Remote Alaska Wireless Service – A Critical Public Safety Tool

It is difficult to imagine any other part of the country that depends on a wireless phone as a lifeline while living a subsistence lifestyle than the North Slope and Northwest Arctic Boroughs. For centuries, the Inupiat people have called the arctic their home. Their intimate knowledge of the land and sea and survival skills passed down from generation to generation have made it possible to live in one of the harshest environments in the world.

The introduction of 1G wireless service in the past decade had a profound impact on public safety for the hunter/gatherer culture. As the network migrated to 2G service, wireless devices became more ubiquitous and more anecdotal evidence of wireless service saving lives came to light. Today, wireless service is as important a survival tool as a hunter's rifle or snow machine.

Ningiq – Inupiaq Word Meaning Sharing

Arctic Slope Telephone Association Cooperative, Inc. (ASTAC) serves the North Slope of Alaska. OTZ Telephone Cooperative serves the Northwest Arctic Borough, which borders the North Slope. In 2007, the two cooperatives jointly formed a Limited Liability Company named Ningiq, LLC. The 2G core switch capital cost was split 50/50 as well as any operations and maintenance costs related to it. Each cooperative was responsible for the costs in their markets. The network topology in this arrangement allowed wireless calls throughout the region with a Ningiq POP to be treated as a local call. This was a major benefit to consumers. To the extent possible, Ningiq also cost shared on marketing, engineering, shared technicians and jointly placed orders for wireless devices to achieve some economies of scale. Today, Ningiq served subscribers total 4,018 with countless others roaming on the Ningiq network as they travel through the region.

Remote Alaska's Middle Mile Challenge

The communities served by Ningiq are predominantly dependent on satellite middle mile transport. Current satellite transport costs, available capacity and latency make migration to 3G extremely difficult to accomplish. TERRA SW, the terrestrial microwave network built by UUI with stimulus grant and low interest loan funds from RUS[1] would improve upon the performance and capacity issues if it was extended northward, but is priced at over two times the satellite rate[2].

While the Ningiq model has served and continues to serve the public safety needs of its subscribers and roamers, ASTAC and OTZ are investigating if there is any interest by a national carrier for a hosted solution that might make it possible to migrate into 3 and 4G over time. Until that or another solution presents itself, or something changes with the middle mile situation, having a working 2G wireless service is much better than having no wireless service whatsoever.

Conclusion

ASTAC and OTZ would like nothing more than to migrate into a 3G or 4G wireless service and all the benefits it promises for our members. The high operating expense of providing wireless service in the arctic, the current high middle mile cost, and the sparse population make providing any wireless service uneconomic to serve, absent either continued support and/or intervention where the middle mile rates being charged appear to not be justified. Phase down of support will shut down these wireless networks in short order and sever a public safety lifeline for Native Alaskans.

1

TERRA-SW: Terrestrial Broadband in Southwestern Alaska

$44,158,522 RUS Loan

$43,982,240 Grant

Source: http://www.rurdev.usda.gov/supportdocuments/RBBreport_V5ForWeb.pdf (at page 12)

2

Yearly Cost per 1.5 Mb symmetrical service	**Low**	**High**
GCI TERRA Pricing for E-Rate Libraries (Blackwell and Togiak Libraries Respectively)	$ 125,188.07	$ 134,336.76
GCI Satellite Pricing for North Slope Borough E-Rate Library (Nunamiut)	$ 54,757.05	
GCI Satellite Pricing for NW Arctic Borough E-Rate Library (Chukchi)		$ 62,598.35

Source: http://aws.state.ak.us/OnlinePublicNotices/Notices/Attachment.aspx?id=93470

Comparisons		
Low to Low % Variance Between GCI TERRA & GCI Satellite Cost	229%	
High to High % Variance Between GCI TERRA & GCI Satellite Cost		215%