buffalo
Stanjikoming First Nation
Star Blanket
Stellat'en First Nation
Stone
Stoney
Sturgeon Lake Cree Nation
Sturgeon Lake First Nation
Sucker Creek

Sumas First Nation
Sunchild First Nation
Swan Lake
Swan River First Nation
Sweetgrass
Ta'an Kwach'an
Tahltan
Takla Lake First Nation
Taku River Tlingit
Tallcree
Tataskweyak Cree Nation
Taykwa Tagamou Nation
Temagami First Nation
Teslin Tlingit Council
Tetiit Gwich'in
The Key First Nation
Thessalon
Thunderchild First Nation
Timiskaming First Nation
T'it'q'et
Tla-o-qui-aht First Nations
Tlatlasikwala
Tl'azt'en Nation
Tl'etinqox-t'in Government Office
Tlowitsis Tribe
Tobacco Plains
Tobique
Toosey
Tootinaowaziibeeng Treaty Reserve
Toquaht
Tr'on dëk Hwëch'in
Tsartlip
Tsawataineuk
Tsawout First Nation
Tsawwassen First Nation
Tsay Keh Dene
Tseshaht
Tseycum
Ts'kw'aylaxw First Nation
T'Sou-ke First Nation
Tsuu T'Ina Nation
Tulita Dene
Tuscarora
Tzeachten
Uchucklesaht
Ucluelet First Nation
Ulkatcho
Union Bar

Upper Cayuga
Upper Mohawk
Upper Nicola
Upper Similkameen
Vuntut Gwitchin First Nation
Wabaseemoong Independent Nations
Wabauskang First Nation
Wabigoon Lake Ojibway Nation
Wagmatcook
Wahgoshig
Wahnapiatae
Wahpeton Dakota Nation
Wahta Mohawk
Walker Mohawk
Walpole Island
Wapekeka
War Lake First Nation
Wasagamack First Nation
Wasauksing First Nation
Washagamis Bay
Waskaganish
Waswanipi
Waterhen Lake
Wawakapewin
Waywayseecappo First Nation
Treaty Four - 1874
Webequie
Weenusk
Wesley
West Moberly First Nations
West Point First Nation
Westbank First Nation
Wet'suwet'en First Nation
Wha Ti First Nation
Whispering Pines/Clinton
White Bear
White River First Nation
Whitecap Dakota First Nation
Whitefish Lake
Whitefish Lake
Whitefish River
Whitesand
Whycocomagh
Wikwemikong
Williams Lake
Witchekan Lake
Wolf Lake
Wood Mountain
Woodland Cree First Nation

Woodstock
Wunnumin
Wuskwi Sipiik First Nation
Xeni Gwet'in First Nations
Government
Yakweakwoose
Yale First Nation
Yekooche
Yellow Quill
Yellowknives Dene First Nation
York Factory First Nation
Zhiibaahaasing First Nation

Inuit Communities

Aklavik
Akulivik
Arctic Bay
Arviat
Aupaluk
Baker Lake
Bathurst Inlet
Broughton Island or (Qikiqtarjuaq)
Cambridge Bay
Cape Dorset
Chesterfield Inlet
Clyde River
Coral Harbour
Gjoa Haven
Grise Fiord
Hall Beach
Holman
Hopedale
Igloodik
Inukjuak
Inuvik
Iqaluit
Ivujivik
Kangiqaualujuaq
Kangiqsujuaq
Kangirsuk
Kimmirut
Kugluktuk
Kuujuaq
Kuujuarapik
Makkovik
Nain(Head office)
Nanisivik
Pangirtung
Paulatuk
Pelly Bay changed to Kugaaruk
Pond Inlet
Postville
Puvirnituk/Povungnituk
Quaqtaq
Rankin Inlet
Repulse Bay office
Resolute
Rigolet
Sachs Harbour
Salluit
Sanikiluaq
Taloyoak

Tasiujaq
Tuktoyaktuk
Umingmaktok or BayChimo
Umiujaq
Whale Cove

Métis Communities

Alonsa
Aquadeo
Beauval
Binscarth
Buffalo Lake Metis Settlement
Buffalo Narrows
Cartwright
Charlottetown
Chitek Lake
Cochin
Cole Bay
Cumberland House
Debden
Division no.10 (subdivision B)
Dore Lake
Duck Lake
Duff
East Prairie Metis Settlement
Elizabeth Metis Settlement
Fishing Lake Metis Settlement
Gerald
Gift Lake Metis Settlement
Green Lake
Ile a La Crosse
Jans Bay
Kikino Metis Settlement
La Loche
La Ronge
Lebret
Mary's Harbour
Meadow Lake
Michel Village
Morson
Paddle Prarie Metis Settlement
Patuanak
Peavine Metis Settlement
Pinehouse
Port Hope Simpson
Shell Lake
Smoky Lake County #13
St. Lewis
St-Laurent
St-Lazare
St-Louis

