First Nations SchoolNet Regional Management Organization (RMO) Backgrounder

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The Canadian Research Alliance for Community Innovation and Networking (CRACIN) is a four-year partnership between community informatics researchers, community networking practitioners and federal government policy specialists, funded by a grant from the Social Sciences and Humanities Research Council (SSHRC). CRACIN brings together researchers and practitioners from across Canada, and internationally, to undertake case studies and thematic research on enabling the uses of new information and communication technologies (ICTs) by communities and through community-based organizations, and to investigate Canada’s national programs and policies for promoting the development and public accessibility of digitally enabled activities and services.

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Introduction

This working paper explores a history of policy change in Canada’s federal “Connecting Canadians” agenda. It focuses on the Information Highway Applications Branch of Industry Canada and its First Nations SchoolNet (FNS) program. The policy change in question culminated in 2002, when the FNS program devolved to a model of Regional Management Organizations (RMO). This paper explores why the change occurred, and emphasizes how it reflects broader trends in Canada’s federal connectivity policy for rural and remote First Nations communities.

This paper is largely a backgrounder on the ten-year legacy of First Nations connectivity created by FNS and its various partners. Its data sources include secondary materials, such as IHAB/SchoolNet’s various reports and program evaluations from over the years. They also include data gleaned from video archives of FNS national meetings in 2004 (courtesy of Keewaytinook Okimakanak). Primary materials were also collected in the form of interviews with the Director of SchoolNet, and present and former Managers of FNS (conducted in June 2004).

From its beginnings in 1993/94, the FNS program has come to accept two major goals: 1) To connect Canada’s First Nations schools to the Internet; and 2) To contribute to developing a national e-learning strategy inclusive of First Nations. A full understanding of the fluid and contentious nature of these goals is beyond the scope of this working paper. How they have been, and continue to be instantiated over the years (e.g., in recorded achievements, and measurable outcomes) largely depends on how they have been defined (and by whom). As this working paper explores, how the goals are defined largely depends on which individuals and groups have access to the program’s policy process (and is conditioned by the quality of their access). As the process is ongoing, so too is the redefinition of goals.

This exploration is not to discount broader historical trends in technology and society that present options for policymakers and citizens to pursue or resist (e.g., the Internet, BBS, WWW, Video IP telephony). But given its focus on FNS, this exploration is about isolating the points at which options are taken, when the historical trends become local reality through instances of policy action. Nevertheless, a theme working throughout this paper is the idea that historical contingencies alter whichever path policy action takes. They are not to be discounted in favour of the policy process, but in fact, expose the process to moments of uncertainty and surprise.

A history of Connectivity

March 31, 1999 was a critical point for FNS and IHAB/SchoolNet in general. It marked a target set for the SchoolNet program’s first goal: to connect all schools, including First Nations Schools, to the Internet (provided they wanted to be connected to the Internet). At this juncture, SchoolNet reported achieving connectivity amongst roughly 81% of Canada’s participating First Nations, a total of 420 communities/schools.
(Paul 1999). It was however, a temporary achievement, largely defined in terms of a temporary solution. At the time, 60% of First Nations schools were connected via DirecPC satellite technology, which has since proven inadequate for the communities’ increasing user pools, and the bandwidth consumption of videoconferencing and streaming applications favoured by SchoolNet’s current focus on e-learning. What contingent forces explain the disjunction between then and now?

About a year into the FNS program, in 1995, new fiber-optic trunks were being laid across Canada, education networks were emerging in the provinces, and a partnership between SchoolNet and the Stentor Alliance was in the works (to provide DirecPC connections to Canada’s rural and remote communities/schools). These forces converged to focus SchoolNet’s attention on the citizen’s right to consume information. As Byron James, then chair of SchoolNet’s advisory board, proclaimed:

It means that every Canadian student, regardless of her or his location, will have the means to access the best educational content from all over the world (Canada’s SchoolNet 1996).

Throughout the 1990s, inadequate telecommunications infrastructure was a common concern for rural and remote communities/schools, especially First Nations. Communities were organizing regionally in search of solutions. In Northern Ontario for example, the Wawatay Native Communications Society, funded by the Ontario Network Infrastructure Program (1994), was investigating connectivity solutions for a number of First Nations that lacked telephone services. In Quebec, by contrast, the Kitigan Zibi Education Council was already relatively well connected, and advancing to become an ISP for its local Algonquin community and the neighbouring town of Maniwaki. This diversity of local realities, which underlay the common concern for rural and remote First Nations connectivity, presented a major challenge for SchoolNet’s national strategy.

