Industry Canada's C-Band Transponder: A Public Benefit for Delivering Broadband Connectivity in First Nations, Rural and Remote Communities
April 23, 2002

Chariperson's Opening:

Ken Thomas - review of agenda to discuss the available C-Band transponder resource and identify utilization strategies

Meeting Participants - Day 2

1.	Alison Rogan	CED Division, Government of Nunavut
2.	Rich Kimbell	Public Works, Iqaluit, Nunavut
3.	Glenn Steiner	IC representative in Nunavut
4.	Borys German	Spectrum Engineer with IC working with Nunavut
5.	Linda Maljan	GNWT (Yellowknife)
6.	Jacquelyn Burles	GNWT (Yellowknife)
7.	Jeff Philipp	SSI Micro (Yellowknife)
8.	Eric Eid	NWTel (Whitehorse)
9.	Wayne Boyce	Telehealth Program Manitoba (Winnipeg)
10.	Glen Collins	Project Manager, Manitoba Telecom (Winnipeg)
11.	Maurice Montreuil	Manitoba Broadband (Winnipeg)
12.	Norma Spence	Manitoba Industry, Trade & Mines
13.	Frank Fazio	IC Business Development Officer, Manitoba
14.	Alfonz Koncan	Western Economic Diversification Program, Manitoba
15.	Sheila Engel	Manitoba Health
16.	Ian Cameron	BC / Alberta Schoolnet help desk, BC
17.	Peter Boorman	Vancouver Teleport (Vancouver)
18.	Bryan Orthner	Headwaters Project (Smart Saskatchewan)
19.	Ken Alecxa	Western Economic Diversification Program, Sask
20.	Ken Thomas	Neegan-Burnside Engineering & Technology (SK)
21.	Brian Beaton	K-Net (Sioux Lookout, ON)
22.	Dan Pellerin	K-Net (Sioux Lookout, ON)
23.	Carl Seibel	FedNor (Thunder Bay, ON)
24.	Mike Collins	Telesat (Ottawa)
25.	Ed Miller	Telesat (Ottawa)
26.	Jim Hamilton	Communications Research Centre Canada (Ottawa)
27.	Patrick Haggerty	INAC (Ottawa)
28.	Jacques Drouin	Connectivity Manager, IC SchoolNet (Ottawa)
29.	Rachel Roy	Industry Canada First Nations SchoolNet (Ottawa)
30.	Will Dubitsky	Industry Canada SchoolNet (Ottawa)
31.	Rick Sellick	Neegan Burnside Engineering and Technology
32.	Gordon Cobain	Katavik Regional Government, Kuujuuaq/Nunavik (QC)
33.	Bill Evans	EB Systems Limited, Winnipeg

Draft minutes from the previous day were distributed for review and corrections.

1. Jacques Drouin - Industry Canada Schoolnet Connectivity Manager and member of IC's innovations / Broadband Planning

- powerpoint presentation distributed and will be posted describing the available C-Band transponder resource and its utilization strategy

- Comments / Questions including:
  - challenge to ensure the have and have-not communities needs are adequately addressed and supported (avoid the further expansion of the digital divide)
  - great need for community and regional engagement and identification of roles and responsibilities to ensure everyone has access to resource
  - business model required by communities to ensure a sustainable and locally driven solution and utilization of the broadband connectivity
  - any community that is not accessible by terrestrial service are able to access this resource under the agreement between IC and K-Net
  - there is a need to get the message to the communities and the community leaders so everyone knows of this resource (ie. commitment by the participants in this meeting to share and distribute this information and develop this resource and its utilization in their regions)