Timber Bay
Turnor Lake
Vawn
Weldon
Weyakwin
Winnipegosis

Appendix B – Aboriginal Friendship Centre Internet Availability

Name	City	Prov/Terr	Postal Code	CAP Site	High-Speed
Athabasca Native Friendship Centre Society	Athabasca	Alberta	T9S 1L1		DSL
Atikokan Native Friendship Centre	Atikokan	Ontario	P0T 1C0		Wireless
Barrie Native Friendship Centre	Barrie	Ontario	L4M 3B4		DSL, Cable
Battlefords Indian & Métis Friendship Centre	North Battleford	Saskatchewan	S9A 1K2		DSL, Cable
Bonnyville Canadian Native Friendship Centre	Bonnyville	Alberta	T9N 2G5		DSL, Cable
Brandon Friendship Centre	Brandon	Manitoba	R7A 0T8		DSL, Cable, Wireless
Buffalo Narrows Friendship Centre	Buffalo Narrows	Saskatchewan	S0M 0J0		DSL
Calgary Native Friendship Society	Calgary	Alberta	T1Y 6H2	Yes	DSL, Cable
Can Am Indian Friendship Centre of Windsor	Windsor	Ontario	N8Y 3X7		DSL, Cable
Canadian Native Friendship Centre	Edmonton	Alberta	T5G 2A4	Yes	DSL, Cable
Cariboo Friendship Society	Williams Lake	British Columbia	V2G 1J1		DSL, Cable, Wireless
Centre d'amitié autochtone de Québec	Loretteville	Quebec	G2B 1L4		DSL, Cable
Centre d'amitié autochtone de Senneterre Inc.	Senneterre	Quebec	J0Y 2M0		DSL
Centre d'Amitié Autochtone de Val d'Or	Val-d'Or	Quebec	J9P 6W6		DSL, Cable
Centre d'amitié autochtone La Tuque Inc.	La Tuque	Quebec	G9X 2Y4		DSL
Cold Lake Native Friendship Society	Cold Lake	Alberta	T9M 1P4	Yes	DSL, Cable
Conayt Friendship Centre	Merritt	British Columbia	V1K 1B8		DSL, Cable
Council Fire Native Cultural Centre Inc.	Toronto	Ontario	M5A 2B1		DSL, Cable
Cree Indian Centre of Chibougamau Inc.	Chibougamau	Quebec	G8P 2G1		DSL
Dauphin Friendship Centre	Dauphin	Manitoba	R7N 1A7		DSL
Deh Cho Society Centre	Fort Simpson	Northwest Territories	X0E 0N0		None
Dryden Native Friendship Centre	Dryden	Ontario	P8N 1J7		DSL
Dze L K'ant Indian Friendship Centre	Smithers	British Columbia	V0J 2N0	Yes	DSL
Edson Friendship Centre	Edson	Alberta	T7E 1T9		DSL
First Nations Friendship Centre	Vernon	British Columbia	V1T 1Y7		DSL, Cable
Flin Flon Indian-Métis Friendship Assoc. Inc.	Flin Flon	Manitoba	R8A 1M7		DSL
Fort Erie Native Friendship Centre	Fort Erie	Ontario	L2A 5H2	Yes	DSL
Fort Nelson Aboriginal Friendship Society	Fort Nelson	British Columbia	V0C 1R0		DSL, Cable, Wireless
Fort St. John Friendship Society	Fort St. John	British Columbia	V0J 1Z0		DSL
Fredericton Native Friendship Centre	Fredericton	New Brunswick	E3B 3W4		DSL, Cable
Friendship House Association of Prince Rupert	Prince Rupert	British Columbia	V8J 1P9	Yes	DSL
Georgian Bay Friendship Centre	Midland	Ontario	L4R 2A7		DSL, Cable
Grande Prairie Friendship Centre	Grande Prairie	Alberta	T8V 4L1		DSL, Cable, Wireless