From 1994 to 1999, SchoolNet’s overriding concern for rural and remote communities/schools was to prepare them to receive educational content and services. Its initial strategy was to draw support from the provinces (given their jurisdiction over education), and encourage them to expand their emerging network infrastructures to rural and remote communities. The strategy was inspired by a successful SchoolNet pilot project in New Brunswick (1993); but it failed to garner significant participation from the other provinces.

The provinces were amenable to linking urban schools, as urban centres were the starting points for their emerging education networks. Rural schools would have to wait (and hope) for provincial expansion, unless federal or market solutions could be found. As for Canada’s 614 First Nations bands, their schools’ connectivity concerns required a federal response. First Nations schools are a federal responsibility. Although this would have logically been the purview of Indian and Northern Affairs Canada, the department had no policy for connectivity and had little in the way of a budget to serve such a goal.

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1 Participating communities included Slate Falls, Keewaywin, North Spirit Lake, Koocheching, McDowell Lake, and Mishkegokamang.
2 This was no guarantee that urban schools and libraries would be served, but their chances of provincial service were greater than the rest.
INAC assisted SchoolNet in identifying communities/schools that had indicated an interest in connectivity, especially those remote First Nations that were off the beaten path, but this took the form of referring SchoolNet to the schools. Other options had to be identified, and quickly if SchoolNet’s 1999 deadline was to be met.

Then in 1995/96 an unexpected solution presented itself. The Stentor Alliance of Canada’s major telecommunications companies (including Telesat) approached SchoolNet with a proposal to achieve rural/remote connectivity. New fibre-optic trunks had been laid across Canada, which enabled Stentor to free up excess bandwidth on two satellite channels. The alliance proposed a partnership with SchoolNet to provide bandwidth and DirecPC satellite technology (via Telesat) through the year 2003. The partnership was a massive multi-million dollar undertaking, and it would help the federal government temporarily achieve its 1999 target at a rate it could never have achieved alone. The project totaled $16 million from 1996-1998 (of which the federal government contributed $4 million\(^3\)). An additional $3 million was contributed by Stentor from 1998-2003. The DirecPC technology seemed like it would solve the technical problems remote First Nations schools faced. Schools did not need a great telephone line to dial out. In a number of the more remote cases, e.g., in Northern Ontario, Telesat offered MSAT phones (and a flat rate to government) to help communities/schools adopt DirecPC. Communities/schools paid $30.00 a month for unlimited access (plus regular ISP charges), and could download information at speeds up to 400 kb/s (over this shared bandwidth resource). The technology was more about receiving information, but it proved to be adequate for the times. Remote communities/schools were given an opportunity to explore the Internet directly, and gain confidence in the operation of satellite technology. Apart from being able to meet its 1999 deadline, SchoolNet had found a truly national strategy and avoided having to contend with piecemeal regional initiatives.

But this national DirecPC strategy required more from SchoolNet staff than it could offer. In 1996, the SchoolNet office consisted of a Manager and three staff members. They loaned the DirecPC technology (along with one computer per school) through a central warehouse in Ottawa. The task amounted to shipping equipment and tracking equipment loans for roughly 420 schools. But who was going to help schools troubleshoot installation and maintenance problems? Telesat – the national distributor of DirecPC technology – offered to help. It served as a national helpdesk for the project. SchoolNet however, preferred finding technicians who had experience working in First Nations communities. The national strategy required regional support from organizations First Nations could hold a measure of trust in. SchoolNet therefore ran mini RFPs with the National Indian Education Foundation to hire seven regional helpdesks.

The seven helpdesks were contracted to provide regional support, by telephone and in person. Their main task was to assist First Nations communities/schools in setting up and maintaining the DirecPC satellite technology. The organizations hired were diverse: a First Nations Tribal Council (Northern Ontario), a First Nations Federation (Saskatchewan), First Nations education authorities (Quebec, Maritimes), and community entrepreneurs (Southern Ontario, BC, Alberta, Manitoba). In the case of BC and Alberta

\(^3\) FNS spent $7.3 million to cover costs of connectivity from 1994 through 1999 (KPMG 2000: 63).
the helpdesk (No Limits) was one individual, Ian Cameron, a former truck driver who had grown accustomed to travelling long distances between communities. In 2001 Cameron drove 85,000 km, and put in another 10,000 km by plane, and another 6,000 km by boat (The Learner’s Circle Winter 2002: 4). In the case of Northern Ontario, Quebec, and the Maritimes, staffed First Nations institutions were providing support, and simultaneously developing further partnerships with IHAB/SchoolNet. Keewaytinook Okimakanak, a tribal council in Northern Ontario had received CAP funding for 10 sites the year it became a helpdesk in 1996. Kitigan Zibi, an education authority in Quebec had ties to the SchoolNet Advisory Board (via AFN), as did Mi’maw Kina’matnewey, an education authority in Nova Scotia. Both education authorities were also exploring other SchoolNet initiatives such as Grassroots, and the Network of Innovative Schools. In Saskatchewan, the Federation of Saskatchewan Indian Nations suffered from high staff turnover rates, and was eventually replaced by TP Technologies in 2002/03.

