



The aurora borealis over Yellowknife in Canada's Northwest Territories

SHEDDING LIGHT ON UNIVERSAL BROADBAND

Canada has embarked on an ambitious universal broadband policy that could be a model for other countries, as **HEATHER HUDSON** details

The Canadian Radio-television and Telecommunications Commission (CRTC) recently issued a decision stating that broadband must be available to all Canadians. While regulators and policymakers in other countries have set similar goals for their residents, the CRTC's decision is path-breaking in that it declares broadband to be a universal service, sets ambitious speed targets, and establishes a fund to extend broadband in Canada's sparsely populated rural and remote regions.

The CRTC stated its universal service objective (USO) as: "Canadians, in urban areas as well as in rural and remote areas, have access to voice services and broadband internet access services, on both fixed and mobile wireless networks."¹ It also declared that basic telecoms services within the definition of the Telecommunications Act include fixed and mobile wireless broadband services as well as fixed and mobile wireless voice services.

The CRTC has set ambitious targets of 50 Mbps download and 10 Mbps upload actual speeds, considerably higher than some intervenors had proposed. It justifies these targets as necessary to keep pace with global trends, noting that: "Many of Canada's trading partners ... are implementing digital strategies to achieve download speeds of 50 Mbps or more within the next few years..."

It determined that in addition to speed, quality of service levels for latency, jitter, and packet loss need to be established to define high-quality fixed

broadband services as specified in the USO, and directed that the CRTC interconnection steering committee (CISC) reviews and makes recommendations on appropriate metrics within six months.

The proceeding was also noteworthy for its duration (more than 20 months from the original announcement until the decision, with multiple rounds of written submissions and three weeks of in-person hearings) and for the participation of several consumer representatives and indigenous organisations. The indigenous groups included providers of internet services in Nunavut and in the northern regions of seven provinces, where most isolated communities have no road access.

The decision was also ambitious because its objectives are to apply to all Canadians including those living in the isolated communities of the remote north. As the CRTC pointed out: "A country the size of Canada, with its varying geography and climate, faces unique challenges in providing similar broadband internet access services for all Canadians."

The indigenous representatives emphasised that broadband is important to their communities for education, healthcare, accessing government services, and operating businesses and non-profit organisations, as well as to individuals for staying in touch with distant family and friends, e-commerce, and entertainment. Some northern and indigenous organisations proposed a new fund for northern

← infrastructure and services. They pointed out that market forces had not resulted in extending broadband facilities in much of the north.

The CRTC appeared to agree, noting that it had previously relied on market forces and targeted government funding for the continued deployment of broadband internet services, but would now establish a fund to extend and upgrade broadband for rural and remote regions. Significantly, the fund is to be open to applications from all qualified communications providers, such as indigenous, municipal and regional commercial and non-profit entities, rather than being limited to incumbents. A total of CAN\$750 million will be allocated over five years. A follow-up hearing will determine the fund governance structure and eligibility criteria.

STEPS TO UNIVERSAL BROADBAND

The CRTC’s new fund is intended to complement other government funding programmes designed to extend broadband access. For example, the federal government has announced CAN\$500 million for broadband infrastructure in its Connecting Canadians initiative. However, neither the CRTC fund nor the federal government’s Connecting Canadians programme provides any ongoing subsidies for operating expenses.

More than 70 communities in the northern territories and northern regions of the provinces access the internet via satellite, using a ‘community aggregator’ model, i.e. a single satellite station for the community, with local distribution via telephone line, coaxial cable, or fixed wireless networks. This satellite service provides speeds which are typically much lower than those available on terrestrial networks, and its prices are considerably higher. Up to 10% of the broadband funds available over the first five years is to be allocated to satellite-dependent communities to support operational costs and some related capital costs. Intervenors in the hearing included proponents of new high throughput satellite (HTS) systems that they believe will provide a viable solution for remote regions, while others championed future low earth orbit (LEO) systems.

The CRTC stated that it expects fixed broadband internet access services based on the new criteria to be available in 90% of Canadian premises by the end of 2021, and in the remaining 10% “within 10 to 15 years”. No penalties were proposed for providers that do not reach these targets. Also, the 10% are likely to be in rural and remote regions, including the north, but only vague guidelines were proposed: “In communities where distance, geography, and limitations to existing technologies present challenges, the Commission expects that intermediate steps will be taken to progress towards these goals.” No criteria for intermediate steps were given, nor was there any sanction proposed if providers do not meet ‘expectations’.

The decision was also notable in that it did not address non-infrastructure barriers to access, particularly affordability, but also digital literacy.

Many consumer representatives, indigenous organisations, and individual citizens emphasised

that internet services, and broadband where available, are not affordable for many Canadians. Of particular concern to northerners are data caps on fixed networks which result in expensive overage (excess) charges, especially as households are large, with many family members sharing a single connection. Often, subscribers are unaware of these overage charges until they receive their bill, resulting in what the CRTC calls ‘bill shock’. It noted that in 2015, the average monthly amount of data downloaded and uploaded by Canadian residential subscribers was 93 GB and 10.9 GB respectively. Yet data caps in northern regions may be as low as 20 or 30 GB, with overage fees of up to CAN\$15 per GB.

The CRTC chose not to address affordability directly, rejecting a proposal by a consortium of consumer groups to introduce a low income user subsidy similar to the Lifeline programme in the US (originally a subsidy for low income voice subscribers, now extended to broadband). It did, however, take steps to address bill shock by setting a six month deadline for internet service providers to include plain language in their bills for customers with overage charges about data used for common



Canadians must have the option of a broadband service with an unlimited data allowance.



online activities, alternative data plans, and account management tools. Also, the CRTC established as part of the USO that Canadians must have the option of subscribing to a fixed broadband service with an unlimited data allowance – although no pricing guidelines or ceilings were specified.

The CRTC acknowledged that “a gap in digital literacy skills is a factor that can contribute to limiting consumers’ ability to participate in the digital economy and society...”. However, it declined to provide any funds for digital literacy training, as had been proposed by some intervenors, stating that digital literacy was not within its mandate.

The chairman, Jean-Pierre Blais, enlivened the hearings when he reflected on preparing his garden for spring over the weekend after the harsh Ottawa winter, and mused: “One wonders if we are ready to develop over the next two weeks and the subsequent stages in this proceeding our Canadian broadband garden.” He then challenged those who had not yet testified (and later invited all participants to contribute in final written comments) “to create together a coherent national broadband strategy”². The final decision alluded to the need for a national broadband strategy, but conceded: “While the Commission may take some leadership on defining the strategy, it would not be alone in implementing and financing it.”

REFERENCES

- 1 Unless otherwise stated, all quotations in this article are from Telecom Regulatory Policy CRTC 2016-496, 21 December 2016. bit.ly/2n08xTZ
- 2 Telecom consultation CRTC 2015-134. Transcript, 18 April 2016.

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