Hamilton Regional Indian Centre	Hamilton	Ontario	L8M IK8		DSL, Cable, Wireless
High Level Native Friendship Centre	High Level	Alberta	T0H 1Z0		DSL
High Prairie Native Friendship Centre	High Prairie	Alberta	T0G 1E0		DSL
Hiiye'yu LeLum (House of Friendship) Society	Duncan	British Columbia	V9L 3Y2		DSL, Cable
Hinton Friendship Centre Society	Hinton	Alberta	T7V 2A6		DSL, Cable
Houston Friendship Centre Society	Houston	British Columbia	V0J 1Z0	Yes	None
Ile a la Crosse Friendship Centre	Ile a la Crosse	Saskatchewan	S0M 1C0		None
Indian & Métis Friendship Centre	Winnipeg	Manitoba	R2W 5H5		DSL, Cable, Wireless
Indian Friendship Centre	Sault Ste. Marie	Ontario	P6A 3C6		DSL, Cable
Ingamo Hall Friendship Centre	Inuvik	Northwest Territories	X0E 0T0		DSL, Cable
Ininev Friendship Centre	Cochrane	Ontario	P0L 1C0		DSL, Cable
Interior Indian Friendship Society	Kamloops	British Columbia	V2B 8J7		DSL, Cable
Kapuskasing Indian Friendship Centre	Kapuskasing	Ontario	P5N 1X5		DSL, Cable
Katarokwi Native Friendship Centre	Kingston	Ontario	K7K 2N6		DSL, Cable
Kermode Friendship Centre	Terrace	British Columbia	V8G 2N7		DSL, Cable
Kikinahk Friendship Centre	La Ronge	Saskatchewan	S0J 1L0		DSL
Ki-Low-Na Friendship Society	Kelowna	British Columbia	V1Y 6J3		DSL, Cable
La Loche Friendship Centre	La Loche	Saskatchewan	S0M 1G0		DSL
Labrador Friendship Centre	Happy Valley-Goose Bay	Newfoundland & Labrador	A0P 1E0		Cable
Lac La Biche Canadian Native Friendship Centre	Lac La Biche	Alberta	T0A 2C0		DSL
Lillooet Friendship Centre Society	Lillooet	British Columbia	V0K 1V0		DSL
Lloydminster Native Friendship Centre	Lloydminster	Saskatchewan	S9V 1K4		DSL
Lynn Lake Friendship Centre	Lynn Lake	Manitoba	R0B 0W0		None
Ma-Mow-We-Tak Friendship Centre Inc.	Thompson	Manitoba	R8N 0R6	Yes	DSL, Wireless
Mannawanis Native Friendship Centre Society	St. Paul	Alberta	T0A 3A0		DSL, Cable
Micmac Native Friendship Centre	Halifax	Nova Scotia	B3K 3B4		DSL, Cable
Mission Indian Friendship Centre	Mission	British Columbia	V2V 1G4		DSL, Cable
Moose Mountain Friendship Centre	Carlyle	Saskatchewan	S0C 0R0		DSL
Moosonee Native Friendship Centre	Moosonee	Ontario	P0L 1Y0	Yes	None
M'Wikwedong Friendship Centre	Owen Sound	Ontario	N4K 3C4		DSL, Cable, Wireless
N'Amerind Friendship Centre	London	Ontario	N6B 2S6		DSL, Cable, Wireless
Napi Friendship Association	Pincher Creek	Alberta	T0K 1W0		DSL, Cable
Native Canadian Centre of Toronto	Toronto	Ontario	M5R 2S7		DSL, Cable
Native Friendship Centre of Montréal	Montréal	Quebec	H2X 2T3		DSL, Cable
Nawican Friendship Centre	Dawson Creek	British Columbia	V1G 2C6		DSL