Notwithstanding some heroic struggles on the part of certain entrepreneurs, the not-for-profit institutions proved to be a better model for the helpdesk role. They applied a collective vision to what connectivity could achieve in the communities; and with their efforts to leverage other government programs (especially IHAB initiatives such as CAP and Smart Communities), they were moving well beyond the parameters of a technical support model. Nevertheless, the help desk roles created an atmosphere in which communities/schools could share their trials and tribulations, which was something FNS could not have achieved through Telesat alone. The helpdesks gave the communities/schools opportunities to interact with technicians who had some understanding of, and sympathy for, rural and remote community life.

As equally important, FNS gave the helpdesks opportunities to improve their technical skills, and trusted them to accomplish and maintain its connectivity targets. For example, at one point Telesat switched to a new satellite and all the DirecPC dishes had to be repositioned. Instead of employing Telesat technicians to fix the dishes, SchoolNet trusted the helpdesks to get the job done. They did.

**Moving beyond DirecPC**

At the same time as the DirecPC technology was rolling out, a greater vision of SchoolNet’s connectivity goal was fomenting. It can be clearly read in a statement made by Ovide Mercredi, then National Chief of the Assembly of First Nations, in 1996:

> SchoolNet is giving First Nations students access to the information and data that many schools would otherwise not have been exposed to. This project will increase the awareness of First Nations culture, and provide for an exchange of information which will enhance First Nations curricula development (Canada’s SchoolNet 1996).

The first part of Mercredi’s statement echoes the citizen’s right to information, the right to consume; but the second part presents a model in which communities/schools, of especially First Nations, create a presence on the Internet and exchange information with the rest of the “wired world”. It is a two-way model of production and consumption, in
which oft-marginalized cultures have an opportunity to overcome geographic isolation to increase their public profile on the world stage. To achieve maximal effect, in terms of two-way multimedia connectivity, this model demands broadband solutions of bandwidth sufficient to carry multiple voice, video or data channels simultaneously (e.g., bandwidth currently associated with 1.544 Mbit/s or higher).

In a 2000 study of two-way multimedia connectivity, Industry Canada presented a model of schools with the capacity to do high-speed Internet access and distance learning (e.g., videoconferencing or audio plus graphics). It was based on a projection that 59% of transmissions would be Internet traffic and 41% would be real-time video or audio. It required a minimum of 538 kb/s dedicated access, as a conservative estimate (Industry Canada, Request for Information 2000).

The DirecPC technology was being loaned to schools under a limited agreement with Stentor, which was coming up in March 2003. The technology worked; but at a top download speed of 400 kb/s, it fell short of Industry Canada’s conservative estimate for broadband requirements. Also, around 2000/01 Industry Canada opened up the two satellite channels made available through the agreement, to libraries and urban schools, which significantly curtailed transfer speeds for all. New options would have to be found again, but this time FNS had a number of federal and regional partners working on broadband connectivity strategies for First Nations communities (e.g., such as the Ontario, Quebec, and Maritime helpdesks).

In 2000, the federal government’s budget speech presented a vision of broadband connectivity in every community by 2004. This was complemented by the recommendations of Industry Canada’s National Broadband Taskforce in its June 2001 report, *The New National Dream: Networking the Nation for Broadband Access*. New opportunities presented themselves for remote and rural communities. In Northern Ontario, a number of remote First Nations began working with Industry Canada FedNor and Keewaytinook Okimakanak’s Kuh-Ke-Nah Network (K-Net) to establish local broadband points-of-presence (POPs). In 1999/2000 Industry Canada/IHAB created the Smart Communities Demonstration Project to provide a means for communities to develop local broadband applications. Keewaytinook Okimakanak won Smart status in 2000, in a competition amongst First Nations, and began developing the Keewaytinook Internet High School and Tele-health services, which required access to videoconferencing and sufficient bandwidth to carry high-speed IP applications (e.g., T1 or beyond). These opportunities also solidified regional partnerships with provincial networks such as the Education Network of Ontario, and Ontario’s NORTH Network (for health applications). Another example of First Nations broadband is the Keewatin Career Development Corporation (KCDC) in Saskatchewan, which also won Smart status in 2000, for its Headwaters Project. Like Keewaytinook Okimakanak, KCDC has solidified multiple partnerships between First Nations communities, provincial networks, and rural and remote communities.
Policy Process

Where do FNS and SchoolNet in general, derive their program strategies? Since 1993/94, SchoolNet strategy has largely been the purview of its national office (under Industry Canada/IHAB), guided by an advisory board (SNAB) of federal departments, provincial/territorial MOE’s, education associations, education networks, academics, and civil society groups. In terms of First Nations representation on this board, one position is held for the Assembly of First Nations (National Indian Education Council). The NIEC of the AFN represents First Nations education authorities across Canada, and has a membership comprised of those authorities (such as the Quebec and Maritimes helpdesks mentioned earlier). Incidentally, it was the suggestion of the first AFN representative, the distinguished Alfred Linklater, to establish a First Nations component of SchoolNet in 1994.