2. **Carl Seibel -   FedNor - "Investing in community-based broadband connectivity solution for economic development"**
- distributed contractual agreement between Industry Canada and Keewaytinook Okimakanak (K-Net)
- focus on regional Economic Development initiatives, ie investing in teleom infrastructure (over $5 million in different projects in KO region since 1998 with over $10 million invested in the region)
- working with Jacques and Michael Binder on Spectrum, Information Technologies and Telecommunications (SITT) working group on innovations and broadband connectivity across the country
- starting in 1999 tried to identify solutions to bring broadband connectivity to Fort Severn First Nation (a satellite served community) - able to support the C-Band solution with earth stations in Fort Severn and Sioux Lookout (service centre for the community with tribal council office, regional hospital and other service and government agencies)
- other tribal councils working with KO now want to get similar broadband connectivity infrastructure in their member First Nations (Slate Falls, only one toll telephone now has 6 lines with IP telephones serving many of the offices in the community)
- KO staff identified the availability of the C-Band transponder space made available to IC by Telesat under their licence
- applications driven business cases to develop local services to support economic viability of the communities (for example, major telehealth project involving NORTH network with connection in Winnipeg)
- C-Band satellite solution presently includes Fort Severn, Slate Falls and Anahiem Lake in BC coming into Sioux Lookout to access broadband applications and high speed data services through the connections within the K-Net terrestrial network

3. **Resulting Discussion**
- concerning Health Canada satellite pilot projects (the First Nations National Telehealth project) - stove-pipe projects developed for single application ignoring

community needs and unable to support local development that are left hanging upon project end dates. Manitoba is now carrying the costs for the connectivity into Berens River FN to continue to deliver service on Ku-band.
- need for clearly defined long term strategy by the community, working together with people in the trenches including the funding agencies
- stronger / greater need in remote regions of the country need to be respected
- support for infrastructure, mandate for economic development are important components for successful and ongoing implementation of network
- role of government is critical to ensure affordable and equitable access
- distinct realities of the far north (Nunavut, NWT, Yukon) need to recognized and supported to ensure survival of culture and understanding by others
- government relationships with the municipalities and the people is recognized and respected and provides an opportunity for supporting local development
- gaining access to the required financial resources is a major challenge
- developing strategies to support and back up Michael Binder and the NBTF goals and recommendations to complement local objectives
- establishing community driven solutions working with different communities of interest will ensure the long term sustainability of infrastructure and applications
- strategies to remove barriers for accessing services such as health, education, gov't on-line, economic and business development opportunities, etc
- important criteria must be to ensure existing businesses are supported and included in these developments, ie open and transparent development process, sharing all the information
- working with existing and successful models, such as the Smart Communities demonstration work being shared on-line
- applications based delivery model (Moving Forward)
- the available C-Band transponder is a limited resource that needs to be aggregated to serve as many communities as possible using the most efficient management platform possible to optimize bandwidth needs and usage
- through these communities of interest, a tenable game plan might evolve
- need to be pointing to what others are doing to encourage and support other regions and communities to join into the service

4.   Jeff Philipp - an operational TDMA network management system
- http://www.ssimicro.com/static/skyxpressrelease for an article about their platform
- existing and operational system is applicable to the discussion
- provides network management and utilization of the resource
- platform features - SCPC design, flexible, multi-casting once and receiving, dynamically allocating bandwidth from a pool based on policy, allocation of the CIR pool, burst pool, single hop, dynamic build a PVC between users, get what was paid for, can support multi transponders, video conferencing shared
- network management system needs two NOC (Yellowknife and Hay River) - staffing, $500K in system and $250K in operational costs
- KRG - one site, video conference between sites, sharing existing resources, better utilization of the resource, multiplexing and sharing between the communities

- utilizing different time zones with peak periods and flexible to adjust for demand
- today there are 10 sites on-line, 7 committed, VOIP, video, data services
- TCP acceleration - 2.5 M to desktop, reducing the return channel
- can accommodate multi satellite

5.   Ed Miller, Telesat   Other satellite network management options
- powerpoint presentation available

6.   Next Steps - Ken Thomas - Chairperson
- presented a discussion strategy to examine and determine vision, mission statement, values / principles, goal and objectives, and strategies

Vision - The What
- shared resource, common agenda
- utilize existing work already completed, ie. the National Broadband Task Force
- community-driven, the Canadian way, things that are best done collectively, recognizing what these are while respecting individual autonomy
- need to bring forth the information to the government
- reference the NBTF and the Innovations Agenda
- need to draft of vision and circulate
- **Sample:** Cooperatively and collaboratively working towards fulfilling the unique needs of the different regions across Canada by respecting local cultures, environments and situations through the collective use of the available resources and in the efficient development of broadband satellite connectivity opportunities that support the economic and social development of all rural and remote communities as documented in the National Broadband Task Force report - *"The New National Dream - Networking the Nation for Broadband Access"*.