Ne-Chee Friendship Centre	Kenora	Ontario	P9N 3X3		DSL, Cable
Niagara Regional Native Centre	Niagara-on-the-Lake	Ontario	L0S 1J0		DSL
Nishnawbe-Gamik Friendship Centre	Sioux Lookout	Ontario	P8T 1B8		None
Nistawoyou Association Friendship Centre	Fort McMurray	Alberta	T9H 1W1		DSL
North Bay Indian Friendship Centre	North Bay	Ontario	P1B 4A6		DSL, Cable
Northwest Friendship Centre	Meadow Lake	Saskatchewan	S0M 1V0		DSL, Cable
N'Swakamok Native Friendship Centre	Sudbury	Ontario	P3C 1T5		DSL, Cable
Odawa Native Friendship Centre	Ottawa	Ontario	K1Y 1P8		DSL, Cable, Wireless
Parry Sound Friendship Centre	Parry Sound	Ontario	P2A 2K7		DSL, Cable
Peterborough Native Friendship Centre	Peterborough	Ontario	K9H 3L8		DSL, Cable
Pine Tree Native Centre of Brant	Brantford	Ontario	N3T 3C4		DSL, Cable, Wireless
Port Alberni Friendship Centre	Port Alberni	British Columbia	V9Y 4H3		DSL, Cable
Portage Friendship Centre	Portage La Prairie	Manitoba	R1N 1N4		DSL, Cable
Prince Albert Indian & Métis Friendship Centre	Prince Albert	Saskatchewan	S6V 2B2		DSL, Cable
Prince George Native Friendship Centre	Prince George	British Columbia	V2L 3G6		DSL, Cable
Pulaarvik Kablu Friendship Centre	Rankin Inlet	Northwest Territories	X0C 0G0		None
Qu'Appelle Valley Friendship Centre	Fort Qu'Appelle	Saskatchewan	S0G 1S0		DSL, Wireless
Quesnel Tillicum Society Friendship Centre	Quesnel	British Columbia	V2J 1Y8		DSL, Cable, Wireless
Rae-Edzo Friendship Centre	Fort Rae	Northwest Territories	X0E 0Y0		None
Red Deer Native Friendship Society	Red Deer	Alberta	T4N 1Z1		DSL, Cable
Red Lake Indian Friendship Centre	Red Lake	Ontario	P0V 2M0		None
Regina Friendship Centre Corporation	Regina	Saskatchewan	S4R 2E9		DSL, Cable, Wireless
Riverton & District Friendship Centre Inc.	Riverton	Manitoba	R0C 2R0	Yes	None
Rocky Native Friendship Society	Rocky Mountain House	Alberta	T0M 1T0		DSL, Cable
Sagitawa Friendship Centre	Peace River	Alberta	T8S 1R7		DSL, Wireless
Saskatoon Indian & Métis Friendship Centre	Saskatoon	Saskatchewan	S7K 1N4		DSL, Cable
Selkirk Friendship Centre	Selkirk	Manitoba	R1A 2J5	Yes	DSL
Sik-Ooh-Kotoki Friendship Centre	Lethbridge	Alberta	T1J 0E1		DSL, Cable
Skookum Jim Friendship Centre	Whitehorse	Yukon	Y1A 1G1		DSL, Cable
Slave Lake Native Friendship Centre	Slave Lake	Alberta	T0G 2A2		DSL
Soaring Eagle Friendship Centre	Hay River	Northwest Territories	X0E 1G1		DSL
South Okanagan Urban Native Delegation Society	Penticton	British Columbia	V2A 1M1		DSL, Cable
St. John's Native Friendship Centre	St. John's	Newfoundland & Labrador	A1C 4X7		DSL, Cable
Swan River Friendship Centre	Swan River	Manitoba	R0L 1Z0		DSL

Tansi Friendship Centre Society	Chetwynd	British Columbia	V0C 1J0		None
The Pas Friendship Centre	The Pas	Manitoba	R9A 1M3		DSL
Thunder Bay Indian Friendship Centre	Thunder Bay	Ontario	P7A 4P7		DSL, Cable
Thunderbird Friendship Centre	Geraldton	Ontario	P0T 1M0		None
Tillicum Haus Native Friendship Centre	Nanaimo	British Columbia	V9R 6N4		DSL, Cable
Timmins Native Friendship Centre	Timmins	Ontario	P4N 2M9	Yes	DSL, Cable
Tree of Peace Friendship Centre	Yellowknife	Northwest Territories	X1A 2P9		DSL, Cable
Uncle Gabe's Friendship Centre	Fort Smith	Northwest Territories	X0E 0P0		None
United Native Friendship Centre	Fort Frances	Ontario	P9A 3N1		None
Vancouver Aboriginal Friendship Centre Society	Vancouver	British Columbia	V5L 1S7		DSL, Cable
Victoria Native Friendship Centre	Victoria	British Columbia	V9A 3K5		DSL, Cable
Wachiay Friendship Centre Society	Courtenay	British Columbia	V9N 5N4	Yes	DSL, Cable
Yorkton Friendship Centre	Yorkton	Saskatchewan	S3N 1P7		DSL, Cable, Wireless
Zhahti Koe Friendship Centre General	Fort Providence	Northwest Territories	X0E 0L0		None

Appendix C – Federal Connectivity Initiatives

Broadband for Rural and Northern Development Pilot Program (BRAND)

Industry Canada's Broadband for Rural and Northern Development Pilot Program provides funding through a competitive process to bring publicly available broadband access to Canadian communities, with priority given to First Nations, northern, remote and rural communities which are currently un-served by Digital Subscriber Line (DSL) or cable modem service. The broadband initiative is part of the Government of Canada's commitment to ensuring broadband access for all Canadian communities by 2005.

Selections will be made through a two-step process. First, applicants submit proposals for funding to support the development of a business plan. Successful applicants will be eligible to receive up to \$30 000 for this purpose. Additional funds will be available on a competitive basis to eligible applicants to implement their business plans. The level of contribution will be subject to the quality of the submissions and the availability of funds.