SNAB goes a long way in representing the regional interests that hold a stake in the educational component of the federal “Connecting Canadians” agenda. It also offers a forum for Canada’s disparate provinces and territories, and businesses and not-for profit sectors to deliberate the terms and conditions of connectivity for educational purposes. But it should not be confused with the direct participation of the individuals and communities that SchoolNet serves. Its members are primarily “experts and elites”, participants on behalf of Canada’s dominant education institutions and education technology sectors. This is not to imply that SNAB members have no understanding of First Nations SchoolNet’s communities/schools. Rather, it is that in the SNAB forum, the issues of remote and rural communities/schools are overwhelmed by the priorities of larger metropolitan districts. This situation has led SchoolNet to consider creating a First Nations advisory board (which appears to be in the works for Fall 2004).

Until 2002, First Nations SchoolNet’s participating communities/schools fed information and concerns back to the program’s national centre through two general routes. They could communicate with one of the seven regional helpdesks (depending on each helpdesk’s receptivity), and/or respond to SchoolNet’s various program measures such as periodic surveys, site visits, and self-assessment progress reports.

In terms of program measures, a community/school profile will likely resemble quantitative data, such as was aggregated for a June 2002 helpdesk meeting. The data presents community satisfaction with the DirecPC technology: 35% were satisfied, 11% were not satisfied, 11% were very satisfied, and 43% did not answer the question (which according to FNS, was largely because they no longer used DirecPC). Data of this kind are short and sweet, and give FNS the national overview it needs to keep track of 480 communities/schools (i.e., those participants listed in 2002). Qualitative fragments of narrative and voice (e.g., attributed to community representatives, students, teachers) also appear featured in FNS program reports and evaluations. These are largely gathered from the site visits of communities/schools and the self-assessments of school representatives. They help put a face on otherwise statistical aggregates of community/school indicators. With the transition to broadband and the implementation of videoconferencing and digital video in more communities/schools (2004), it appears that SchoolNet is starting to treat video footage of community/school events, interviews, and “technology in action”, as program data (to be brought to the attention of Director Generals and Deputy Ministers,
Videoconferencing also presents opportunities for remote and rural First Nations communities to interact with FNS representatives directly. At this juncture both options largely remain potential options for FNS to explore or ignore.

Up until 2001, SchoolNet’s program measures were overwhelmingly target based, and not fully rationalized to reflect SNAB’s advice and the overarching agenda of the federal government. This meant the measures developed pragmatically, to satisfy short-term information needs such as whether connectivity deadlines would be met, whether communities/schools were migrating to other technologies, and so forth. Thus during the DirecPC era, FNS was measuring how the technology was working, and getting a little information on what schools were using connectivity for. But these outputs were not feeding into a strategic plan for why connectivity was being achieved. SchoolNet had no vision for what “e-learning” and other related online services required, let alone for what these strategies could mean in a First Nations context.

After a Treasury Board audit in 2000, SchoolNet became more conscious of its duties as a federal program. It devised a Risk Management Accountability Framework to satisfy Treasury Board requirements in 2001. SNAB was reasserted as the program’s primary governance structure, to which SchoolNet’s Director was to report on an annual basis using the renewed program measures his managers had devised. For FNS the measures were strategically framed to:

- Connect and maintain the connections of all First Nations schools by providing them with telecommunication infrastructure and promoting ICT to allow them to develop KBE skills to effectively compete in the new economy, accelerating the development of stronger communities, people and economies (SchoolNet RMAF 2002: 21).

Under this strategy, a level of connectivity had to be maintained in at least 80% of First Nations schools; and as 2003 was looming (marking the end of the Stentor agreement), SchoolNet had to monitor the number of schools moving off of DirecPC to other alternative means (DSL/Cable, Ku, C-Band, provincial networks, etc.).

