

USER REPORT

Barix Provides Yukon Connection

By Rob Hopkins

TAGISH, Yukon OpenBroadcaster is an open source software solution created to run radio stations and audio services in remote regions.

It is used for commercial, license-exempt and community radio services in three Yukon localities: Whitehorse, Tagish and Haines Junction. Listeners in these communities can participate and create their own shows through the OpenBroadcaster Web interface with playback on local FM stations by reserving blocks of airtime.

The service partners with Polarcom, the largest private IT company in the Yukon, to host the required network equipment in Whitehorse. Playlists, content and schedules are created on the Whitehorse server and to the remote stations.

Interactive platform

For the Tagish station, it is essential to keep the overall administration and headaches to a minimum on a technical level. Tagish is an extremely isolated location, so it is simply not possible to staff and support a highly complex technical operation there.

OpenBroadcaster takes advantage of my personal software interface and concept to allow the audience to program the on-air operation and essentially create a two-way operation on what is historically a one-way medium. This vastly reduces the process of operating a radio station and creates an interactive platform.

I oversee the service from my home office in Tagish and on the road, and the isolation and distance between the mountaintop transmitter site necessitates a reliable studio-to-transmitter link.

OpenBroadcaster relies on the Barix Instreamer and Exstreamer platform for its point-to-point STL connection. Combined with a Tranzeo Wireless link system, the entire platform cost less than C\$1,000 com-

plete for each end running some 8 kilometers, and it is just as effective as the far more expensive microwave STL system that would have been required in this region.

Each site uses the same basic setup as in Tagish where a Linux computer at my studio connects to the Whitehorse servers to pull the playlist information and feed it to a mixing board at my home, which subsequently feeds the Barix Instreamer.

The Instreamer encodes the signal and sends it over the IP network at 128 kbps to the Tranzeo Wireless link on the mountaintop. An Exstreamer at the transmission site decodes the audio stream and feeds it directly to a Crown FM transmitter using a common Cat5 cable. This solution is robust and draws little power.

While the Barix equipment provides a dependable continuous audio stream, these units also offer a reliable means for communicating emergency information.

Typically there are no operators at these radio stations, especially at night. If power outages, fires, weather-related or other emergency situations arise, the Barix equipment is programmed to prioritize emergency broadcast information instead of the main audio stream.

An agency or person with the appropriate permission can upload the announcement via the OpenBroadcaster software, and the Barix priority port immediately recognizes the emergency alert stream.

Reliable link

The Barix equipment also is an excellent STL choice for our situation due to its reliability. It is often difficult to reach the transmitter sites, and the sites are often hit with power outages ranging from seconds to hours. The devices immediately power-up and stream audio to the transmitter once power returns. If an emergency message comes through on the second port, it immediately overrides the main port audio.

Configuration is simple. A Web interface allows me to configure the Instreamer and Exstreamer as IP devices, and that same interface offers a way of making adjustments, although in over a year of continuous operation I have not had to make a trip to any transmitter site due to Barix Exstreamer failure.

This system also can be easily expanded to add new stations. Simply add an Exstreamer and plug into a TCP/IP network or wireless link for cost-effective scalability for multiple transmission sites. And by bringing the Internet to the transmitter we are prolonging the life of our transmitters, which is important for broadcasting in harsh conditions.



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The Barix Instreamer