For more information, please contact:

Information Distribution Centre
Communications and Marketing Branch
Industry Canada
Room 268D, West Tower
235 Queen Street
Ottawa ON K1A 0H5
Tel.: (613) 947-7466
Fax: (613) 954-6436
E-mail: publications@ic.gc.ca
Web site: <http://broadband.gc.ca>

Community Access Program (CAP)

Industry Canada's Community Access Program (CAP) gives to the residents of rural, remote, and urban communities across Canada affordable access to the Internet. This provides Canadians with a new way to communicate, learn, and do business in today's knowledge-based economy. The Community Access Program is pursuing the following objectives:

- To promote public awareness of the benefits and opportunities of using information technology and services;
- To help citizens become better informed through the exchange of ideas and information;
- To provide training for individuals in the use of information technologies;
- To support on-line delivery of government programs and services;
- To facilitate business activities such as electronic commerce; and
- To conduct on-line learning and researching.

The Community Access Program is a partnership between governments, the private sector, and community organizations designed to help accelerate public access to the Internet all across the country. At present, 8,800 affordable Internet access sites have been established or approved. The program has a significant impact at the grassroots level and has become an important economic and social development tool in communities. Momentum has been building over the years, producing a national network of CAP communities/champions resulting in local Web sites, innovations and economic growth. In terms of overall impact, CAP has connected Canadians to the Internet and to each other from coast to coast.

To obtain more information, please contact CAP directly at:

Community Access Program
Industry Canada
Tel: 1-800-575-9200
TTY: 1-800-465-7735
Fax: (613) 952-8711
E-mail: comaccess@ic.gc.ca
Internet: <http://cap.ic.gc.ca>

First Nations SchoolNet

First Nations SchoolNet (FNS) gives First Nations communities the opportunity to use exciting new technologies by providing schools with an affordable, high-speed connection to the Internet via DirecPC(tm) satellite terminals. To date, 80 percent of eligible schools are participating. Helping Canadians become connected to the Internet is part of Connecting Canadians, the Government of Canada's vision and plan to make Canada the most connected country in the world. FNS is part of the broader SchoolNet initiative of Industry Canada's Information Highway Applications Branch. The work is being led by Industry Canada in partnership with the Assembly of First Nations, Canadian telecommunications companies through the former Stentor Alliance, and First Nations schools and communities.

The installation and use of FNS equipment is also supported by a network of help desks located in First Nations organizations or Aboriginal businesses across the country. All eligible schools (i.e., schools under federal jurisdiction) receive information packages on FNS. They can then contact SchoolNet to make arrangements. Equipment is sent to the schools and contact is made with the closest help desk to help support installation. Funding is also put in place to support Internet access and long distance expenses (where applicable).

For more information, please contact:

Telephone: 1-800-575-9200
TTY: 1-800-465-7735
Web site: <http://www.schoolnet.ca/aboriginal>

Appendix D – Provincial Connectivity Initiatives

Alberta

Alberta SuperNet <http://www.albertasupernet.ca/>

Alberta SuperNet is an endeavor to provide affordable high-speed network connectivity and Internet access to all universities, school boards, libraries, hospitals, provincial government buildings and regional health authorities throughout the province. At the same time, SuperNet will ensure businesses and residences in 422 communities will have access to high-speed Internet at competitive rates.

Estimated date of completion: 2004

Saskatchewan

Saskatchewan Partnership for Prosperity <http://www.saskprosperity.sk.ca>

Increase access to high-speed Internet to at least 250 communities by 2005; increase the number of businesses and families connected to the Internet by 40%.

Estimated date of completion: 2005

Manitoba

Canada-Manitoba Infrastructure Program <http://www.infrastructure.mb.ca/e/proinfo.html>

A multi-focused program that for which projects related to Rural and Northern Telecommunications Infrastructure and High-Speed Internet Access for Public Institutions are included.

Estimated date of completion: March 31, 2007

Ontario

Connect Ontario http://www.superbuild.gov.on.ca/userfiles/HTML/nts_2_21077_1.html

Connect Ontario: Broadband Regional Access (COBRA) is a three-year \$55 million SuperBuild program to provide high-speed telecommunications in rural and northern Ontario.

The program is the second phase of Connect Ontario, an initiative to improve community-based information and services. COBRA provides the necessary broadband infrastructure for communities to provide web-based services.

Nova Scotia

Information Economy Initiative <http://www.gov.ns.ca/econ/iei/default.asp>

Creation of an additional 130 CAP sites.

Estimated date of completion: 2003

Yukon

Connect Yukon Project <http://www.gov.yk.ca/news/2001/Aug-01/01-201.pdf>

Primary goals are to provide:

- high-speed Internet service to 17 Yukon communities,
- better telephone service to all Yukon communities,
- high-speed data services to most Yukon communities for business applications, and
- new telephone services to many areas that presently don't have telephone service.