**Policy Participation and Program Transition**

What kinds of participation has First Nations SchoolNet elicited from its partners and stakeholders? Western political science deduces two models of democratic policymaking based on the creative tension between individuals and groups in society (Cf. Laird 1993; Dahl 1978). One is participatory and reflective of individuals. The other is pluralistic and reflective of groups. Both models are required to assess how program policy proceeds. In this working paper the historical focus is overwhelmingly on the pluralistic aspects of FNS. Individual participation, especially at the community/school level generally happens in the undocumented interactions between helpdesks and school representatives. If documented, individual participation becomes a fragmented voice, a video clip taken out of context, or a survey response aggregated to fit a national perspective. FNS has not created many opportunities for individual members
of communities/schools to carry out prolonged deliberations with SchoolNet managers or SNAB. Their interactions are largely mediated through groups (such as helpdesks, the AFN, education authorities, etc.).

Suffice it to say that more research is required to understand the impacts direct participation can have on FNS program policy. This work is already being done at the regional-community level where organizations such as Keewaytinook Okimakanak engage their constituents in prolonged deliberations over what broadband means locally, what socio-economic concerns need to be addressed, and so forth (Cf. Ramirez 2000).

In the pluralistic model, a policy program such as SchoolNet searches for advice, information, justification, and representation from “interest” groups in society. The constellation of potential groups is what makes the process pluralistic. Each group represents a set of individuals and mobilizes a set of (sometimes diffuse) interests, and working definitions of “what’s at stake”, “what the goals are”, and “what should be done”, etc. Groups can be of communities, regions, special interests, international consortia, businesses, and so forth. They compete and/or cooperate over the program’s finite resources, such as the attention of program managers, or available contribution agreements, grants, and contracts.

For their part, groups search for influence, support, information, justification, and representation from the program’s representatives. They place requests and demands on the program, and work to force policy decisions and strategies in the direction of their interests and views.

Variations of the pluralistic system produce scenarios where 1) program managers dominate the policy process, 2) program managers defer to higher levels of government, and 3) program managers negotiate strategies and policy options with groups in some form of advocacy coalition. Scenario one occurs when policy is credited to an autonomous authority. For much of IHAB’s early years, a strong Director General largely created programs on his own initiative (e.g., Digital Collections, GrassRoots). This situation contributed to the impression that SchoolNet lacked a stable program governance structure. In scenario one, program managers can be creative with program resources. They also largely determine on their own terms, the extent to which groups participate in the policy process. If program resources are limited, this means the program will likely have to seek partnerships and extend the policy process to group coalitions. But this type of scenario, especially in terms of the program’s autonomy, has a tendency to alienate important stakeholders who feel their participation in the program gives them a right to formally participate in setting program goals. It can also get program managers in trouble if their creativity oversteps governing restrictions.

Scenario two is not necessarily exclusive of scenario one, but emphasizes a higher authority (e.g., sector, deputy minister, cabinet) that periodically intervenes in a program’s policy process (e.g., department/branch/program). For example, the federal Treasury Board ultimately controls the funds that Industry Canada/IHAB and its various programs, such as SchoolNet/FNS, may distribute to different categories of regional contractors, not-for-profits, communities, schools, and so forth. Treasury Board enforces guidelines and regulations against each category, and will commission audits to assess program achievements (as happened to SchoolNet in 2000).
The third scenario appears to be a compromise between the first and second. Based on the relative decentralization of program governance, scenario three offers a number of possibilities and emphases: The program may have to coordinate projects between multiple levels of government (e.g., federal, provincial, First Nations); the program may require support and cooperation from groups to implement policy in difficult service areas (e.g., Stentor Alliance, helpdesks); or the program’s policy may be dominated by international coalitions (e.g., GATT, WTO), and so forth.

The Era of RMOs

All three scenarios of the pluralistic model have appeared at different moments of SchoolNet’s program history. The “Connecting Canadians” agenda was originally in part, a federal response to an international discourse on global trade and the “Information Economy” (Cf. Raboy & Abramson 1999). SchoolNet’s connectivity goal was initially packaged as part of Industry Canada’s 1994 response to the “global economy”:

SchoolNet, a joint federal, provincial, and territorial initiative, is providing Canadian teachers and students with valuable and exciting electronic services to stimulate the skills needed in the global information economy. Over 4,000 of Canada’s 16,500 schools are already electronically connected to the information highway through SchoolNet (BMIE 1994: Infrastructure).

As has been explored throughout this working paper, during the timeframe roughly between 1994 and 2000, Industry Canada’s SchoolNet program worked to implement DirecPC satellite based access for First Nations schools and remote communities. Through these years, the allocation of resources to implement the DirecPC initiative was contract based. SchoolNet and its related sub-programs, such as FNS, were originally profiled under an Operations & Management funding envelope. In the case of FNS, the contracts were heavily contingent on negotiations between its staff and available contractors (e.g., the BC/Alberta helpdesk was Ian Cameron). FNS also had to account for one-to-one relationships with each of the participating First Nations communities/schools. It had loan agreements with each of them, and part of their contractual relationship was an obligation on the part of communities/schools to report back on their experiences with the technology. Such direct relationships, coupled with FNS’ small staff, created gaps in the program’s financial accounts. SchoolNet operated in this way from 1993 to 2000.