Mission - The Why
- services - ensuring critical applications are supported and shared
- obtaining equitable access at affordable prices
- maximizing the current resource and demonstrating effective ways to utilize the C-transponder
- model the use of the available resource for other communities
- continue to pressure the government to keep the vision of the NBTF active and supported by the governments Innovation Agenda
- partners with Telesat, Industry Canada and all the other groups

Values / Principles
- public / private partnerships
- recognition of and support for regions that lack the traditional business case
- communities of interest
- community involvement of local connectivity development

Goals & Objectives - The How
- Saskatchewan and other groups have a strategy for development and will continue to develop regional networks that address government and telco

corporate requirements
- different scenarios - National group representing all groups and speaking as one group OR everyone working separately to access and utilize limited resources
- national economies of scale make sense but need to recognize that some groups might feel they need to do their own thing
- must allow flexibility to address regional needs
- applications - health, education, 911 - unique opportunities between communities, helping each other, supporting private networks

Strategies
Last Mile

7.   Concluding Comments

Brian - K-Net Services
- planning and organizing a national First Nations connectivity conference - on-line but with regional components linked together virtually
- hosting and supporting local and regional workshops and participation at conferences
- as a component of the Smart Demonstration project, Keewaytinook Okimakanak will be hosting an international virtual conference in 2003-2004
- developing community driven model that is sustainable

Peter - Vancouver Teleport
- need to learn from the past - Ardicom - 3 key development elements - stakeholder (gov't), service provider (telco) and critical mass from First Nations (58 communities to begin to make this happen)
- public benefit - critical mass to make this feasible, what does it take to put in infrastructure, support system, who will be the supplier
- questions within the grey scale goals / strategies / last mile (regional / community)

Bryan - Headwaters Project in Northern Saskatchewan
- hosting a list serve to continue the discussions began at this meeting

Jacques - Industry Canada, Connectivity Manager, Schoolnet
- terrestrial and urban centre influence on deployment of broadband
- it took a long time for member of the NBTF to recognize that 20% of the population are unserved and are located in regions that required satellite and wireless solutions
- this group needs to determine how to position satellite users within this development / opportunity
- opportunity for this "community of interest" to focus on satellite solutions to push the broadband objectives and to put in place the satellite technology to deliver the kind of services that are available elsewhere
- economic and social development requirements of rural and remote communities must be addressed while respecting local needs and solutions

- exploit and develop benefit
- options include developing a vision to promote satellite and bring broadband into these regions
- demonstrate the utilization of the resource (innovation, laboratory, clear benefits)
- develop a strong case for Michael Binder to move this forward because this is just the beginning and he needs successful models to lobby for broadband deployment
- take the lessons learned and best practices back to Cabinet from the grass roots, to show the benefits and opportunities

Dan - K-Net Network Manager
- avoid working in a vacuum
- **Question:** Do we have a consensus to work collaboratively? Yes
- then everyone needs to be working with the whole group in mind and developing strategies to access the dollars required to work to achieve a national goal

Follow up activities:
- Drafting group - volunteers - Alison, Jeff, Wayne, Jacqueline, Brian, Ken
- come up with a name, for example National Satellite Broadband Working Group
- need to:
    - demonstrate innovative solutions / models and applications
    - continue to attract other groups (ie. Health Canada) to be sure they come to next meeting
    - identify applications to be carried on the C-Band resource ASAP

Thanks to all coming together and being willing to be the voice for the communities and take the message back home.