Every community will benefit from a doubling of the telecommunications capacity available for voice telephone services. This will reduce the incidence of busy signals and poor FAX performance.

Estimated date of completion: Completed August, 2001

Appendix E – Broadband Technology Primer

What is Broadband?

There is no universally accepted definition of what constitutes broadband connectivity. It is however; important to recognize that in order to take advantage of the Internet's potential, connecting at a reliable, high transfer rate will be key. Advanced applications like distance education, tele-health, and e-business require broadband access. Depending on the source, definitions of broadband vary between 200kpbs and 30Mbps with most centering around the T1 level of 1.544 bi-directional Mbps. The National Broadband Taskforce, defined broadband as "a minimum two-way, or symmetrical, transmission speed of 1.5Mbps per individual user" with the overall goal of providing "a high-capacity, 2-way link between an end user and access network suppliers capable of supporting full-motion, interactive video applications."

When deciding on what constitutes broadband one must also take into account the services that are currently available in the geographic area of concern. In the eyes of many communities broadband may simply be defined as "anything faster than our dial-up modem".

Technologies

The use of broadband technologies across North America is growing rapidly. A survey conducted by Kinetic Strategies found there are 9.4 million residential customers of broadband Internet services in North America, which includes 8.2 percent household penetration. In addition, the study found that cable is outpacing digital subscriber line service, with 70 percent market share. Cable modem providers continue to dominate DSL providers, with an estimated 6.4 million cable modem customers in the United States and Canada, equal to 70 percent of the market. In comparison, DSL providers served 2.9 million residential subscribers, according to the survey.

xDSL

A Digital Subscriber Line (DSL) is a very high-speed connection that uses the same wires as a regular telephone line. ADSL is a distance-sensitive technology: As the connection's length increases, the signal quality decreases and so does the connection speed. The limit for ADSL service is 5,460 meters, although for speed and quality of service reasons many ADSL providers place a lower limit on the distances for the service. At the extremes of the distance limits, ADSL customers may see speeds far below the promised maximums, while customers nearer the central office have faster connections and may see extremely high speeds in the future. ADSL technology can provide maximum downstream (Internet to customer) speeds of up to 8 megabits per second (Mbps) at a distance of 1,820 meters, and upstream speeds of up to 640 kilobits per second (Kbps). In practice, the best speeds widely offered today are 1.5 Mbps downstream, with upstream speeds varying between 64 and 640 Kbps.

ADSL uses two pieces of equipment, one on the customer end and one at the Internet service provider. At the customer's location there is a DSL transceiver, and the DSL service provider has a DSL Access Multiplexer (DSLAM). Most residential customers call their DSL transceiver a "DSL modem. It is simply a piece of equipment that connects the customers equipment to the to the DSL line. The DSLAM at the access provider is the equipment that really allows DSL to happen. A DSLAM takes connections from many customers and aggregates them onto a single, high-capacity connection to the Internet. The DSLAM provides one of the main differences between user service through ADSL and through cable modems. Because cable-modem users generally share a network loop that runs through a neighborhood, adding users means lowering performance in many instances. ADSL provides a dedicated connection from each user back to the DSLAM, meaning that users won't see a performance decrease as new users are added.

Types of DSL

Asymmetric DSL (ADSL) - Most homes and small business users are connected to an ADSL line. ADSL divides up the available frequencies in a line on the assumption that most Internet users look at, or download, much more information than they send, or upload. Under this assumption, the connection speed from the Internet to the user is 3-4 times faster than the connection from the user back to the Internet.

Very high bit-rate DSL (VDSL) - This is a fast connection, but works only over a short distance.

Symmetric DSL (SDSL) - This connection, used mainly by small businesses, doesn't allow you to use the phone at the same time, but the speed of receiving and sending data is the same.

Rate-adaptive DSL (RADSL) - This is a variation of ADSL, but the modem can adjust the speed of the connection depending on the length and quality of the line. Current technology can provide a theoretical maximum of up to 7 megabits per second, and research promises even greater performance in the future with protocols VDSL.

Cable Modems

When a cable company offers Internet access over the cable information is sent from the Internet to an individual computer - into a 6 MHz channel. On the cable, the data looks just like a TV channel. Internet downstream data takes up the same amount of cable space as any single channel of programming. Upstream data -- information sent from an individual back to the Internet -- requires even less of the cable's bandwidth, just 2 MHz.