The Treasury Board audit in 2000 concluded that SchoolNet contracts did not offer adequate accountability for the amounts of money the program was spending (e.g., $7.3 million spent connecting First Nations schools, from 1993/1994 through 1998/1999). Treasury Board intervened and demanded a cessation of SchoolNet’s contract based policy implementation. SchoolNet was re-profiled to a system of transfer fund protocols based on an envelope of contribution agreements and grants. The contribution agreements demanded ongoing program monitoring and a Risk Based Management Accountability Framework (devised in 2001). These program changes
required FNS’ national office to explore new ways of administering its distribution of funds. If contracts were a pain, this new envelope would be crippling for the national office to handle on its own.

From being a centrally managed technology distributor, FNS had to evolve to enhance its regional accountability. Between February and August 2002 it began an accelerated transformation. In February and March FNS managers and staff consulted with federal partners (such as INAC) about possible models for distributing contribution agreements. Of the possible program delivery models available, FNS chose a geographical model of Regional Management Organizations (each operated by autonomous organizations external to Industry Canada and the federal government).

From May to mid-June, FNS managers and staff consulted with regional Industry Canada offices and Aboriginal Business Canada agencies to draw up a list of reputable candidates. The RMOs were to be similar to the institutional helpdesks of Ontario, Quebec, and the Maritimes. They needed to be First Nations based, experienced with telecommunications connectivity, and leaders in the socio-economic development of remote and rural communities (preferably with some interest in education initiatives). Through contribution agreements, they would be responsible for distributing and accounting for FNS funds in their respective regions.

As June turned to July, FNS sent out a call for proposals across Canada. Thirty organizations were recommended, of which twelve responded to a request to submit business proposals. With its August deadline close at hand, FNS chose six RMOs to represent its activities geographically. All three institutional helpdesks became RMOs in 2002, given their broad community ties and multiple relationships with IHAB/SchoolNet and other federal departments such as INAC and HRSD4. Three other organizations of similar stature or ambitions joined them.

There is approximately one RMO for each province (except the Maritimes which share Mi’maq Kina’matneway, and Saskatchewan-Alberta which share KCDC). The RMOs are heterogeneous as institutions. They include tribal councils (Ontario, Manitoba), education authorities (Quebec, Maritimes, BC), and a skills training centre (Saskatchewan-Alberta). Their organizational structure is similar. They are not-for profits, mixtures of First Nations and settlers, and promoters of social economy initiatives.

Upon accepting its role under SchoolNet for 2002/2003 and 2003/2004, each RMO was put in charge of the disbursement of contributions and grants to communities/schools in its region. The initial contribution agreements, signed in December 2002 were as follows:

**British Columbia**: First Nations Education Steering Committee - $1,449,500

**Saskatchewan-Alberta**: Keewatin Career Development Centre - $1,430,795

**Manitoba**: Keewatin Tribal Council - $905,125

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4 Kitigan Zibi being absorbed by the broader Conseil en Éducation des Premières Nations, which officially became the RMO for Quebec.
Ontario: Keewaytinook Okimakanak, K-Net Services - $1,549,770
Quebec: Conseil en Éducation des Premières Nations - $582,310
Atlantic: Mi'maw Kina'matnewey - $461,000

Each RMO’s primary task was to account for First Nations school connectivity in its region. The initial breakdowns in 2002 were as follows:

British Columbia: 153 schools/108 connected, 54% on DirecPC (nationally shared bandwidth), Average school population: 50 students

Alberta: 82 schools/61 connected, 75% on DirecPC (nationally shared bandwidth), Average school population: 200 students

Saskatchewan: 89 schools/80 connected, 9% on DirecPC (nationally shared bandwidth), Community Net providing 90% connectivity to schools, Average school population: 250 students

Manitoba: 65 schools/53 connected, 88% on DirecPC (nationally shared bandwidth), Average school population: 200 students

Ontario: 136 schools/103 connected, 79% on DirecPC (nationally shared bandwidth), Average school population: 100 students

Quebec: 48 schools/40 connected, 50% on DirecPC (nationally shared bandwidth), Average school population: 175 students

Atlantic: 32 schools/30 connected, 43% on DirecPC (nationally shared bandwidth), Average school population: 80 students

At this time, the nationally shared bandwidth of the DirecPC solution was being described as “the equivalent of dialup in peak periods”. FNS also put each RMO in charge of fostering “e-learning” strategies through independent or collective initiatives at the regional and individual community/school levels.

