Hiawatha Broadband Communications, Inc.

White Paper: Broadband Development in Rural America

Easing the Transport Burden

The Problem: Excessive Transport Prices in Rural Areas Deter Broadband Access

Service providers in rural America are at a severe disadvantage when it comes to the cost of broadband transport. While fiber transport companies often have available fiber passing through or near rural communities, few network points of presence (POPs) have been created in rural areas. As a result, thousands of small towns are 50 miles or more from a network POP. Connecting these small towns to a network POP is possible usually only through the telephone local exchange carrier (LEC), and in many cases two or more telephone companies may be required to make the necessary connections to complete a transport link to a POP. This is known as the loop cost. The loop cost of a simple DS3 in a rural area could easily run more than $5,000 per month compared to a more typical $550 in a metropolitan area nearer a POP.

Reducing transport costs would encourage more rural last-mile services at affordable costs, but transport companies have not responded to the need because linking into a fiber route typically costs $100,000 to provide a hut with appropriate electronic equipment and power. Recovering this expenditure drives up cost to service providers and makes last-mile service expensive.

The Solution: Local Service-Transport Provider Partnerships with Community Engagement

Incentives are needed to encourage middle-mile transport companies to locate huts at strategic points amid clusters of communities. These huts could be used by neighboring communities and eliminate the need for multiple-loop providers. Among transport companies that have studied this problem, a cost figure of $100,000 is often given as a true cost for hut access. Discussions with rural service providers say that while they can meet 75 to 80 percent of the cost of access, the final 20 to 25 percent results in business plan negatives that most frequently sideline planned projects. A program aimed at covering the 20 to 25 percent gap in relevant secondary or tertiary markets would be a valuable incentive that would broadly enable increased access for last-mile customers. Extensive and candid discussions with middle-mile transport companies suggest the problem can be solved if they can team with local, rural service providers -- and potentially a community (or group of communities) -- to obtain government funds to fill the gap of paying for the cost of hut access.
The federal government logically is the source of last resort for incentives or subsidies to local projects and transport companies to assist with the significant start-up costs. It would initiate a program with the following objectives:

- Establish a mechanism that incents middle-mile broadband transport companies to open their fiber infrastructure to service providers in rural areas of the nation.
- Develop a grant program to support construction of strategically placed POPs in rural areas.
- Maximize use of these POPs by locating them in places where clusters of small communities can construct modest fiber runs to connect to them.
- As a condition to obtaining the subsidy, middle-mile transport companies would implement a pricing model based on the number of services in a last-mile project.

Local service and transport providers -- potentially in partnership with communities -- would join to apply for support under the proposed program. Capital grants would come from a Broadband Fund created from the current high-cost support mechanism in the universal service fund and would be used to put POPs into place in these communities. The total cost of the program would be approximately $50 million, assuming the construction of a total of 2000 new huts with a subsidy of $25,000 per hut. This cost, of course, could be spread over a number of years, reducing the annual outlay.

In exchange for the subsidy and gaining transport business, transport companies will commit to using a pricing model developed by Hiawatha Broadband Communications, Inc., in southeastern Minnesota. HBC charges its rural wholesale customers on a per-service basis for use of its facilities, including head-end and bandwidth. Per-service charges allow the provider to build revenues in new territories without the burden of financing all of the start-up costs. Payments accelerate as customer numbers surpass plateaus negotiated in advance. When customer numbers reach the top plateau, the balance of the start-up costs and financing fees become due.

This model allows providers to build business cases that support last-mile extensions to more rural areas, as well as promoting a three-way benefit. Last-mile users, service providers, and transport companies all become beneficiaries of the program.