Putting both upstream and downstream data on the cable television system requires two types of equipment: a cable modem on the customer end and a Cable-Modem Termination System (CMTS) at the cable provider's end. A CMTS will enable as many as 1,000 users to connect to the Internet through a single 6 MHz channel. Since a single channel is capable of 30-40 megabits per second of total throughput, this means that users may see far better performance than is available with standard dial-up modems. The single channel aspect, though, can also lead to one of the issues some users experience with cable modems. If you are one of the first users to connect to the Internet through a particular cable channel, then you may have nearly the entire bandwidth of the channel available for your use. As new users, especially heavy-access users, are connected to the channel, you will have to share that bandwidth, and may see your performance degrade as a result. It is possible that, in times of heavy usage with many connected users, performance will be far below the theoretical maximums. The good news is that the cable company adding a new channel, and splitting the base of users can resolve this particular performance issue. Another benefit of the cable modem for Internet access is that, unlike ADSL, its performance doesn't depend on distance from the central cable office. A digital DATV system is designed to provide digital signals at a particular quality to customer households.

2002 Aboriginal Connectivity Survey

Aboriginal Canada Portal Questions for Aboriginal Communities

What is the Aboriginal Canada Portal (ACP)?

The Aboriginal Canada Portal (ACP) is a partnership project of the Government of Canada (GOC), provincial governments and Aboriginal organizations such as the Assembly of First Nations, the Congress of Aboriginal Peoples, the Council for the Advancement of Native Development Officers, Inuit Tapirisat and the Métis National Council.

The Aboriginal Canada Portal offers all Aboriginal community, provincial, territorial and federal aboriginal related government information and services. It is also the goal to include all Aboriginal associations, businesses, organizations, bands, communities, news and peoples information within the portal. It operates as a single window to all on-line Aboriginal related information offering ease of access and navigation to this information.

Connecting Canadians is part of a larger Federal Government mandate to avail all information and services on-line to Canadians by the year 2004. Beyond the digitization of paper-based documents and services, the government's plan is to ensure that all information is client driven, integrated, and interactive. This single window (ACP) will serve as the medium in which to integrate all the government's Aboriginal information and services.

What is a Portal?

A portal is larger in scope than a traditional web site, for it is a single window to on-line information and services of a common interest. The information in a portal site is organized and displayed from a user's perspective. The ACP will link to the following sites in an organized manner: all national Aboriginal organization sites, 12 federal government departments with Aboriginal mandates, all provincial and territorial governments and organizations with Aboriginal responsibilities, plus all related Aboriginal community information.

The information you provide will allow us to better understand the needs of Aboriginal communities across Canada in relation to connectivity on the Internet. Please take time to try and answer as many questions as possible and fax back the completed questionnaire at (819) 994-7825 by March 27th, 2002.

1. Contact Information:

(A contact person should be designated in order to ensure ongoing communication with the Aboriginal Canada Portal team. This person preferably would be knowledgeable or involved in economic development for the community and/or can be responsible for the maintenance of an existing community homepage.)

Contact's name:	Title:
Organization name:	
Mailing Address:	Physical Address (if different):
Telephone number: ()	Fax number: ()

2. Community Internet information:

Do you have access to email? <input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, then please provide us with an email address where we may contact you.

Does your community have a website? <input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, may we have the URL to add your community homepage to the Aboriginal Canada Portal site?

If no, are there any plans to have one developed in the future?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know

3. Community Telecommunications Infrastructure:

<p>Is there telephone access for the Band or Community Administration office? If yes, what telephone company provides you with service.</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes Telephone co: _____</p>
<p>Does the Band or Community Administration office have access to the Internet? If yes, what type of connection do you have?</p> <p><input type="checkbox"/> dial-in (modem) <input type="checkbox"/> ADSL (high speed telephone line service) <input type="checkbox"/> Cable <input type="checkbox"/> Satellite <input type="checkbox"/> Don't know</p>
<p>Are there long distance charges for its use?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know</p>
<p>Do you encourage the use of the Band or Community Administration office's Internet connection by the general population?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know</p>
<p>Is there telephone access for community residences?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know</p> <p>If yes, what telephone company provides you with service?</p> <p>_____</p>
<p>If desired, can the residences in the community access the Internet?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know</p> <p>If yes, what type of connection is used?</p> <p><input type="checkbox"/> Dial-In (modem) <input type="checkbox"/> ADSL (high speed telephone line service) <input type="checkbox"/> Cable <input type="checkbox"/> Satellite <input type="checkbox"/> Don't know</p> <p>Are there long distance charges for its use?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know</p>

4. Community Information:

What is your community's official name?
How many people live in your community?
Is your community dispersed over more than one site? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know
If yes, is the level of communication infrastructure consistent across all sites? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know