The transition to RMOs eased the pressure off FNS’ national office. Presently, the RMOs create more stable and more frequent interactions between FNS and regional interests (e.g., First Nation Schools, communities, tribal councils, PTOs). They speak the language of their regional counterparts (at the PTO, Tribal Council, and community based levels). They know whom to contact at each of these organizations, and many have established ties with their membership. Many of the RMOs’ managers and workers live in proximity to the communities they serve. Many of the RMOs also have close
links to provincial and First Nations education initiatives. They work closely with the regional Industry Canada offices to access partnerships across federal departments.

As models of policy action, the RMOs create a bridge between federal government and First Nations communities, translating desires from both ends into joint socio-economic projects, according to the particular circumstances that define their regional and/or federal commitments. But being in the middle also means that RMOs have at least two masters to serve. They have to be simultaneously legitimated by Industry Canada and First Nations governments. This tension fuels the RMOs’ capacities to interpret policy and make policy work, but its contentious nature locks them into uncertainty. The nagging fear is ongoing: How long will the federal government continue the FNS program, how long will First Nations communities be willing to participate on federal terms, how many communities/schools will continue experimenting with information technologies (given their high staff turnover rates, brain drain), and so on. Thankfully, for the RMOs’ sake, most have learned or are learning to leverage funds from multiple partnerships across federal, provincial, and regional sectors.

History of E-Learning

First Nations SchoolNet’s second goal, a national e-learning strategy, has come to prominence in the RMO era. As to be expected, its significance is intertwined with changes in connectivity; both goals being implicated in SchoolNet’s evolving response to the federal connectivity agenda.

FNS was not originally intended to be a content development program. Connectivity was its overriding goal, from which content development strategies were to follow suit through partnerships with other government departments, provinces, First Nations, business, and not-for-profit organizations.

For example, when FNS started building its website/information portal (in 1994/95) it contracted the First Nations Confederacy of Cultural Education Centres to gather appropriate aboriginal content. The contracted portions index different aboriginal resources that had been made available by disparate organizations on the Web (including cultural, learning, health, legal, and specifically youth-oriented pages). Smaller contracts also went to digitizing assorted CEC cultural materials, but no attempt was made to frame these links and materials within a cohesive e-learning strategy.

In 2003/04, (amidst major program cuts to IHAB), finding the right terms and examples to define “e-learning” and “innovative uses of ICT in education” has became a major concern for SchoolNet. The final recommendation in its 2004 program audit states:

Results from SN initiatives often evolve slowly and the process of fostering innovation and innovative uses of ICT in education requires a long-term commitment, by all stakeholders, and by federal/provincial governments. In the absence of a national strategy for the use of ICT in education, it is very important to at least articulate a clear vision that creates consensus for action (Bearing Point 2004: 50).
SchoolNet’s current search for a consensus based national strategy must also contend with an added dimension of diversity, as participating First Nations communities/schools uphold their rights to produce and control their own educational content. This diversity creates a potential for multiple standards of “e-learning” content in the First Nations context. The regional differences between federal and provincial approaches to “e-learning” are further contrasted by individual community approaches and coalitions at the First Nations level. Authority for First Nations schools resides with every band. This creates a diversity of locally dominant terms and examples of “e-learning”, and makes it difficult for SchoolNet to find a consensus based national strategy.

Notwithstanding the diversity of its First Nations context, SchoolNet also continues to work on clarifying a federal e-learning strategy, which again, is intertwined with connectivity. This work involves interdepartmental collaboration. Since their inception, the FNS program and SchoolNet have relied on partnerships to define and instantiate program goals. In the federal context this means working and strategizing with departments such as HRSD, Health Canada, Justice, (and INAC for FNS). Basically any department that has an interest in connectivity is a potential partner for IHAB/SchoolNet.

IHAB’s current connectivity strategy for remote and rural communities (e.g., broadband initiatives under BRAND) involves aggregating user demand to make bandwidth greater and cheaper. This means looking at rural and remote communities as wholes, combining education with health, business, justice and so forth. Each part of the whole contributes a funding base that can be leveraged to create greater bandwidth for the whole. In this light, for Industry Canada and the federal government in general, connectivity has become less of an agenda of its own and more of an “e-element” of various programs that converge in the communities as online services (e.g., e-health, e-business, e-learning, e-governance, etc.).

This holistic approach forces SchoolNet and FNS to consider e-learning strategies as part of a greater social context that includes such strategies as HRSD’s interest in lifelong learning, and Health Canada’s interest in telemedicine. Not only is e-learning about appropriate educational content; it is also about departments (and provinces, and regions, and communities) sharing budgets to afford greater bandwidth and nurture the skills and knowledge necessary for establishing applications such as telemedicine, GIS, and network operations in remote and rural communities.