5. Comments:

Have any comments you'd like to share?
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We thank you for your time and participation with this questionnaire. If you have any questions or require further information either on the questionnaire or the Canada Aboriginal Portal site you may contact us at 1-888-399-0111 or you may write to us at ACP@inac.gc.ca

If you have access to the Internet come and visit!
www.aboriginalcanada.gc.ca

2003 Aboriginal Connectivity Survey

Aboriginal Community Connectivity Infrastructure Study 2002/2003

We would like to thank everyone who participated in the 2001/2002 connectivity survey. As a result, we were able to produce the Report on *Aboriginal Community Connectivity Infrastructure*. Almost 75% of the Aboriginal communities in Canada responded to our survey. This excellent response rate enabled us to compile an accurate report on the state of connectivity in Aboriginal communities. The report is available through the Aboriginal Canada Portal at the following URL: <http://www.aboriginalcanada.gc.ca/connectivity>
If you do not have access to the Internet, you may request a copy by calling; Elaine Rochon at 1 888 399-0111.

What is the Aboriginal Canada Portal (ACP) Workgroup?

The Aboriginal Canada Portal Working Group is more than a single window to Canadian Aboriginal on-line resources. It is a collaborative grouping of federal departments and national Aboriginal organizations working in a collective effort to promote the importance of the Internet and broadband connectivity, encouraging the development and awareness of on-line Aboriginal content and examine ways to reduce the digital divide within urban, rural and remote aboriginal communities. Membership includes; the Assembly of First Nations, the Congress of Aboriginal Peoples, Council for the Advancement of Native Development Officers, Inuit Tapiriit Kanatami, Métis National Council and Native Woman Association of Canada.

Why is this survey important to us?

As the information revolution transforms the way the world communicates and conducts business, quality Internet connectivity is becoming essential. The government of Canada is committed to ensuring that all communities have access high speed Internet service. The information collected through this survey allows us to better understand the connectivity needs of Aboriginal communities and enables us to provide informed responses and input to future government policies.

Section 1 – General Information

Community Name: _____
Contact Name: _____
Title: _____
E-mail Address: _____
Telephone: _____ Fax: _____

Section 2 – Community Telecommunications Infrastructure

These questions apply to your Band or Community Administration office.
Please answer as many questions as possible.

1. Is your band office on a reserve? Yes No

“This question applies for First Nation’s only.”

2. Do you have telephone access? Yes No

Which telephone company: _____

3. Is your telephone service provided by satellite?

Yes No Other: _____

4. Do you have access to the Internet? Yes No

If yes, which type of connection:

- Dial-in (modem) while incurring long distance charges
- Dial-in (modem) without incurring long distance charges
- ISDN
- One way Satellite (Satellite down, telephone up)
- Two way Satellite (Satellite down and up)
- Wireless
- ADSL (high speed telephone line)
- Cable
- T1/T3
- Other _____

5. Can members of the general population have access to the Internet using the Band or Community Administration office’s Internet connection?

Yes No

6. Does your community have a Web site? Yes No

If yes, what is the location (URL):

http://_____

eg. http:// www.aboriginalcanada.gc.ca

7. What does your Web Site offer? (select all types)

- E-Commerce (do you sell items online)?
- E-Tourism (do you promote your community as a tourist destination)?
- Culture (do you promote your art, language, history, festivals or celebrations)?
- Community use only (inform community members of events and activities)

8. Which language does your band prefer to use on the Internet?

- English
- French
- Inuktitut
- Ojibway
- Cree
- Other: _____

Section 3 - Residential Connectivity

These questions apply to your community

9. Do residents of your community have telephone service at home? Yes No

10. Do residents have Internet access? Yes No

11. What is the fastest method of connection available to your residents?

- Dial-in (modem) while incurring long distance charges Slowest
- Dial-in (modem) without incurring long distance charges
- ISDN
- One way Satellite (Satellite down, telephone up)
- Two way Satellite (Satellite down and up)
- Wireless
- ADSL (high speed telephone line)
- Cable
- T1/T3 Fastest
- Other _____



12. What percentage of your residents subscribe to an Internet service?

- More than 75%
- 51% to 75%
- 26 to 50%
- 1% to 25%
- None

13. What percentage of your residents subscribe to a satellite television service?

- More than 75%
- 51% to 75%
- 26 to 50%
- 1% to 25%
- None

14. How important is Internet services to your community?

- 1 Essential
- 2
- 3 Important
- 4
- 5 Not important

Section 4 – Comments and Thank You

We thank you for your time and participation with this survey. If you have any questions or require further information either on the questionnaire or the Aboriginal Canada Portal site you may contact Elaine Rochon at 1 888 399-0111 or you may write to us at connectivity@inac.gc.ca