First Nations SchoolNet’s renewed role in this holistic approach appears to be as a catalyst of partnerships. In 2001 its budget was around $2.5 million. In 2004 it is closer to $15 million, which takes up about 60% of SchoolNet’s total budget. (In fact, FNS had the only budget that increased amidst IHAB’s cutbacks in 2003/2004). With this expanded envelope comes a greater demand for accountability, now largely served by the responsibilities of RMOs. The renewed federal imperative is for FNS and SchoolNet to show Industry Canada and Treasury Board that their various partners have goals for the future, and strategies to reach or exceed those goals. Concepts like connectivity and “e-learning” have to be fully grounded in concrete socio-economic planning and open deliberation across departments, provinces, regions, and communities.
Many of the RMOs and institutional helpdesks have foreshadowed this historical trend through their activities in the communities/schools. A recurring theme is their work building capacity in the communities/schools, striving to help communities/schools maintain their network infrastructure as independently as possible (for as long as possible). Prior to the RMO era, FNS helpdesks offered online instructional materials to guide the installation and maintenance of loaned equipment. In 2004, the RMOs are exploring a variety of technical capacity building options.

The Atlantic RMO distributes equipment largely on condition that teachers take a relevant “train the trainer” workshop. For example, a three-day session on digital video arms teachers with fundamental skills (e.g., storyboarding, composition, etc.) as well as their desired equipment (e.g., an eMac computer and iMovie editing software).

The Quebec RMO is trying to better understand what teachers in their communities/schools already know, so it can build applications around them. It also delivers training online and in person, in both official languages. A recent experiment with SMART boards, videoconferencing units, and a document-sharing device inspired the Quebec RMO to translate SMART’s technical documentation into French (with blessings from the company).

The Ontario RMO has produced a number of open online tutorials guiding users through the creation of homepages and email accounts. In partnership with Health Canada and HRSD it has produced training sessions for telemedicine operators and network technicians. In 2003 and 2004 the Ontario RMO organized “train the trainer” sessions with school principals and staff, teaching them how to build content for their communities/schools using the PostNuke open source content management system.

The Manitoba RMO is working with an American company, Certiport, to introduce IC3 certification in the schools. This will give participating youth a step up towards acquiring the technical confidence and knowledge required to work in the ICT field (as well as being a foundational step towards acquiring A+ certification).

The Saskatchewan/Alberta RMO has spearheaded an online seminar with CISCO (which included participants from the Ontario and Atlantic RMO regions). It is exploring post-secondary education options with Athabasca (business) and Carleton (teaching) universities; and offering an online G10 program for at risk youth, which includes flexible hours for workers and single parents.

The British Columbia RMO is working with three key organizations: “Cool Schools”, “BC Campus”, and “E-Learning BC”. These organizations offer a mix of strategies to promote the BC curriculum as “learnware” for profit (after provincial schools were downsized). They also work towards community economic objectives such as in the Okanagan Project, which brought together First Nations schools, the Ministry of Environment, and various provincial and regional interests.
Conclusion

It took about five years beyond 1995/96, and a series of new technologies (DSL/Cable, T1, C-Band) for SchoolNet and its partners to make broadband feasible for more than a handful of First Nations communities/schools in Canada’s rural and remote regions. The progress of the program makes it increasingly feasible for First Nations to participate in an information exchange with the rest of the “wired world”. However, the increased feasibility of such activities as “schools producing media content” is no panacea for the socio-economic concerns of Canada’s remote and rural First Nations communities. FNS and SchoolNet have learned that connectivity cannot be a goal in itself. It has to be achieved in concert with more basic socio-economic strategies (health, education, justice, and so forth). The six FNS Regional Management Organizations came to the SchoolNet family knowing all too well about the socio-economic struggles remote and rural First Nations communities face.

Though some First Nations communities/schools were early adopters of the Internet, creating and posting their own websites, the majority were struggling (and many continue to struggle well into 2004) with priorities such as high teacher turnover, disaffected youth, economic depression, housing and health concerns, and more traditional telecommunications challenges such as poor analogue connections, high long distance charges, and so forth.

It is too early to tell where connectivity will lead, or what e-service strategies such as “e-learning” will contribute to the long-term lifespan of rural and remote communities. Alongside new technologies and greater bandwidth, diverse strategies for using ICTs in education continue to be explored, tested, and refined. The span of years since FNS appeared in 1994 has witnessed an increasing demand for new technologies to satisfy the communities/schools’ increasing use of bandwidth. The federal government’s rural and remote connectivity goal has not fallen on idle hands.
References


